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# **MSC SUSTAINABLE FISHERIES CERTIFICATION**

On-Site Surveillance Visit - Report for Russian Sea of Okhotsk Midwater Trawl Walleye Pollock Fishery



3rd Surveillance stage

October 2016

Certificate Code Prepared For: Prepared By: Authors: F-ACO-0058 Russian Pollock Catchers Association Acoura Marine Ltd Andrew Payne, Geir Hønneland, David Japp



# **Assessment Data Sheet**

Fishery name	Russian Sea of Okhotsk Midwater Trawl Walleye Pollock Fishery			
Species and Stock	Walleye pollock (Theragra chalcogramma)			
Date certified	27/09/2013	Date of ex	piry	23/09/2018
Surveillance level and type	Normal surveillance –	On-site		
Date of surveillance audit	Week beginning 17 O	ctober 2016	5	
Surveillance stage (tick one)	3 <sup>rd</sup> Surveillance		~	
Surveillance team	Lead assessor: Andre	w Payne (T	L & P1)	
	Assessor(s): Geir H David	lønneland ( Japp (P2)	(P3)	
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# 1 Introduction

## 1.1 Scope of the Surveillance

This report outlines the findings of the 3rd Annual Surveillance of the Russian Sea of Okhotsk Midwater Trawl Walleye Pollock Fishery. The scope of the certified fishery and therefore of this surveillance is specified in the Unit of Certification set out below:

Species:	Walleye pollock / Alaska pollock (Theragra chalcogramma)
Stock	Sea of Okhotsk Pollock
Geographic Area:	Russian EEZ waters of Sea of Okhotsk
Method of Capture:	Midwater pelagic trawl
Client (group):	The Russian Pollock Catchers Association (PCA)

## **1.2** Aims of the Surveillance

The purpose of the annual Surveillance Report is fourfold:

- **1.** to establish and report on whether or not there have been any material changes to the circumstances and practices affecting the original complying assessment of the fishery;
- to monitor the progress made to improve those practices that were scored as below "good practice" (a score of 80 or above) at certification, but above "minimum acceptable practice" (a score of 60 or above) as captured in any "conditions" raised and described in the Public Report and in the corresponding Action Plan drawn up by the client;
- **3.** to monitor any actions taken in response to any (non-binding) "recommendations" made in the Public Report;
- 4. to re-score any Performance Indicators (PIs) where practice or circumstances have materially changed during the intervening year, focusing on those PIs that form the basis of any conditions raised.

**Note:** The primary focus of this surveillance audit is to assess changes made in the previous year. For a complete picture, this report should be read in conjunction with the Public Certification Report for this fishery assessment, which can be found at:

https://www.msc.org/track-a-fishery/fisheries-in-the-program/certified/pacific/russia-sea-of-okhotsk-pollock/assessment-downloads

and in the previous two surveillances.

## **1.3 Certificate Holder Details**

Certificate holder: Address:	Russian Pollock Catchers Association 517B, 51-a, Svetlanskaya St. Vladivostok 690990 Russia
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Contact Name: Tel: Email: Web:	Mr Alexey Buglak PCA Executive Director +7 (423) 222 43 13 al.buglak@mail.ru www.pollock.ru

## 1.4 General Background about the Fishery

The walleye (or Alaska) pollock (*Theragra chalcogramma*) is a gadoid fish distributed in the Northwest Pacific from the NW Bering and Chukchi seas down the coast of the Kamchatka Peninsula into the



Seas of Okhotsk and Japan and in the Northeastern Pacific from California north through the Gulf of Alaska and out to the Aleutian Islands. Pollock fisheries across the species' entire area of distribution constitute the largest whitefish fisheries by volume in the world. The two main fisheries for the species are in the Sea of Okhotsk and the Bering Sea, the latter within both the US and the Russian Exclusive Economic Zones (EEZs). Pollock are considered to be mainly pelagic fish, schooling in midwater. They live down to 1000 m deep, but typically concentrate at depths of 100–300 m, and are found both offshore and nearshore.

#### 1.4.1 Area under Evaluation

The Unit of Certification (UoC) fishery takes place only in the Sea of Okhotsk, where scientific and fisher knowledge of stock structure and fishing activity is supported by some understanding of spawning and migratory patterns. There are several spawning "hotspots", the most important of which are on the west Kamchatka shelf in the northern Sea of Okhotsk and in Shelikhov Bay; other smaller spawning areas are also known. Spawning fish and hence the fishery concentrate on the shelf and in shallow waters between 50 and 250 m deep. Sea of Okhotsk pollock are found throughout the northern part of the Sea, and there are four Russian fishery management subzones, the Northern Sea of Okhotsk (subzone 05.1), generally described as the western part of the Sea, and western Kamchatka (05.2) and Kamchatka–Kuril (05.4), which constitute the areas defined as the eastern part of the Sea; the eastern Sakhalin (05.3) subzone is not part of the certification.

#### 1.4.2 Fishery Ownership and Organizational Structure

Eligible fishers in the UoC fishery include 31 pollock fishing organizations represented by the client group, the Pollock Catchers Association (PCA), based in Vladivostok. That number has decreased from the total of 45 organizations listed during the site visit for the original certification as a consequence of mergers and rationalization within the fishery. Association membership currently (in 2016) accounts for 69% of the total quota share for pollock in the Sea of Okhotsk (668 173.6 t out of a total Sea of Okhotsk quota of 966 700 t in 2016) and 67% of the total quota for pollock in the whole Russian Far East (the PCA share is 1 234 579.7 t out of a total TAC for the Russian Far East of 1 837 020 t – see Table 1 for the breakdown by area). The industrial trawl fishery (defined here as being on a large scale with full utilization of the raw material inclusive of direct human consumption) for pollock in the Sea of Okhotsk is prosecuted by an annually fairly stable number of vessels of large and medium tonnage. They catch the fish, process it on board into frozen whole and gutted product, rendering the non-edible bycatch and fish processing waste into meal and oil, and produce some canned fish and unfinished medical fish oil, then store the production on board until the vessel docks or the material can be transshipped at sea to reefer vessels and brought ashore. At-sea frozen product is also reprocessed by onshore processors, but such product falls under traceability audits so is not a necessary consideration for this surveillance.

Area	TAC (t)	PCA quota (t)	PCA share
Northern Sea of Okhotsk Subzone	348 000	273 042.9	78%
West Kamchatka Subzone	348 000	240 614.7	69%
Kamchatka-Kuril Subzone	270 700	154 515.8	57%
Sea of Okhotsk total	966 700	668 173.6	69%
Russian Far East total	1 837 020	1 234 579.7	67%

Table 1, Alaska pollock	TAC in the Sea of Okhotsk.	and PCA guota and compare	v shares for 2016
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#### **1.4.3 History of the Fishery**

The pollock fishery in the Sea of Okhotsk has existed for more than 50 years. Starting in about 1962, it developed rapidly and, within a decade, annually exceeded one million metric tonnes. Initially, the main



fishing grounds were off western Kamchatka, and fish were caught by both local and Japanese fishers. The annual catch in 1974/75 reached almost 1.3 million tonnes, but then it decreased in accord with a rigidly applied quota system, the introduction of a 200-mile economic zone and the cessation of the fishery in the Sea of Japan. Then, in 1984, the pollock fishery in the northeastern Sea of Okhotsk started to develop. Total annual catches in the Sea of Okhotsk varied between 450 000 and 950 000 t, but with a foreign fishery starting up in the central area in 1991, it again exceeded one million tonnes. However, in 1992/93, the Russian fishery was restrained as part of the recommended TAC was reserved for foreign fleets. That unregulated foreign fishery (including fleets from Poland, China, the Republic of Korea and Japan) in the central area was stopped in 1995 after bilateral agreements between Russia and the other countries were entered into in exchange for other pollock quota allocations within the Russian economic zone. Overall, however, as a consequence of the extensive fleet deployments in the northern Sea of Okhotsk, annual catches burgeoned to 1.6–1.7 million tonnes, and peaked at 2.0 million tonnes in 1996. Then, however, the annual catch there started to decline, and by 2002, had dropped by some two-thirds, a level maintained for several years before rising again modestly to the present level of just less than one million tonnes.



# 2 Surveillance Process

## 2.1 Findings of the original assessment

Table 2: Allocation of weighted scores at Sub-criteria, Criteria and Principle levels at certification

Prin-	Wt	Component	Wt	PI	Performance Indicator (PI)	
ciple	(L1)		(L2)	No.		Score
One	1	Outcome	0.5	1.1.1	Stock status	90
				1.1.2	Reference points	80
				1.1.3	Stock rebuilding	
		Management	0.5	1.2.1	Harvest strategy	70
				1.2.2	Harvest control rules & tools	80
				1.2.3	Information & monitoring	75
				1.2.4	Assessment of stock status	75
Two	1	Retained species	0.2	2.1.1	Outcome	80
				2.1.2	Management	85
				2.1.3	Information	80
		Bycatch species	0.2	2.2.1	Outcome	80
				2.2.2	Management	85
				2.2.3	Information	75
		ETP species	0.2	2.3.1	Outcome	80
				2.3.2	Management	80
				2.3.3	Information	70
		Habitats	0.2	2.4.1	Outcome	80
				2.4.2	Management	85
				2.4.3	Information	85
		Ecosystem	0.2	2.5.1	Outcome	85
				2.5.2	Management	80
				2.5.3	Information	75
Three	1	Governance and	0.5	3.1.1	Legal & customary framework	90
		policy		3.1.2	Consultation, roles & responsibilities	95
				3.1.3	Long term objectives	100
				3.1.4	Incentives for sustainable fishing	80
		Fishery specific	0.5	3.2.1	Fishery specific objectives	85
		management		3.2.2	Decision making processes	75
		system		3.2.3	Compliance & enforcement	85
				3.2.4	Research plan	80
				3.2.5	Management performance evaluation	70

Sourced from original assessment

The final weighted principle scores at certification were P1 (80.0), P2 (80.3) and P3 (84.4), but PI 2.5.3 was rescored at 80, with Condition 6 met, during surveillance audit 2, raising the P2 score then to 80.7.

As a result of the original scoring results (see Table 2 above), eight conditions of certification were raised, and maintenance of the MSC certificate is contingent on the Russian Sea of Okhotsk Midwater Trawl Walleye Pollock Fishery moving to comply with these conditions within the time-scales set at the time the certificate was issued. No recommendations were made as a consequence of the original certification evaluations, and none have been raised since, although if recommendations are made at any surveillance, even if not obligatory, the client is encouraged to act upon them within the spirit of the certification.



## 2.2 Surveillance Activity

#### 2.2.1 Surveillance team details

The on-site surveillance visit was carried out by Dr Payne (for P1), who was also team leader, and Mr Japp (P2). A third team member, Mr Hønneland (P3), was not physically part of the on-site assessment team but responded at all times in his capacity as Principle 3 specialist, directing the on-site team with regard to the information required. The same three members were part of the audit teams for both previous surveillances of the fishery. Moreover, Dr Payne (then, for P3) and Mr Japp (then also for P2) were members of the original assessment team for the fishery, which was carried out on behalf of Intertek Moody Marine, subsequently Intertek Fisheries Certification, now part of Acoura Marine.

#### 2.2.2 Date and location of surveillance audit

Week commencing 17 October 2016 in Vladivostok and Petropavlovsk-Kamchatsky (P-K), Russia.

#### 2.2.3 Stakeholder consultation and meetings

The two members of the team on-site made themselves available for consultation (electronic or face to face) and input from stakeholders during the whole week they were in Vladivostok or P-K. One fishing vessel was visited, in P-K. All potential stakeholders in the fishery were notified of the surveillance through the MSC website and in some cases directly by Acoura Marine, but only one, the Worldwide Fund for Nature (WWF), elected to speak to the team (two staff members electronically from Moscow) while they were in Vladivostok. Another two local (P-K) WWF representatives visited the team the day following the skype call, and the joint WWF input was summarized by the Moscow branch electronically for the team; see Appendix 2. Two organizations involved in the Russian fisheries management system that the team had failed to consult at the second surveillance audit made themselves available during this site visit while in P-K, the FSB (the Coastguard) and the Centre for Fishery Monitoring and Control (CFMC), which falls under the national Federal Fisheries Agency (FFA; the main fisheries management body in Russia, the successor to the State Committee for Fisheries). The FFA regulates and controls the fisheries and *inter alia* acts as an inspectorate, with responsibility for licensing and control).

Meetings in Vladivostok other than those just with the client were attended also by Sergei Manyakin, a qualified Russian/English interpreter. He too who was responsible for translating much of the written technical material from Russian into English prior to the team's visit, and his input and effort was deemed most valuable by the team.

#### 2.2.4 Consultations

In all, eight stakeholder organizations and individuals representing them having relevant interest in the assessment were identified and consulted during this surveillance audit.

18 October 2016, 09:30 local time. Meeting at the Client's office in Vladivostok, the Client being represented by Executive Director Alexey Buglak, with Acoura Marine surveillance team members Andrew I. L. Payne and David W. Japp.

18 October 2016, 11:00 local time. Meeting at TINRO Centre, Vladivostok, with TINRO Centre scientists and advisors and the Client. Oleg Katugin (Chief, Department of International Cooperation, TINRO), Artem Sheibak, Mikhail Stepanenko, Vladimir Leonov and Evgeniy Ovsyannikov (all Scientists, TINRO, some specifically associated with the scientific observer team), PCA Executive Director Alexey Buglak (representing the Client), Acoura Marine surveillance team members Andrew I. L. Payne and David W. Japp.

18 October 2016, 18:00 local time. Skype call between team hotel, Vladivostok, and WWF offices, Moscow. Andrey Vinnikov (Head of Marine, WWF Russia), Konstantin Zgurovsky (Senior advisor to WWF Russia), Acoura Marine surveillance team members Andrew I. L. Payne and David W. Japp.

19 October 2016, 17:30 local time. Meeting at the Avacha Hotel with local P-K representatives of WWF, Russia. Sergey Korostelev and Sergey Rafanov (WWF, Russia), Acoura Marine surveillance team members Andrew I. L. Payne and David W. Japp.



19 October 2016, 18:00 local time. Meeting at the Avacha Hotel with local P-K representatives of the FSB (Coastguard) and the Client. Evgeniy Nichaev, Igor Kiselyov, Stanislav Dashevskiy and Yuriy Tumanov (FSB Kamchatka), PCA Executive Director Alexey Buglak (representing the Client), Acoura Marine surveillance team members Andrew I. L. Payne and David W. Japp, Alertina Koroschenko (translator).

20 October 2016, 09:00 local time. Meeting at the Kamchatka office of the Fishery Monitoring System (CFMC) with their representatives and the Client. Oleg Sovateev (Director), Oksana Guseva and Anton Rostlyi (technical leads for monitoring the Russian pollock fishery and for the implementation of the electronic logbook system, respectively), PCA Executive Director Alexey Buglak (representing the Client), Acoura Marine surveillance team members Andrew I. L. Payne and David W. Japp.

20 October 2015, 11:00 local time. Meeting at KamchatNiro Office with KamchatNIRO scientists and advisors and the Client. Oleg Ilyin (Head of Stock Assessment Laboratory, KamchatNIRO), Alexander Varkentin (Head of Marine Resources Group, KamchatNIRO), Mikhail Kovalenko (scientist, KamchatNiro) and Arina Shurygina (KamchatNiro translator), PCA Executive Director Alexey Buglak (representing the Client), Acoura Marine surveillance team members Andrew I. L. Payne and David W. Japp.

20 October 2015, 13:00 local time. Meeting on board pollock trawler "XX Syezd VLKSM" with officers and company representatives and the Client. Vladimir A. Naumov (captain-director), Pavel A. Doroshin (onboard production chief), Alexey V. Kuzenok (head of production, Okeanrybflot), Vitaly V. Skrybka (deputy head of production, Okeanrybflot), PCA Executive Director Alexey Buglak (representing the Client), Acoura Marine surveillance team members Andrew I. L. Payne and David W. Japp.

21 October 2016, 09:30 local time. Meeting at his office with the Client, represented by Executive Director Alexey Buglak, Acoura Marine surveillance team members Andrew I. L. Payne and David W. Japp.

The team also noted (and carefully reviewed) the website being developed by the PCA: <u>www.russianpollock.com</u>

#### Documents referred to

See Section 6.

#### 2.3 Surveillance Standards

#### 2.3.1 MSC Standards, Requirements and Guidance used

This surveillance audit was carried out according to the MSC Fisheries Certification Requirements FAM 2.1, v1.3.

# 2.3.2 Confirmation that destructive fishing practices or controversial unilateral exemptions have not been introduced

No indication was given or suggested during the surveillance audit to suggest that either of these practices is in evidence for this fishery.

# 3 Updated Fishery Background

The fishery and the people involved in researching, managing and controlling it have not changed notably since certification.

## 3.1 Changes in the management system

The management system for the Russian (walleye) pollock fishery remains as it was during the original assessment and at the 1<sup>st</sup> and 2<sup>nd</sup> annual surveillances; there have been no significant changes since the fishery was assessed. Licensing, control and inspection of all product is under the jurisdiction of the FFA (Federal Fisheries Agency of the Russian Ministry of Agriculture, which trains and contracts scientific and technical staff) and the FSB (the Coastguard, which trains and employs military personnel for the purpose of fisheries control and surveillance), each with their own inspection capability and direction, with independent scientific observations of fishing activities collated under the direction of TINRO, Vladivostok, and implemented through its own and sister (e.g. KamchatNIRO) scientific organizations' trained and contracted staff. Attempts are being made to increase the capacity and penetration of the independent scientific observer system in line with the results of an analysis of need prepared before the first surveillance, and rigorous training of new observers is taking place annually. There should have been expanded capacity in place by the start of the 2016 season, but natural attrition offset the advances and, for 2016 at least, very little noticeable increase took place. With another round of scientific observer capacity development now taking place, however, the hope is that capacity will increase before the 2017 season. The modus operandi for determining the annual level of TAC is the same as determined during the original assessment, with all catch and effort and scientific survey data being made available and subjected to rigorous scientific analysis by KamchatNIRO and TINRO before the output is evaluated under the auspices of VNIRO in Moscow (VNIRO takes the lead on this overview analysis for all Russian fisheries). The advice and input of some academics and experts on many scientific disciplines other than direct fisheries science, particularly of ecosystem components, is solicited in that overarching evaluation, which is conducted annually before the TAC is announced.

## 3.2 Changes in relevant regulations

There have been no notable changes to any regulations governing the fishery since the original assessment was carried out. Development of the new national electronic logbook system is proceeding apace, however, and this specific fishery is the main one in Russia being used to trial it before it is formally initiated through regulation. In fact, just following the site visit, a few more of the UoC fishery's vessels joined the trial, and the team was shown in great detail how the system would work. In the team's opinion, what is being projected is as good as any existing in world fisheries to date.

## 3.3 Changes to personnel involved in science, management or industry

Those involved in scientific research and advising and involved in national and international management of the fishery are the same as they were at certification. Further, since certification and indeed since the period of assessment, there have been no notable changes in fleet structure other than some rationalization within the companies forming part of the PCA (but with the individual PCA staff members remaining the same), and the operational methods remain exactly as during the site visit of the original certification team. The same statement applies to an absence of substantive change since the 1<sup>st</sup> and 2<sup>nd</sup> surveillances in September 2014 and October 2015. However, the overall number of vessels fishing for walleye pollock (midwater trawlers, coastal vessels and Danish seiners) has changed over time as a consequence of natural rationalization and availability of quota within the industry; the total dropped from slightly over 200 between 2010 and 2012 to 160–180 for 2013 and 2014, before increasing again to about 200 in 2015.

# 3.4 Changes to the scientific base of information, including stock assessments

In terms of the stock status of the walleye pollock being exploited by the fishery, there appear to have been no major changes of a geographic or technical nature since the original certification; exploitation patterns follow the same general trend in the Sea of Okhotsk as they have throughout the fishery's main history. What there has been, however, is variable recruitment year on year, with an influx of at least one seemingly very good year class relatively recently followed by some other reasonable year classes. There was also some indication in 2015 of a more offshore, northwestern distribution of the fish and



fishing activities in the Sea of Okhotsk early in the year apparently associated with warmer surface waters inshore off southern Kamchatka, a situation not repeated so obviously in 2016. Overall, though, catches have not been impacted negatively by any distributional changes, and overall annual TACs are (closely) approached, though never recently exceeded.

Given that the fishery is operating technically, seasonally and geographically as it always has done throughout its recent past, it is not surprising that basic information on ecosystem interactions and the management regime and processes remain the same. Scientifically, effort continues to be directed at improving the understanding of ecosystem interactions around the fishery, and the surveillance team was presented already at the 2<sup>nd</sup> surveillance audit evidence of good science associated with data collection feeding into sophisticated trophic models of the fishery. Of particular note in terms of ecosystem awareness, however, is that renewed discussions with seagoing staff this year yet again revealed that interactions between the fishing gear and the seabed (and hence any effects on the bottom [physical] habitat) are still so rare as to be negligible. The term "never", relating to negative effects on costs and downtime, was used immediately by the seagoing staff quizzed this year about the subject of the trawl possibly coming into contact with the seabed.

Finally, no new dedicated seabird or marine mammal surveys on the fleet were conducted in 2016, and indeed were not expected, but plans are being effected to fulfil the requirements in this respect related to certain of the certification conditions applying to the fishery (see below).

### 3.5 Any developments or changes within the fishery which impact traceability or the ability to segregate between fish from the Unit of Certification (UoC) and fish from outside the UoC (non-certified fish), including any changes in the UoC that might impact traceability and how such changes have been addressed by management or traceability systems

The team spent considerable time this year with the FSB (the Coastguard) looking at controls on landings, transshipments and vessel movements. The fishery operating as it always has done and the fleet alternating seasonally and regularly between the UoC fishery and other fisheries outside the Sea of Okhotsk as it always did meant that the team found no evidence of developments or changes to the national system or the fishery that might impact on traceability or management's ability to segregate between fish sourced from different areas. The team pleasingly found that controls on all vessel movements and fish products were as rigorous as they had been at certification, so the conclusion of this surveillance is that traceability of product is as good now as it was at the certification visit four years ago. However, not having had the opportunity during the past two surveillances to query the Coastguard closely always left questions about recent traceability in the minds of the team, so the opportunity this year to speak in depth to the FSB was a boost to the evidence base for this audit.

One small piece of product rather than direct fishery information that the on-site team did pick up this year, and that might have some impact on traceability down the line was that less PCA fish was being processed in nearby China than had been done previously, because of increased labour costs there. How this development might affect product traceability, positively or negatively, was not a subject the team was mandated to follow through, but is reported here for reasons of completeness of the overall certification process.



## 3.6 TAC and catch data

Table 3: TAC and catch data for the Sea of Okhotsk walleye pollock fishery

Total TAC for most recent and current fishing years (2015 and 2016):	903 800 t (2015) 966 700 t (2016)	
Unit of Certification share of the total TAC established for the fishery in	n most recent	t fishing year
Industrial pollock quota (2015)	UoC 1	837 900 t
Client share of the total TAC established for the fishery in most recent year (2015):	674 847 t	
Total greenweight catch taken by the client group in UoC 1 in the two most recent calendar years (2014 + 2015):		606 233 (2014) 681 179 (2015)*

\* The recorded annual PCA catch generally slightly exceeds the PCA quota because some PCA companies fish the quotas of other non-PCA companies, a legal practice that is becoming less common as a consequence of rationalization within the whole industry.

Sources: TAC and quota - Ministry of Agriculture and FFA; catch statistics - Fishery Monitoring System database

## 3.7 Summary of Assessment Conditions

Condition number	Performance indicator (PI)	Status	PI original score	PI revised score (after this surveillance)
1	1.2.1 Harvest Strategy	On Target to be met at 4 <sup>th</sup> SA	70	Not revised
2	P1.2.3: Information/monitoring harvest strategy	On Target to be met at 4 <sup>th</sup> SA	75	Not revised
3	P1.2.4: Assessment of stock status	Closed on Target	75	90
4	P2.2.3: Information/monitoring bycatch	Closed a year behind Target	75	80
5	P2.3.3: Information/monitoring ETP species	On Target to be met at 4 <sup>th</sup> SA	70	Not revised
6	P2.5.3: Information/monitoring ecosystem	Closed at 2 <sup>nd</sup> SA	80	N/A
7	P3.2.2: Decision-making processes	Closed a year behind Target	75	80
8	P3.2.5: Monitoring and management performance evaluation	On Target to be met at 4 <sup>th</sup> SA	70	Not revised

**Table 3.7-1 Summary of Assessment Conditions** 



## 4 Results

## 4.1 Condition 1

	Insert relevant PI number(s)	Insert relevant scoring issue/ scoring guidepost text	Score		
Performance Indicator(s) & Score(s)	1.2.1	Harvest Strategy: There is a robust and precautionary harvest strategy in place	70		
Condition	As the harvest strategy is newly implemented, there is no evidence to demonstrate that it is achieving its objectives. The harvest strategy is to undergo testing to explore its robustness to management and assessment uncertainties. The client must annually provide evidence during the certificate validity period of the results of annual monitoring that demonstrate that the harvest strategy is achieving its objectives as reflected in the target and limit reference points.				
	Milestones				
	First Surveillance				
	The client must provide detailed written evidence of the annual monitoring in order to demonstrate that the harvest strategy is working satisfactorily and is achieving the exploitation levels required in relation to the established reference points. The milestone associated with the first surveillance audit has been defined as a means to monitor progress; meeting the milestone would likely not result in a change in score at this surveillance audit				
	Interim score: 70				
	Second Surveillance				
Milestones	The client must provide detailed written evidence of the annual monitoring in order to demonstrate that the harvest strategy is working satisfactorily and is achieving the exploitation levels required in relation to the established reference points. The milestone associated with the second surveillance audit has been defined as a means to monitor progress; meeting the milestone would likely not result in a change in score at this surveillance audit				
	Interim score: 70				
	Third Surveillance				
	The client must provide de order to demonstrate that achieving the exploitation points. The milestone asso defined as a means to mor result in a change in score	etailed written evidence of the annual m the harvest strategy is working satisfac levels required in relation to the establis ociated with the third surveillance audit nitor progress; meeting the milestone w e at this surveillance audit.	onitoring in torily and is shed reference has been vould likely not		
	Interim score: 70				
	Fourth Surveillance				
By the fourth surveillance audit, the client must provide written evidence form of a report that demonstrates that the harvest strategy has undergo testing to explore robustness to management and assessment uncertain Provided the actions defined in the milestones and the deliverables in th action plan are met, the PI is expected to be re-scored at 80 or higher, demonstrating that the second scoring issue of SG80 has been met.			idence in the indergone ncertainties. es in the client gher, net.		
Client action plan	<b>Client Action Plan</b> It is accepted that some elements of the harvest control rules that form the harvest strategy are new. Monitoring of the fishery is already in place to ensure that the harvest strategy is achieving its objectives. At each annual audit, the PCA will commission and provide detailed evidence of the				



	annual monitoring in order to demonstrate that the strategy is working satisfactorily and is achieving the exploitation levels required in relation to the established reference points.				
	During the fourth year of the certification PCA will commission an independent evaluation of the strategy using a Management Strategy Evaluation or another appropriate evaluation method in order to demonstrate that the harvest strategy is achieving its objectives.				
	Deliverables				
	First, Second, Third Surveillances				
	At each annual audit PCA will provide detailed evidence of the annual monitoring in order to demonstrate that the strategy is working satisfactorily and is achieving the exploitation levels required in relation to the established reference points.				
	Fourth Surveillance				
	By the fourth annual audit, the PCA will present a report that will demonstrate that the fishery is fully compliant with the second scoring issue in SG80 and achieve a minimum score of 80 for this PI.				
	PI 1.2.1 Scoring Issue (80b): 'The harvest strategy may not have been fully tested but monitoring is in place and evidence exists that it is achieving its objectives.				
	By the fourth annual audit the evidence of the monitoring of the fishery presented at each annual audit will have demonstrated that the fishery is compliant with the first element of SG 100 and should achieve a score of 85 for this performance indicator.				
	PI 1.2.1 Scoring Issue (100a): The harvest strategy is responsive to the state of the stock and is designed to achieve stock management objectives reflected in the target and limit reference points.				
	Year 1				
Progress on Condition [Year 3]	To meet its obligations, the PCA commissioned KamchatNIRO to analyse two key aspects of the harvest strategy now implemented for the fishery in the Sea of Okhotsk, the primary area of fishing by the entire fleet: 1) the efficiency of the harvesting strategy for pollock, and 2) uncertainty and risk considerations related to the fishing strategy and TAC determination. That report (see the 1 <sup>st</sup> Surveillance Audit report for reference detail) was provided to the team, and it was the team's opinion that the work provided at least as much as would be expected at the first surveillance stage of the certification. Any robust evaluation of a harvesting strategy would require several years of data and performance to be collected and the initial analysis did not have access to sufficient quality information. A significant portion of the paper analysed in detail the results of monitoring the fishery between 2012 and 2014, an important stepping stone for the analysis, but short of proving the principle objective of demonstrating the robustness of the harvesting strategy (including the realization of the target and limit reference points); that must come later. It was noted too that stock assessment uncertainty <i>per se</i> was covered more fully under Condition 3.				
	<ul> <li>an analysis of the fishery in the Sea of Okhotsk using data from scientific observers and fishing statistics;</li> <li>size and age composition of pollock caught by different gears in the area;</li> <li>annual stock status indicators;</li> </ul>				
	<ul> <li>stock assessments and forecasts, and comparison of predicted and realized catches with TACs;</li> <li>an initial harvest strategy evaluation;</li> </ul>				



<ul> <li>identification of the main types and sources of uncertainty in the stock assessments;</li> <li>methodologies for incorporating uncertainties in future assessments and TACs</li> </ul>
Remedial actions
None then.
Changes to condition
No change to the condition or the score was suggested at the first surveillance, and the condition remained as it was.
Updated status
It was deemed that further work needed to be carried through and developed during the subsequent surveillance periods. In particular, the client was reminded that there was a need to show through robust analysis by the fourth and final surveillance audit that the selected harvest strategy really was achieving its objective of working satisfactorily based on target and limit reference points. It was felt that after some more years of harvesting and with the planned increased observer coverage to strengthen the estimates of juvenile mortality, the data available should be adequate to carry out such an analysis.
Year 2
To meet its obligations for the 2nd surveillance, the PCA again commissioned KamchatNIRO to analyse two key aspects of the harvest strategy implemented for the fishery in the Sea of Okhotsk, the primary area of fishing by the entire fleet: 1) the efficiency of the harvesting strategy for pollock, and 2) uncertainty and risk considerations related to the fishing strategy and TAC determination. The report provided to the team (see the second surveillance audit for reference detail) revealed that the data and analyses provided exactly what was expected of the report at the second surveillance stage of the certification. It covered all the information collected post-certification and covered the assessment itself and its testing, and carefully evaluated the reference points.
After a series of relatively average or slightly weaker year classes, the 2011- year class was deemed to be strong, and the 2013 and 2014 year classes likely to be relatively medium-strength to strong, giving rise to expectations that the stock would grow strongly from 2016 on (in 2014, the spawning stock biomass (SSB) of pollock in the Sea of Okhotsk was some 5.4 Mt, and by early 2016, it was predicted to be 5.5 Mt). Target reference points were based on maximum sustainable yield (MSY) and limit reference points above levels at which spawning might be impacted negatively. The then value of B <sub>lim</sub> was calculated at 2.583 Mt, slightly below that calculated at certification (2.632 Mt).
Three forms of uncertainty were taken into consideration: measurement error associated with possibly unrepresentative levels of sampling, model uncertainty in terms of fishery dynamics, and uncertainty in terms of natural variation in stock parametrization. In the opinion of the surveillance team, the first two of these were already being taken into account adequately in the model parameter and stock condition estimates and reference points through the bootstrap method employed, and the third form was considered when evaluating the efficiency of the various controls during the modelling process. In terms of risk, predictive modelling showed that if levels of exploitation remained within the range recommended by the harvest control rule, there was a 95% probability that the stock would remain within safe limits and close to the target reference point for SSB.
The team noted then that, in terms of the first form of uncertainty, there were stated concerns among some stakeholders that the level of juvenile mortality was not being evaluated adequately, largely because the number of trawls of

the UoC fishery being officially observed by the independent scientific observation team was relatively low. Even with the planned small increase in that observer coverage from then on, the stakeholder concerns would remain. The idea was therefore mooted by at least one stakeholder that, at the very least, observations from the FSB inspectors and the GMI should be taken into account in the analysis, but it is the team's understanding that, although there is and was coverage by those inspectors, the information being collected was not of sufficient scientific rigour to allow it to be incorporated into the analysis. The same stakeholder suggested that other forms of control could be instituted, e.g. camera systems or advanced acoustic systems, that can differentiate between juvenile and adult fish, or further sorting grids in the net opening (there is already one form of sorting grid in place, the efficacy of which some seagoing personnel question anyway).

While the surveillance team understood fully the source of the concern about juvenile pollock mortality, even with the move-on rule then being applied, it did not agree with the stakeholder contention that observer sampling levels had to be enhanced to such a level that the percentage of trawls observed would burgeon dramatically (few MSC-certified fisheries have that form of coverage), nor that investment in on-board camera systems or some of the rapidly improving acoustic devices could totally mitigate the concerns being raised annually. Hence, the surveillance team then only suggested that some of the new devices (acoustic and camera) be tested at sea with a view to them possibly being instituted in future.

Overall, though, given that the stock appeared in all respects to be being managed through the harvest strategy towards a slightly higher level of sustainable exploitation than currently (by taking less than the calculated replacement yield) and that the regular reporting on this aspect was at the very least adequate, it was the team's opinion that the fishery and client were on schedule to meet this Condition before recertification started in 2017. Efforts to improve data collection associated with evaluating juvenile pollock mortality did need to be increased, but the rigour which the KamchatNIRO evaluation brings to the table is deemed adequate for the task in hand in terms of this Condition.

#### Year 3

As during the previous two years of the certification, PCA commissioned the Kamchatka Research Institute of Fishery and Oceanography (KamchatNIRO) to report on the annual monitoring of the Sea of Okhotsk pollock fishery in order to demonstrate that the harvest strategy was working satisfactorily and achieving the exploitation levels required in relation to the established reference points. The report it produced (Varkentin and Ilyin 2016) again (1) analysed the efficiency of the pollock fishing strategy in place and (2) considered uncertainties in the pollock stock assessment and TAC calculation for the northern Sea of Okhotsk. Specifically, the report:

- analysed key results associated with pollock fishery monitoring activities in the area (in the subzones North Sea of Okhotsk, West Kamchatka, and Kamchatka-Kuril) in 2016 relative to historical data;
- evaluated the data on the annual dynamics of key biological indicators (size and age distribution in the catches taken using various fishing gears) of pollock as well as in catch per unit effort;
- analysed stock status indicators of pollock on a year-on-year basis;
- provided pollock stock status assessments for the area in in 2015, giving predicted stock and TAC estimates for 2016/2017, and where possible compared the predicted estimates with real data, performing retrospective analysis;
- assessed the efficiency of the pollock fishing strategy in the UoC fishery area;
- identified key types and sources of uncertainty in the pollock stock assessments and TAC calculation;



<ul> <li>described the methods and provided key results of uncertainty incorporation currently used in pollock stock assessments and TAC determination.</li> </ul>
To summarize, model-based estimations showed that SSB is stable slightly above the target reference point for spawning biomass $B_{tr}$ , the level at which stock productivity needed to be sustained. Based on bootstrap analyses, it was concluded that the level of uncertainty of the estimates was satisfactory. Indeed, there was confidence (p > 95%) that the stock was at a level notably above both $B_{lim}$ and $B_{tr}$ . Retrospective analysis revealed gratifying stability of the model- based estimates for northern Sea of Okhotsk pollock data, and overall, the diagnostic results showed that the stock assessment was both adequate and met high international standards of credibility.
According to model-based estimates, pollock total stock biomass in the area at the start of 2015 was 9.22 Mt and SSB was 6.13 Mt, well above the values calculated in 2015, but concomitant with expectations of a now-growing stock.
In the team's opinion, the reference points used for the harvest control rule (HCR) are consistent with and meet existing international practice. Specifically, target values are based on maximum sustainable yield (MSY) and the limit reference point B <sub>lim</sub> is above the level at which there would be a perceptible risk of impaired reproductive capacity. Further, stock recovery has been observed historically from that level. Notwithstanding this conclusion, it appears that the current reference points may be revised during TAC work carried out during 2017 for the 2018 season.
The stock assessment forecast for SSB at the start of 2017 was 6.54 Mt tons, indicative of a recovered stock. In accord with the HCR in use, the recommended fishing mortality coefficient ( <i>F</i> ) for 2017 would then be 0.235, suggesting a pollock TAC in the area for 2017 of 1 084 100 (16.6% of SSB). However, KamchatNIRO scientists recommended maintaining the 2017 TAC at its 2016 value of 960 000 t, and that suggestion was endorsed by VNIRO after the assessment was subjected to its annual central, including ecological, critical evaluation.
As stated in previous years, the stock assessment model in use includes three forms of uncertainty: measurement error associated with possibly unrepresentative levels of sampling, model uncertainty in terms of fishery dynamics, and uncertainty in terms of natural variation in stock parametrization. The first two are recognized when evaluating uncertainties in model parameter estimates, stock condition and management reference points according to the bootstrap method, and the third when evaluating the efficiency of the fishery control method based on imitation modeling.
In the process of TAC planning, the effectiveness of the selected fishery controls is analysed through a risk analysis. The probability of there being undesirable consequences for the stock, i.e. an overfishing risk in terms of recruitment and stock growth when implementing the strategy, is within the recommended level of 10%. The results of stock dynamics modelling for a 10-year period revealed that, at the levels of harvesting suggested by the HCR, the pollock stock in the northern Sea of Okhotsk would not exceed biologically safe limits and would remain in the vicinity of the target reference point Btr with 95% probability. Despite the historical 2004 and 2008 year classes being weak, the HCR confidently allows the stock to be maintained at a high level of productivity for the immediate future, understandingly so given the relative strength of the more recent (and now being fished) year classes.
Condition 3 (see below) required that the Sea of Okhotsk stock assessment model be subjected to rigorous external review by an independent international expert in 2016. For more information on this aspect, refer to Condition 3 below.
The review team noted that the annual milestones for this condition were being met by delivering a regular comprehensive analysis in written form of how the annual monitoring underpinned and supported the understanding that the HCR



	was working effectively. The KamchatNIRO document provided this year (which is available in full in its original language on the KamchatNIRO website and in extended summary on the PCA website) is now the third annual report aimed at meeting the overall objective, and like the previous two (reported at SA1 and SA2), clearly shows the efficacy of the HCR in matching exploitation levels against well-calculated target reference points. The stock is seemingly strong, yielding good year classes and still on an upward trajectory, to the extent that the calculated and initially recommended TAC for 2017 has been revised downwards by management and decision-making evaluators (seemingly for economic and marketing reasons) to stay at the same level as for 2016. In other words, some potential TAC will be left next year to remain "in the bank".
	The harvest strategy ensuring stock sustainability is therefore deemed to be working well. To close the Condition at the fourth surveillance next year, it is expected, however, that written evidence will be provided to demonstrate that the harvest strategy has undergone testing to explore robustness to management and assessment uncertainties.
	A small concern does arise, though. VNIRO is currently evaluating a slightly different means of calculating the annual TAC from the established model and harvest strategy, methodology that does not garner support from the scientific community responsible for the assessment (KamchatNIRO) and others. Therefore, it is crucial for the stock and general belief that it is being managed sustainably that the methodology underlying the proposed centralized Russian (VNIRO) adaption of the model and TAC-setting be carefully considered by all involved in the work and that clear and unanimous decisions on the methods of calculating future management targets such as TAC be tabled early in 2017 at the latest.
Status of condition	The requirement to meet this Condition is currently on target, but the Client should note that to close it at the fourth surveillance next year, additional written evidence will be required to demonstrate that the harvest strategy has undergone rigorous testing to explore its robustness to management and assessment uncertainties. Moreover, it is hoped that next year's report that also takes cognizance of the recommendations associated with the review commissioned under Condition 3 will also touch on the VNIRO evaluation of the means of TAC calculation.

## 4.2 Condition 2

	Insert relevant PI number(s)	Insert relevant scoring issue/ scoring guidepost text	Score	
Performance Indicator(s) & Score(s)	1.2.3	Information / monitoring: Relevant information is collected to support the harvest strategy	75	
Condition	By the fourth surveillance audit, provide a written report evaluating the monitoring programme for the fishery (e.g. analysis of the accuracy and at-sea observer coverage of both the ichthyoplankton / trawl survey and fishery removals) that demonstrates that stock abundance and fishery removals are regularly monitored at a level of accuracy and at-sea observer coverage consistent with the harvest control rule.			
Milestones	Milestones First surveillance At the first surveillance audit, the client must provide a written report to demonstrate coverage, consistency and accuracy of the records of landings, of survey activities and analysis that these are consistent with the harvest strategy and monitored with sufficient frequency to support the harvest control rule. If this report highlights issues that need to be addressed a plan must be developed by			



	the second surveillance audit to describe what actions will be taken to address these shortcomings.			
	If the first surveillance audit deliverable demonstrates that stock abundance and fishery removals are regularly monitored at a level of accuracy and at-sea observer coverage consistent with the harvest control rule, the PI would be rescored at 80 or higher. If the deliverable report highlights issues that need to be addressed, then meeting the milestone would likely not result in a change in score at this surveillance audit.			
	Interim score: 75			
	Second surveillance			
	At the second surveillance audit, the client must provide a written report that outlines an implementation plan to address shortcomings in the monitoring programme identified in the first surveillance audit. This report would demonstrate how each issue is to be addressed by the fourth surveillance audit. The milestone associated with the second surveillance audit has been defined as a means to monitor progress; meeting the milestone would likely not result in a change in score at this surveillance audit.			
	Interim score: 75			
	Third surveillance			
	By the third surveillance audit, the client must provide a written report describing completed actions to address issues raised in the first surveillance audit. The milestone associated with the third surveillance audit has been defined as a means to monitor progress; meeting the milestone would likely not result in a change in score at this surveillance audit.			
	Interim score: 75			
	Fourth Surveillance			
	By the fourth surveillance audit, the client must provide a written report that demonstrates that stock abundance and fishery removals are regularly monitored at a level of accuracy and at-sea observer coverage consistent with the harvest control rule. Provided the actions defined in the milestones and the deliverables in the client action plan are met, the PI would be re-scored at 80 or higher by the fourth surveillance audit.			
	At the first surveillance audit, the PCA will commission and provide a written monitoring report to demonstrate coverage, consistency and accuracy of the records of landings, of survey activities and analysis that these are consistent with the harvest strategy and monitored with sufficient frequency to support the harvest control rule. This will include monitoring of the developing seine-net fishery on the West Kamchatka Shelf. If this report highlights issues that need to be addressed, a plan will be developed that will address these.			
Client action plan	The analytical report will be prepared by the working group including representatives of the Federal Fishery Agency, fishery research institutes (such as VNIRO, TINRO, KamchatNIRO, and any others with necessary scientific expertise), FSB Coast Guard, and PCA. The Client is committed to engaging expertise and consultancy from internationally recognized experts. This report will be reviewed by the surveillance team at the second audit.			
	Deliverables			
	Four written monitoring reports will be provided. As a result, the fishery will achieve a minimum score of 80 for this performance indicator by the fourth surveillance.			
	First surveillance			



	The first report, detailed above, at the first surveillance audit is expected to partially achieve the second scoring issue of SG80 and fully achieve the third scoring issue.
	Second surveillance
	At the second surveillance audit, the client will provide a written report that will outline an implementation plan to address shortcomings in the monitoring programme identified at the first surveillance audit. The report will be prepared by the working group specified above, and recommend changes to the monitoring and at-sea observer programmes, if necessary, and suggest a timeline for such changes to be implemented in the management process.
	Third surveillance
	By the third surveillance audit, the PCA will provide a written evaluation report of actions taken to address issues raised in the first surveillance.
	Fourth surveillance
	By the fourth surveillance audit, the PCA will provide a written evaluation report on how all issues associated with the monitoring of the fishery and surveys have been addressed.
	Year 1
Progress on Condition [Year 3]	To attempt to meet its obligations, the PCA commissioned TINRO and KamchatNIRO to prepare a comprehensive report entitled "Pollock stock and fishery monitoring in the Sea of Okhotsk in 2013" (see surveillance report for reference detail). It demonstrated the coverage, consistency and accuracy of the records of landings and of survey activities and results, and analysed how consistent they were within the harvest strategy. However, the frequency of monitoring was deemed then as likely insufficient to support the harvest control rule, an issue mentioned by the WWF and others. For instance, the issue of catch and discarding rates of juvenile pollock was regularly being raised given the then construed low levels of observer coverage in the fishery, despite protestations by the fishery that the move-on rule minimized both. FFA GMI observers monitored all catches, but independent (scientific) observer coverage clearly needed to be enhanced swiftly, particularly to strengthen the estimates of the proportion of juvenile pollock in the catches. Future versions of the report also needed to elaborate more fully on the methodology used to estimate total mortality based on processed weights, including information on the conversion factors used for product to green weight calculation and the raising factors being applied to the estimates of bins and bin weights of pollock. As a consequence of a comprehensive review of an initial version of that report by scientists, the FFA, the FSB, government officials and fishing company representatives in October 2013, PCA commissioned from TINRO a report on how to develop a fully comprehensive required for the fishery (again, see the surveillance report). The first report detailed in a robust statistical manysis of the number of observers required for the fishery (again, see the surveillance report). The first report detailed in a robust statistical manner how the observer system needed to be developed sufficiently for the target level of accuracy and observer coverage concomitant with



resulted in the understanding that a working group on the observer programme needed to be established formally under the initial lead of the FFA. A group met for the first time in August 2014, in Moscow, and was expected to meet again soon thereafter, when the whole proposal for enhancing the observer scheme by bringing in more trained observers (and information on how they would be trained) would be advanced and hopefully swiftly implemented. Establishment and formalizing of that observer working group was considered to be a key requirement without which this condition would struggle to be met, at least, but not only, in the eyes of some critics of the certification.

The surveillance team was satisfied that the requirements for meeting the milestone set for the first surveillance had been satisfied, and noted that the process leading to meeting the second and third surveillance milestones in terms of developing the monitoring system was already under way. However, no amendment of the scoring was possible at that stage, because the development plan for the scientific observer system had not yet been implemented, nor had a working group on the observer system been formally constituted, despite most of the requirements of an enhanced scientific observer system having been tabled and discussed at length.

#### **Remedial actions**

Institute and formalize the required Observer Working Group, and specify their terms of reference.

#### **Changes to condition**

No change to the condition or the score was suggested at that surveillance, and the condition remained as it was.

#### **Updated status**

In terms of this condition, the UoC fishery was well past the status it would have been expected to be at by the first surveillance audit, and provided the working group of experts on the observer system was formally constituted and continued to meet and to implement its plans meaningfully, was impressively working towards meeting this condition by the fourth surveillance.

#### Year 2

There was no written report provided in English, but the team was satisfied from the Russian language material presented (from the [minutes of the] working group established since certification) and actions clearly taken and listed for the team that the client was addressing this Condition in a manner that should hopefully allow the Condition to be closed off by the fourth surveillance. Largely from the original TINRO report on monitoring levels provided at the first surveillance audit (see the surveillance report of that surveillance for reference detail) and taking cognizance of several issues raised by the surveillance team in 2014, two main thrusts of improvement were required to fulfil the Condition in principle if not in full by producing a written report.

The first was to enhance the number of scientific observers trained and able to participate in the fishery; planning for this was definitely in place with a view to at least an extra 5–6 observers becoming active in the fishery in 2016 and another 5–6 the following year (bringing the total scientific observer component to the required 22–25 recommended by the first TINRO report). The team realized that it would be impossible to train more than six trainees per year within the current trained staff corps of TINRO, so the team was satisfied that enhancement of the trained scientific group could take place in two annual stages. Using local educational establishments, training (anticipated to be 90 h of intense study) would result in diplomas being awarded. The team noted too that protocols, instructions and keys were being developed by TINRO, responding both to suggestions made during the first surveillance and to

proposals and ideas generated by members of the officially constituted working group, mentioned beneath.
The second requirement was for a working group on Sea of Okhotsk pollock monitoring to be established, including representatives of the TINRO monitoring group, WWF Russia, the Far East Technical Fisheries University and the PCA (the client). This working group had been established and was looking at:
<ul> <li>developing and implementing actions aimed at further improving monitoring of the fishery by scientific observers;</li> </ul>
<ul> <li>developing and managing training resources;</li> <li>updating protocols and instructions for observers carrying out the monitoring;</li> </ul>
<ul> <li>developing proposals to enhance observer functions, rights and status on board fishing vessels;</li> </ul>
<ul> <li>arranging cooperation with other fishery management agencies.</li> </ul>
The Minutes of the 1 <sup>st</sup> meeting (4 September) were seen, and so was the 80- page draft observer manual developed by TINRO. The latter took cognizance too of the need for observers where possible also to record observations on seabirds and marine mammals (i.e. P2 issues), as outlined by scientists at the Kamchatka Institute of Geography. A second meeting of the working group had also been held shortly before the site visit, focusing on educational detail.
There were still a number of stakeholder concerns. These revolved around accurate assessment of juvenile mortality, for which stakeholders believed that better technology might be the solution, and the fact that they did not believe that appropriately reviewed and if necessary amended conversion factors were being applied to the fishery extractions to accurately determine green (live) weight of the pollock being caught. The team was not convinced that the technological improvements (cameras and acoustics) suggested would be a cost-effective and accurate means of improving confidence in understanding juvenile mortality so suggested that the situation continue to be monitored but that the move-on rule be rigorously applied and enforced. However, responding to the concerns about the condition factors being applied, the team asked the PCA to Commission a short report from TINRO outlining the methods and modus operandi of condition factor (also referred to as yield coefficient) calculation and application in the fishery. This was supplied later in 2015, and from discussions held, it was determined that acceptable methodology was being applied to calculate them, that the current values were applied from June 2014, and that they would be reviewed again in 2017, in a rigorous manner. The team accepted this (and the regularity of review) as international best practice, so was confident that the live weight extraction values for pollock used in fishery management were as accurate as needed.
Overall, the team was satisfied with delivery against this Condition. However, it was deemed necessary for the minutes of the working group's meetings to be at least summarized (not translated in full) into English immediately, for team and MSC records. The team was also pleased to learn that the intention was for the working group to be maintained as a permanent body of NGOs (e.g. WWF), state research institutions (e.g. TINRO) and educationists (the Far East Fisheries Technical University) to evaluate any further issues or shortcomings that might arise in the monitoring (scientific observer) programme in future.
The client seemed to be on track for meeting this Condition by the fourth surveillance audit, but producing the final report evaluating the programme of monitoring of survey efficacy as well as fishery removals and associated observations (the latter is what was being done then) will be challenging.



#### **Remedial actions**

Urgently provide a translated summary of observer working group agenda and meetings, for proper and complete record purposes.

#### **Changes to Condition**

No change to the Condition or the score was suggested at that surveillance, and the Condition remained as it was.

#### **Updated status**

Training of new observers to supplement the existing corps of trained staff was taking place and the working group of experts on scientific observers in the pollock fishery in the Sea of Okhotsk had been formally constituted by TINRO order 87 of 7 July 2015, with clear and acceptable goals (terms of reference). Therefore, provided the observer coverage increased during 2016 and that the working group continued to meet and implement its plans meaningfully, this Condition was considered to be on track to be met by the fourth surveillance audit.

#### Year 3

During late 2015 and in 2016, the Client and TINRO collaborated in implementing the improvement programme for fishery monitoring by scientific observers developed initially by TINRO and reviewed by the working group (which comprised fishery science agencies, industry and stakeholders such as WWF Russia and the Far East Fisheries Technical University). According to the action plan and training course methodology at the second audit, a 90-h training course was given by TINRO and the University for 14 trainees. On satisfactory completion, all trainees received an official diploma of competency in at-sea observation for the pollock fishery from the University.

The results of the previous year's monitoring programme are detailed in Smirnov *et al.* (2016). In season A of 2016 (the first three months of the year), four of the newly trained observers accompanied by experienced TINRO observers were deployed to the fleet fishing pollock in the Sea of Okhotsk. Observers started in pairs of one new trainee and one established one, then, after 3-4 weeks of practical training, the new trainees were deployed on different vessels in order to increase observation coverage overall. Their tasks included:

- studying the distributions of spawning and post-spawning pollock aggregations, to determine the onset of mass spawning and the spawning grounds in the Sea of Okhotsk in winter-spring 2016;
- observing spawning aggregations, specifically recording catch per hour, per haul and per ship-day;
- collecting material on the seasonal and depth distributions of pollock length and age classes and the maturity states;
- estimating pollock bycatch size in key operating areas of the fleet;
- qualitatively and quantitatively assessing the bycatch of other fish species;
- recording the bycatch and (if observed) mortality of marine mammals and seabirds interacting with the fishing gear;
- collecting and analysing all available information on vessel activities on the fishing grounds.

All the hauls observed were typically on large concentrations of pollock, and all analyses followed the standard techniques documented and used by TINRO Centre. At least 200 pollock were measured from each haul and the resulting length distribution for each was applied to the total catch of that haul. Biological analysis was carried out on at least 25 pollock collected from each haul. The standard Guide for Macroplankton Sample Sorting and Taxonomic Group Determination was used to identify prey, and Pollock scales were collected according to the established Pravdin method for age identification. All data (catch and effort data, for pollock and herring, bycatch, marine mammals and



seabirds) were captured electronically for subsequent analysis. Trawling duration during the observer trips varied from 1 to 9 h depending on catch volume, so all catch data were recorded in the form of catch per hour trawled. "Ichthyologist" software and MS Excel were used for primary processing of the material collected, and Excel and Surfer v 8.0 for plotting of graphs and charts/spatial catch distributions, respectively. All material collected was transferred to the database at the Regional Data Centre managed by TINRO. Besides TINRO, other fishery research institutes also deployed observers to monitor the pollock fishery in season A of 2016. KamchatNIRO deployed four, two on pelagic trawlers and two on vessels engaged in the Danish seine fishery for pollock. MagadanNIRO deployed another two observers. Overall, therefore, observations of fishing operations and collection of material on catch size, biological parameters of pollock, qualitative and quantitative composition of bycatches were made by 13 scientific observers (i.e. 13 trawlers were observed, 10.2% of the fleet operating). The 2016 season ended, as recommended by TINRO, 10 days earlier than usual, on 31 March, by which time scientific observers had processed 306 hauls in the North Sea of Okhotsk, 120 hauls in West Kamchatka and 363 hauls in the Kamchatka-Kuril subzone, a total of 789 hauls (4.2% of all hauls made by the fleet). That corresponds to 19.7% more hauls, but a slightly lower percentage of those made annually in the same seasons of 2014 and 2015, because fleet activity was greater in 2016 than in the previous two years. Further, and in addition to observations on midwater trawlers, observations in the West Kamchatka and Kamchatka-Kuril subzones were also made on Danish seiners (during March 2016, 43 and 33 hauls from the two subzones, respectively, covering 3.2% of all fishing operations). In terms of the spatial distribution of at-sea observer coverage in season A of 2016 in the UoC fishing area, 23% of the North Sea of Okhotsk subzone, 31% of the West Kamchatka subzone and 90% of the Kuril-Kamchatka subzone was covered by observers on individual vessels, because much of the fleet was operating in close proximity, associated with the dense aggregations of pollock. Taking this level of observer coverage relative to whole fleet activity would equate to observations at least in the vicinity of much of the fleet of more than 13 000 hauls of the nearly 19 000 hauls made by the fleet in the same three months of the fishing season (~70% coverage). Coverage of overall fleet activity was therefore good, even if relatively sparse in terms of the number of hauls actually observed (396 out of 6950 hauls made in the North Sea of Okhotsk [4.4%], 120 out of 3292 hauls in West Kamchatka, and 363 out of 8499 hauls in Kuril-Kamchatka). In summary: In season A of 2016, the number of scientific observers increased by one . (+8.3%) relative to the same season of 2015. A total of 13 observers collected data on 13 trawlers, i.e. 10.2% of large and medium size midwater trawlers were involved in the monitoring and observation programme in 2016. The level of monitoring and observation increased by 19.7% year on year: • 789 hauls observed in 2016 compared with 659 in 2015. Fleet activity in 2016 grew too, so total observer coverage of the fleet • showed a slight reduction from 4.6% in 2014 and 2015 to 4.2% in 2016. The UoC pollock fishery is characterized by a high degree of fishing effort • concentration; spatial observation coverage reveals that observers were collecting data on vessels in the areas and periods of the greatest fishing effort, meaning that areal coverage of the fishery approximated 70% of the total fishing area that season. For 2017, the client will be supporting the training and deployment of an additional eight observers to raise the total number of scientific observers operating to 15 or 16.



	The team concluded that the report commissioned from and produced by TINRO on the effectiveness and representativeness of the observer system in place and planned is impressive in its analyses. The team note that more observers (specially trained and also university-qualified and committed) were made available for the year, but with some previous years' observers now no longer available, the overall number deployed only rose slightly, much less than anticipated at the second surveillance. An increase in the number of observations is evident, but it is still down on observation numbers six years ago, and even in 2017, there will be fewer observers than the 22–25 statistically calculated as needed for the fishery in the TINRO report at the first surveillance. All requisite observations were made, including on target species (including biology and juvenile), bycatch (main and incidental), and ETP species, which is what the objective of this condition was. The size of the fleet increased slightly in 2016, meaning that, although more observer trips were made and the number of observations on each trip burgeoned, proportional haul coverage overall did not increase. Obviating this failing somewhat is the fact that spatial observer coverage does reflect fishing activity (at least 70% of fleet hauls made were in areas where the fleet was actually operating at the time, with many vessels fishing in close proximity to the vessel with an observer on board).
	However, the team is surprised that the Observer Working Group which commenced its work so effectively and inclusively (of NGOs and academics) in 2015, found no reason to meet in 2016 to evaluate developments and necessary growth in the scheme. All the team could find was a plan to increase the number of TINRO observers being trained for the 2017 season (while KamchatNIRO and MagadanNIRO levels of involvement in observations of 2017 will apparently remain the same). Raising the number of observers further in 2017 is challenging but definitely needed.
Status of condition	Just on target, in terms of more (and more complete, ecologically) observations having been made and more hauls observed. However, to satisfy the surveillance team as well as critics of the current observer scheme and to show clearly that observer coverage is both sufficiently accurate for and consistent with the Harvest Control Rule, the level of observer coverage (including in the number of observers) will have to increase in 2017. Succinctly, an analysis of the nature presented this year will not meet the requirement for this Condition to be closed next year. For now, fulfilment of this year's milestone to meet the Condition by the next year is just on track, but the working group must be encouraged to meet again to plan the next 12 months' activities and to fine-tune the whole process of training and observer penetration across fleet activities. Stakeholders have to remain engaged in that process, and the outcome must be that more trained observers will actually be sent to sea in 2017.

## 4.3 Condition 3

	Insert relevant PI number(s)	Insert relevant scoring issue/ scoring guidepost text	Score	
Performance Indicator(s) & Score(s)	1.2.4	Assessment of stock status: There is an adequate assessment of the stock status	75	
Condition	By the third surveillance audit, provide a report that details how the assessment appropriately evaluates major sources of uncertainty and takes them into account.			
	Milestones			
Milestones	First Surveillance			
	The client must provide a detailed written update of the status of the project, including draft terms of reference for the assessment review and proposed			



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discussion was had with the surveillance team about potential candidates to conduct the review.

However, because none of the proposed candidates for the required review (all of which needed to have a working understanding of the Russian language) had by the time of the surveillance been approached to ascertain availability (and one name at least is international), the surveillance team agreed with the client to keep the names suggested as confidential, at least during that surveillance. The ToRs produced were adequate, but probably (in terms of main scope 4 - evaluating other assessment models) rather more comprehensive than really required to meet the condition set for the fishery at the original assessment. However, with a view to maintaining a high standard of numerical assessment into the future, they were all accepted as drafted for the time being.

#### **Remedial actions**

The only remedial action necessary was addressed during the surveillance site visit, namely to produce draft ToRs and the names of independent candidate reviewers (for this report, the last of these was kept confidential, as stated above).

#### **Changes to condition**

No change to the condition or the score was suggested at the first surveillance, and the condition remained as it was.

#### Updated status

As stated in the Client Action Plan, the target then was to commission the expert review(s) by the second surveillance audit. As stated above too, the review also needed to consider whether there were other more appropriate assessment models than currently employed, a broader requirement than asked for by the condition, but still of value to enhanced management of the UoC fishery.

#### Year 2

The team could not fault client action thus far in this regard. Revised terms of reference (paying somewhat less attention to an evaluation of other assessment models, as suggested during the first surveillance) and the name and CV of the contracted internationally based reviewer were fully in compliance with the requirements to meet this Condition at the third surveillance, provided that the commissioned report was delivered by the target date early in 2016 and proved satisfactory in all respects, notably in addressing all major forms of uncertainty. The client had also requested KamchatNIRO to evaluate again the major sources of uncertainty in the model, and their analysis was presented in a formal report (again by Varkentin and Ilyin; reference detail is provided in the second surveillance report).

#### **Remedial actions**

There were none at that stage.

#### **Changes to Condition**

No change to the Condition or the score was suggested at this surveillance, and the Condition remained as it was.

#### Updated status

Commissioning of an independent report has been done, so the review and report, scheduled for delivery early in 2016, were awaited

#### Year 3

For the previous two surveillances, the client developed and agreed with the assessment team the terms of reference (ToRs) for the review report specified under Condition 3 and the milestone for this third surveillance audit. Having investigated several potential candidates to conduct the review, Dr Alexei



	Sharov, a Russian-born and -speaking US citizen internationally acknowledged as a stock assessment expert with no connections to the current Russian fishery management system, was selected and contracted.
	<ul> <li>His external review focused on three key tasks:</li> <li>evaluating the efficiency of the current harvesting strategy for Sea of Okhotsk pollock;</li> </ul>
	<ul> <li>evaluating the consistency in uncertainty consideration in stock assessment modelling and TAC forecasting for pollock in the northern Sea of Okhotsk;</li> <li>evaluating the consistency in the methods used for uncertainty consideration in stock assessment and TAC forecasting of pollock in the northern Sea of Okhotsk.</li> </ul>
	He was provided with all necessary information and data to complete the review, including the Varkentin and Ilyin reports to the first two surveillance audits of the fishery (see those reports for reference detail). Communication was also facilitated between him and the KamchatNIRO scientists in order to provide additional clarification if required.
	As required, a comprehensive and far-reaching review report was produced (Sharov 2016). Further, although not considered the main thrust of the review (see the Years 1 and 2 surveillance outcomes above), Sharov included suggestions for considering model modifications or supplementation to improve <i>inter alia</i> the handling of model uncertainty.
	The report (translated into Russian) was also sent immediately to the Federal Fisheries Agency (FFA) and to KamchatNIRO for information and, if thought pertinent, comment. KamchatNIRO scientists commented formally and positively (in terms of future activity) on the review (KamchatNIRO 2016).
	To briefly summarize the review report, the assessment model used for the UoC fishery is satisfactory by current international best standards and appropriately takes major uncertainties into consideration. The suggestions on improvement of the model are technical so are not repeated here, but will be considered in the next round of assessment of the stock by KamchatNIRO.
	The review document was provided to the assessment team on arrival in Vladivostok, but is succinct and well structured. In the opinion of the team, it is well conceived, comprehensive and persuasive, as originally hoped for when the Condition was set. Also, not only does the document do exactly what it was originally asked to do in evaluating all potential sources of uncertainty in the model, but it also suggests new avenues for the assessors to consider in making the model and its means of operation more effective. The assessor (at KamchatNIRO) has responded to all these suggestions in a very positive manner, and has agreed to comment further on them when next year's report on monitoring and assessment is compiled (see comment against Condition 1).
	The team is satisfied with the scientific integrity of the review and is convinced that the original requirement raised in setting the Condition has been fully met. The PI is therefore rescored at 90 (see Appendix 1) and the Condition deemed met.
Status of condition	This condition may be closed as it has been met satisfactorily, to target date, at Surveillance 3.

## 4.4 Condition 4

	Insert relevant PI number(s)	Insert relevant scoring issue/ scoring guidepost text	Score
Performance Indicator(s) & Score(s)	2.2.3	Information / monitoring Information on the nature and amount of bycatch is adequate to	75



		determine the risk posed by the fishery and the effectiveness of the strategy to manage bycatch.		
Condition	By the second (now delaye through a detailed analysis collected to estimate outcou 2) and to detect any increas changes in the outcome inc effectiveness of the strateg	d to the third) surveillance audit, demo and written report, that sufficient data me status with respect to biologically b se in risk to main bycatch species (e.g dicator scores or the operation of the fi y) (SI 4).	onstrate continue to be based limits (SI . attributable to shery or the	
	Milestones			
	First Surveillance			
Milestones	At the first annual surveillance audit, the client must provide a detailed written report and analysis of the data collected on main by-catch species. The Client will provide a report on the status of the development of the EFJ (electronic vessel logbook) for use in the Russian fisheries management system, and in particular in the SOO pollock fishery. The milestone associated with the first surveillance audit has been defined as a means to monitor progress; meeting the milestone would likely not result in a change in score at this surveillance			
	Interim score: 75			
	Second Surveillance			
	At the second surveillance and analysis of the data col their vulnerability status as made using biologically bas collaboration with the worki actions defined in the miles met, the PI would be re-sco	audit, the client must provide a detaile llected on all main bycatch species. An a consequence of the operation of the sed limits. The report is to be prepared ng group specified under Condition 2. tone and the deliverables in the client pred at 80 or higher at the second surv	d written report n evaluation of fishery will be i in Provided the action plan are eillance.	
	At each annual surveillance audit we will provide a detailed written report and analysis of the data collected on all by-catch species whether or not they form 5% considered at greater risk as a consequence of the operation of the fisher The report will also contain an evaluation of discard monitoring.			
	Deliverables			
	First and Second Surveill	ances		
Client action plan	The reports detailed above audit and the fishery is exp scoring issues of SG80 by 80 for this performance indi	will be presented to at each annual su ected to be fully compliant with the sec the second surveillance audit and ach icator.	urveillance cond and fourth ieve a score of	
	PI 2.2.3 SI (80b): Information respect to biologically base	on is sufficient to estimate outcome sta d limits.	atus with	
	PI 2.2.3 SI (80d): Sufficient data continue to be collected to detect any increase in risk to main bycatch species (e.g. due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the strategy).			
	Year 1			
Progress on Condition [Year 3]	Progress on Condition [Year 3] Although this condition and the response are aimed at the bycatch issue, team noted that much of the analysis here and in other reports used priminformation on retained species, which were what was recorded in official logbook data. It was deemed necessary for subsequent surveillances for Client to ensure that bycatch/retained catch data were separated clearly in analyses and contextualized by collection method, so as to remain consist with MSC performance indicators.			
	Notwithstanding the above, commissioned a report from	, in terms of this Condition, the Client on TINRO on bycatches in the UoC poll	correctly ock fishery (by	



Smirnov and Kulik; see surveillance report for reference detail). That report used data collected by scientific observers and from official catch logbook statistics from 2010 to 2013 and fully met the milestone for this Condition. Indeed, it also went some way towards meeting the requirement for the second surveillance, by not only estimating the whole bycatch in the fishery, but also presenting a correlation analysis of bycatch species volumes and TACs/proposed catch levels for the bycatch species in the various fishing areas and seasons. It was thought too that future reports addressing this Condition would be improved if the sampling strategy described were to show clearly how random were the processes of sampling and observer deployment, in order to demonstrate levels of bias (if any) in the bycatch species, with Greenland halibut not far behind, and that the first two are sought in their own right by certain fisheries, the report also provided a brief analysis of their stock status for the years investigated.

In terms of developing the electronic logbook system into a robust national one of international standards, the surveillance team was also presented with a written response (in Russian, but translated into English) from the FFA's Centre for Fisheries Monitoring System and Telecommunications. Clearly, the country and ultimately the fishery was well along the road to developing the integrated system and software, and on request, the team was allowed to visit the Centre to evaluate progress on the ground in that direction. They saw a robust manual data-entry system that relied on a lot of manpower locally, but were told (as their response letter did) about the planned country-wide electronic system being developed for fisheries. Federal legislation (already applied for in April 2014) was awaited for the system to be implemented in full, but it was hoped that by the second surveillance, the system would be operational, within pollock fisheries and others. Anticipating the passing of this legislation, however, an active inter-agency working group had been set up and mandated with facilitating the swift practical implementation of the system by all users, including the Sea of Okhotsk pollock fishery.

#### **Remedial actions**

None

#### Changes to condition

No change to the condition or the score was suggested at that surveillance, and the condition remained as it was.

#### **Updated status**

Further analysis of the bycatch and especially more information on cod, herring, Greenland halibut, their TACs and management was anticipated by the next surveillance, concentrating particularly on any risks to the notable bycatch species by the UoC fishery, however small the bycatches might be. Also, tabling of any information on salmon and steelhead trout catches, and possibly also the recently larger catches of Komandor squid and northern smooth-tongue, again notwithstanding how small, in the Sea of Okhotsk was deemed valuable background information to support the evaluation of future surveillance teams. Once such risks to bycatch species were known and understood to be minimal for all, whether or not they constituted <5% of the total catch, it was hoped that the scoring indicators relating to their biologically based limits and to the non-likelihood of any escalation of risk would be addressed, allowing the scores to be adjusted upwards and the condition met. Over this and other Conditions, however, care was urged in differentiating and contextualizing bycatch and retained species in the analyses conducted.

#### Year 2

To meet the requirements of the Condition, the PCA commissioned and received a report from TINRO on the non-target species taken by the Sea of Okhotsk pollock fishery (by Smirnov; see the surveillance report for reference



detail). The report focused on the results of the scientific observer coverage during 2014 and 2015 and provided a retrospective analysis of bycatch composition for the years 2010–2013. There were no significant changes over the years studied, with pollock itself dominating actual catches to the tune of >99.5% annually. The bycatch of even the most valuable commercial species (cod and Greenland halibut) was insignificant, as indeed was that of the most common bycatch species, the commercially acceptable herring. The report also said that the bycatch component (as a percentage) in commercial catches mirrored the findings of a fishery-independent integrated trawl and acoustic survey conducted by TINRO in April/May 2014.

Other than queries made to the FFA (on behalf of the CFMC, who were not available for a visit during the on-site surveillance), the surveillance team did not query in great depth the move of logbook reporting to electronic systems throughout Russian fisheries, which at least one stakeholder believes is necessary to meet this Condition. Such reporting is becoming the standard for fisheries around the world and its robustness and immediacy certainly engenders confidence that management is taking its responsibilities for accuracy and decisiveness to the levels expected of MSC-certified fisheries. Certainly, immediate and accurate bycatch monitoring becomes possible with electronic systems. The Client and the Russian pollock fishery itself do not yet benefit from having electronic reporting systems in place across the board, but it was to be hoped that advances in this regard would be made in the coming 12 months, and that the CFMC would make themselves available for interview at the 3<sup>rd</sup> surveillance in late 2016 to demonstrate the achievements made.

Apart from information on the monitoring method referred to above, the Condition required information to be provided in the report on stock status (from formal assessments) of Pacific herring, cod and Greenland halibut; formal stock assessments of the other, non-commercially sought species are not made. For the three main commercially sought species, however, the conclusion from considering their stock statuses is that the pollock fishery is not having any negative impact on them, but although that is a valuable conclusion, it was not based, as requested, on an analysis of their vulnerability status attributable to the pollock fishery in terms of their biologically based limits.

Apart from the above omission in terms of the type of analysis needed to meet the Condition, the delay in implementing the enhanced monitoring levels being recommended by the working group required under Condition 2 through expanding the observer corps (and hence the quantity of data being collected) meant that it was not possible to close out this Condition in 2015 as planned in terms of SI2 and SI4, both of which were originally scored down in lieu of the low level of observer coverage. It was also necessary for proof to be provided that observer coverage was indeed unbiased and random. The team believed that with more observers being deployed during 2016, this "failing" should have been addressed and that, if another report such as that produced by Smirnov was to be produced in 2016, with a full analysis of the vulnerability of the main bycatch species attributable to the pollock fishery through biologically based limits, then this Condition could be met in 2016, one year behind schedule.

#### **Remedial actions**

None at this stage other than further observer data collection and possibly evidence of a move to electronic logbook reporting.

#### **Changes to Condition**

The Condition was amended to read that it should be met by the third surveillance audit rather than by the second surveillance audit. The score remained as it was for that year.

#### **Updated status**







	In summary, therefore, although the assessment team noted that this Condition had not been met on target in 2015, it felt that good progress had been made this year in all but the actual number of observers in the field making the observations. Clearly the report on observer coverage shows improvement in many of the required areas (spatial coverage relative to overall fleet activity, number of observations made and hauls observed) and specifically that the potential risk to main (and in the case of the report, other) bycatch species is detectable under the current observer data-collection system. Moreover, the vulnerability of the main bycatch species is rigorously discussed and the team agrees with the conclusion that generally sufficient data are being collected to be able to demonstrate that the risk to them is not rising as a result of the activities of the pollock fleet. The team does note, however, that fulfilment of this Condition would benefit from, but does not require, the development and implementation of an electronic fish recording system across the whole fleet. This country-wide aim for commercial fishery catch recording is being rolled out on trial at the current time with the Russian pollock fleet dominating national effort ultimately to roll it out broadly. The fishery and indeed the skippers and owners are highly supportive of the initiative, and the pilot system was demonstrated to the team on site. Hopefully, each year will see evidence of the system's gradual approach to total coverage.
	Overall, the team is positive that enough of the material needed to meet this condition has been achieved, but as stated for Condition 2 above, it is imperative that the efforts and meetings of the Observer Working Group overview of fishery observation status and activities be maintained and that the actual number of trained observers being sent to sea increases in future.
	Specifically, though, the team notes that two scoring issues in P2.2.3 were seemingly problematic at certification, the adequacy of information to estimate outcome status with respect to biologically based limits for main bycatch species and the sufficiency of the data being collected to detect any increase in the risk to main bycatch species. Detailed reports were provided to the surveillance team in both 2015 and 2016 showing that bycatch data of a high quality are being collected, including in 2016 a full breakdown of catches into main and minor components. The results are consistent with what was learned at certification, suggestive of no material change having taken place since then. Bycatch species noted then, i.e. herring, cod and Greenland halibut, are under full assessment and their biological limits and stock dynamics are documented and well understood.
	The team is satisfied with the annual analyses and written reports supporting this condition and has therefore rescored this PI at an overall 80, meaning that the Condition can be closed at the third surveillance.
Status of condition	This condition may be closed as it has been met at Surveillance 3.

## 4.5 Condition 5

	Insert relevant PI number(s)	Insert relevant scoring issue/ scoring guidepost text	Score
Performance Indicator(s) & Score(s)	2.3.3	Information / monitoring Relevant information is collected to support the management of fishery impacts on ETP species, including: - information for the development of the management strategy; - information to assess the effectiveness of the management strategy; and -	70





		information to determine the outcome status of ETP species.		
Condition	By the fourth surveillance, the client will demonstrate that sufficient data are available to allow fishery-related mortality and the impact of fishing to be estimated quantitatively for ETP species. Particularly, the client needs to initiate studies on the diet and foraging behaviour of Steller sea lions in the Sea of Okhotsk to determine feeding rates on pollock, to be completed by the end of year 3 of certification, and to record observations of sea mammal and seabird interactions with trawls to determine if there are any mortalities of sea mammals and seabirds in pollock trawls, to be completed by the end of year 3 of certification			
	Milestones			
	First Surveillance			
	By the first annual surveillar collate all of the existing res Steller sea lions; 2} Initiate a fishery and seabirds, includi provide a benchmark to ass second scoring issue of SG whether the information the meeting this condition. Meet in score at this surveillance	nce audit, the client must: 1) Commiss earch data on the diet and foraging be annual reporting of the interactions be ing seabird mortalities. These reports eass progress towards full compliance 80. The surveillance team will review client provides is likely to fulfil their ex ting this milestone would likely not res audit.	sion work to ehaviour of tween the are intended to with the and confirm opectations for sult in a change	
	Interim score: 70 Second Surveillance			
Milestones	The client must provide a written report on the commissioned Steller sea lion work and the annual report of interactions between the fishery and seabirds including seabird mortalities. The report is to be prepared in collaboration with the working group specified under Condition 2. The surveillance team will review and confirm whether the information the client provides is likely to fulfil their expectations for meeting this condition. Meeting this milestone would likely not result in a change in score at this surveillance audit.			
	Interim score: 70			
	Third Surveillance			
	The client must provide a written report on the commissioned Steller sea lion work and the annual report of interactions between the fishery and seabirds including marine mammal and seabird mortalities. The surveillance team will review and confirm whether the information the client provides is likely to fulfil their expectations for meeting this condition.			
	Interim score: 70			
	Fourth Surveillance			
	By the 4th surveillance the or available to allow fishery-rel quantitatively estimated for	client must demonstrate that sufficient lated mortality and the impact of fishin ETP species	data are g to be	
Client action plan	The assessment report recognises that the monitoring of interactions with Steller sea lions and cetaceans is adequate. This level of monitoring of interactions in the fishery will continue and a monitoring report provided at each annual audit.			
	PCA will commission work to collate all of the existing research data on the diet and foraging behaviour of Steller Sea lions. The findings of this activity can be reported at the first surveillance. If a requirement for further research is identified in relation to feeding rates on pollock and other interactions with the			



	fishery, PCA will explore the possibility of relevant funding for an appropriate research project to be started during the period of certification.
	To monitor and report information on interactions between the fishery and seabirds and to record any resultant seabird mortality will be added to the brief of all on-board observer teams. Their observations will be reported at each annual surveillance.
	PCA note the comments of the assessment team in relation to monitoring bird strikes and will fully appraise the on-board observers of these issues and the importance of accurate recording of all interactions with the fishing gear.
	Deliverables
	First, Second and Third Surveillances
	Annual reports detailed above, on the two separate issues, will be provided at each surveillance. These reports will provide a benchmark to assess progress towards full compliance with the second scoring issue of SG80. Any requirements for change will thus be identified and acted on through an iterative process with the audit team.
	PI 2.3.3 ETP Information/monitoring SI (80b): Sufficient data are available to allow fishery related mortality and the impact of fishing to be quantitatively estimated for ETP species.
	The fishery is expected to be fully compliant with SG80 and achieve a minimum score of 80 by the fourth annual surveillance audit.
	Year 1
	A report on published and archive material on the diet and foraging behaviour of Steller sea lions was commissioned from the acknowledged and internationally respected Russian expert based in Kamchatka (Burkanov; see Burkanov and Usatov reference in the surveillance report) and presented to the team. Much of the material was available already to the original certification team, but it was useful to have it all provided in a single report, in English. This aspect of the milestone for the first surveillance was deemed as met.
Progress on Condition [Year 3]	Interactions with seabirds, ETP as well as other species, were deemed by the consulted local experts to be minimal, a conclusion not entirely shared by some NGOs nor by all members of the current surveillance team. Apparently, no (or at least very few) seabird mortalities have been recorded to date. Notwithstanding, a dedicated observer form for seabirds had been devised and released by TINRO under the instruction of the Client, to collect better data on the subject, and identification guides for seabirds provided. Further, Artyukhin had been engaged contractually and plans put in place for a dedicated seabird survey by the Kamchatka branch of the Pacific Institute of Geography to assess the direct impact of the fishery on seabirds by conducting an independent study of bird interactions with the certified pollock fleet during the main 2015 fishing season for pollock in the Sea of Okhotsk. Experts trained in seabird identification would participate additional to the normal observers. At the same time, dedicated effort would be made to collect more observer data on Steller sea lion diet in the area, an issue prioritized in the Burkanov and Usatov overview study. That work was expected to have some focus on Chinook salmon and steelhead trout whose seasonal distributions were thought possibly, from anecdotal information, to overlap slightly with the Sea of Okhotsk pollock fishery (although the surveillance team note that the UoC fishery is offshore and that few members of the PCA deploy Danish seines inshore).
	None
	Changes to condition



No change to the condition or the score was suggested at that surveillance, and the condition remained as it was.

#### **Updated status**

What was required next in terms of Steller sea lion diet was for the archive information and any new data collected during the new dedicated research programme to be analysed robustly to determine the real feeding rate of Steller sea lions on pollock in the Sea of Okhotsk, specifically but not only during the regular pollock fishing season there. That work needed to be completed adequately during the remaining period of certification, and interim reports on the findings needed to be presented at each surveillance. The same time-period and need for presentation of knowledge applied to the data being collected on seabird interactions with the gear and especially any potential mortality. Overall, the plans for dedicated surveying of ETP species already in place showed that the Client and the fishery were serious about meeting this condition in good time and fully.

#### Year 2

The Condition relates to ETP species, which in this case refers entirely to the (seabird) short-tailed albatross and the (marine mammal) Steller sea lion, and not to fish. At least one stakeholder believed that steelhead trout and Chinook salmon are caught seasonally in the Sea of Okhotsk, but data collected throughout the year and covering all areas of fishing activity by the UoC fleet, as well as interviews with seagoing personnel and scientific observers during certification and at the first and second surveillances fail to support this contention. In terms of marine mammals and seabirds, the client correctly commissioned two local, but internationally highly respected, experts at the Pacific Institute of Geography in Kamchatka to fulfil the necessary deliverables. For the second surveillance, two reports were produced, one providing an outline of the sea lion work commissioned and the second a report on interactions between seabirds (especially their mortality) and the fishery. The two experts produced separate reports for the second surveillance (seabirds -Artyukhin; marine mammals - Burkanov and colleagues; reference detail is available in the surveillance report) based largely on the results of an at-sea survey during commercial fishing operations made by themselves and a few of their fully trained assistants in the winter 2015 main fishing season in the northern Sea of Okhotsk, where fishing was concentrated then. Although both were well planned and executed, like all surveys of such nature, the data documented were sparse, seasonally and geographically constrained and covered a very small percentage of the total hauls made by the UoC fishery even in that year.

In terms of seabirds, Artyukhin had recorded no ETP species while he and his colleagues were aboard, but he did identify a number of seabird/fishery interactions, including mortalities, for other species in the area during winter. It was a good piece of work, and it was noted that auks and procellariids (mainly fulmars) constituted more than half the avian fauna around the vessels, whose waste and discarded small fish attracted them in sometimes fairly large numbers; albatrosses (only the occasional Laysan albatross was seen) and storm petrels were rare. Seabird/gear interactions were dominated by wire strikes (mainly by fulmars and a few gulls), more so during towing than during deployment and recovery, but only a few resulted in the death of the bird. Light "pollution", i.e. where vessel lights attract seabirds during the hours of darkness, was a contributing factor to the interactions, but it is always difficult to quantify the relative effects of seabird/wire strikes at night and by day from the small amount of data that are available. The report did provide some useful suggestions for mitigating direct seabird impact during fishing operations and much of the information was taken up in the draft observer manual for observers produced in partial fulfilment of Condition 2. The team noted the response of a stakeholder regarding the relatively limited extent of the survey, i.e. that



although the report was comprehensive, it was nevertheless a small subsample of the fleet, limited in time and space. It was also noted that, although the mortality of ETP species was zero (for short-tailed and Laysan albatross), there was mortality of other seabirds, showing that trawl warps, deck lights and overside cables presented significant hazards for seabirds around the fleet.

Regarding marine mammals, Burkanov and his colleagues, in another wellconsidered and valuable report, recorded 11 species during the same fishing season and in the same area as surveyed by Artyukhin for seabirds. The three rare (ETP) species were the dominant Steller sea lion and the extremely rare fin and North Pacific right whales. The other eight species, two species of seal, several species of whale and one species of porpoise, were common sights, so gave rise to no concern. Only four of the 11 species seemingly interacted with the fishing vessels, with two of these (Steller sea lion, the most common marine mammal encountered, and the occasional minke whale) noticeably approaching the vessels to feed, and the other two species (both species of seal whose populations are not under threat) remaining indifferent to fishing operations. During the survey, only a single bycatch of a marine mammal was observed, a ribbon seal that entered the trawl and drowned. Consequently, from the data collected in 2015, the fishery was deemed not to pose a massive threat to any marine mammal species, and certainly not to the ETP species, i.e. Steller sea lion. Again, a protocol for marine mammal observation was included in the observer manual prepared for Condition 2 fulfilment. Also, suggestions were made in the report for developing more effective means of widespread observation of marine mammal interaction with gear and vessels. Anecdotal information given in the report (e.g. 20 sea lions caught in a single trawl) could not be compared with real data, and the surveillance team, in interviews with seagoing staff, failed to find credibility in the statement.

One failure of the 2015 surveys was the observation log for marine mammals and seabirds developed and distributed to a sample of the fishing vessels. There were few returns, and none were useful. The report on marine mammals also failed to produce any further detailed analysis of foraging/dietary studies on Steller sea lions other than a few generic comments. At the first surveillance, there was a report, however, and Burkanov and his colleagues were encouraged to update that with new data for the next surveillance, along probably with analysis of scat data that could be collected in 2015/early 2016, both near and away from current fishing operations. A stakeholder's contention, based on statements in the Burkanov report, that 57 trained observers need to be deployed in a massive effort to accompany 30% of the UoC fishery trawls annually, is not achievable, nor in the opinion of the surveillance team, necessary. So many trained observers are not available, and the cost of conducting such research is prohibitive; this certification is based on pollock, not ETP species, so it is necessary only to collect information around the year and geographically spread out to ensure that better understanding is gained on ETP species/pollock trophic interactions. That is why the team believed that concentrated analysis of scat data would be a more appropriate means of generating the required data than a totally unachievable massive survey and research programme based on a huge number of trained observers being deployed solely for ETP observations throughout the year.

To meet this Condition. it was not deemed necessary by the surveillance team to repeat the whole seagoing survey in 2016, but a repeat survey in 2017 (with reporting in time for the fourth audit) was suggested could strengthen the possibility of this Condition being met on time in 2017. Further such a repeat survey should be able to expand the spatial and temporal information base on particularly seabird interactions and could provide an opportunity to test mitigation options in collaboration with the research team led by Artyukhin. Although the seabird mortality was associated with non-ETP species, it was suggested that it would be prudent not only to look again at impacts on ETP seabird species (in particular short-tailed albatross) but also to investigate the impact on the numerous other species for which mortality was reported. If this





pollock fishing season A had closed) while the vessel was fishing for herring in



	Shelikhov Bay in the northern part of the Sea of Okhotsk (client action plan p. 18 refers).
	Meeting Condition 5 also requires at least indicative studies to be made on the diet and foraging behaviour of Steller sea lions in the Sea of Okhotsk to determine their feeding rates on pollock. Scat analysis was suggested by the assessment team as one means of doing this. However, finding a suitable scientist to do this by the fourth certification (as required) is proving challenging. For instance, Burkanov's suggestion of a three-year half million US\$ programme is unrealistic, so the client is actively seeking other short-term but high scientific value options in discussions with other local and international experts on marine mammals and Steller sea lions in particular.
	The client also drew the attention of the assessment team to a scientific paper dating from 2006 (Waite and Burkanov 2006) that analysed scats of more than 1700 Steller sea lions from 2000 to 2003 – several areas, mainly inshore but also some offshore foraging. The team was aware of this publication and considered it valuable, but insufficient to meet the requirements of Condition 5. In that work, pollock was a common prey item of the sea lions, but not to the extent that its dominance in the ecosystem might have predicted.
	Overall, the team was satisfied that the variously commissioned work was on target to meet this Condition at the fourth surveillance audit. For instance, the comprehensive reports based on at-sea surveys on both Steller sea lions (and other sea mammals) and seabirds presented in 2015 along with the new scientific observer data presented were very revealing in terms of interactions and mortalities, but insufficient in terms of Steller sea lion diet (foraging). Therefore, dedicated literature searches on the subject of sea lion diet and specifically targeted data collection at sea and possibly on land (scats) in early 2017 must be commissioned as a matter of urgency.
	Trained observers checking at least two trawls per day for seabird and marine mammal interaction with commercial fishing operations is a good use of the observer scheme and should continue, hopefully with even more observations and observers at sea in 2017. That aspect of the basis of this condition seems to be on track, so it would be a pity were fulfilment of this Condition to be deemed a failure as a consequence of insufficient up-to-date data being collected on sea-lion dependence on pollock prey.
Status of condition	Mostly on target for meeting the Condition by the fourth surveillance, but there are concerns about whether fresh analyses of Steller sea lion / pollock trophic links will be forthcoming.

# 4.6 Condition 6

	Insert relevant PI number(s) Insert relevant scoring issue/ scoring guidepost text		Score	
Performance Indicator(s) & Score(s)	2.5.3 Information / monitoring. There is adequate knowledge of the impacts of the fishery on the ecosystem.			
Condition	By the second surveillance audit, provide evidence to demonstrate that sufficient information is available and continues to be collected on the impacts of the fishery on these components (i.e. target, bycatch, retained and ETP species and habitats) and key elements of the ecosystem (e.g. trophic structure and function, community composition, productivity pattern and biodiversity) to detect any increase in risk level (e.g. attributable to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the macaurac)			
Milestones	First Surveillance			



	At the first annual surveillance, the client must provide a written report that describes the information collected in relation to other ecosystem components (see first annual milestones for Conditions 2, 4, 5) and key elements of the ecosystem (e.g. trophic structure and function, community composition, productivity pattern and biodiversity).
	The milestone associated with the first surveillance has been defined as a means to monitor progress; meeting the milestone would likely not result in a change in score at that surveillance.
	Interim score: 75
	Second Surveillance
	By the second annual surveillance audit, the client must provide a report that details an analysis of these data in order to demonstrate that the current level of monitoring is adequate in relation to understanding the impact of the fishery on the whole ecosystem. Provided the actions defined in the milestones and the deliverables in the client action plan are met, the PI would be re-scored at 80 or higher at the second surveillance.
	A summary of all the information collected and reported on in relation to target species (Condition 2), bycatch species (Condition 4) and Steller sea lions and other marine mammals (Condition 5) will be provided. The report will clearly differentiate between retained species of commercial value and bycatch species of no commercial value.
	An analysis of these data will be carried out in order to demonstrate that this level of monitoring continues to be adequate in relation to understanding the impact of the fishery on the whole ecosystem.
	All the information in the above report will eventually be incorporated into a trophic model of the Sea of Okhotsk ecosystem to better understand the potential impact of the pollock fishery.
Client action plan	Deliverables
	First Surveillance
	The PCA will provide a written summary report that describes the information collected in relation to other ecosystem components as detailed in Conditions 2, 4 and 5 above.
	Second Surveillance
	The report detailed above will be provided at the second surveillance audit and is expected to be sufficiently detailed to fully comply with the requirements of the final scoring issue of SG 80 and thus achieve a score of 80 for this performance indicator.
	The results of trophic modelling will be presented at subsequent annual surveillance audits and may be sufficient to comply with some elements of SG100.
	Year 1
Progress on Condition [Year 3]	Some of the required basic information needed to address this condition in respect of target species, bycatch and ETP species (notably on Steller sea lions) was collected and analysed as shown under Conditions 2, 4 and 5 (the papers by TINRO <i>et al.</i> , Smirnov and Kulik, and Burkanov and Usatov; reference detail is contained in the surveillance report). Additionally, however, TINRO evaluated statistically the impact of the pollock fishery on the Sea of Okhotsk ecosystem. The report produced (by Melnikov and Kulik; see the surveillance report for reference detail) summarized the data then available (i.e. meeting the milestone for this surveillance audit) and carried out a first analysis of that information with a view to meeting in some way the requirement of the condition at the second surveillance. The analysis concluded that it was almost



certainly not the fishery, but rather natural variation (climate change, oceanographic variability), that was behind any modifications noted in previous years to the ecosystem in general. **Remedial actions** Future analysis of ecosystem data needs, if information becomes available, to look beyond trophic structure and function, towards community composition, productivity patterns and biodiversity as well. Changes to condition No change to the condition or the score was suggested at that surveillance, and the condition remained as it was. **Updated status** The key conclusion of the paper presented that key ecosystem components are not being damaged by the pollock fishery needed to be taken forward for the Condition to be met and the PI rescored. The work up to then needed to be followed by further analysis, which should be exposed to independent peer review (e.g. at PICES) if possible, using new data that might have been collected in the interim that showed in a rigorous statistical manner that the risk of key ecosystem element modification as a consequence of fishing activity alone was not being raised. This analysis of the ecosystem ought to, as stated in the Condition, look beyond the trophic structure and function of the ecosystem and look also at community composition generally, productivity and biodiversity. Year 2 It was the team's opinion that sufficient information continued to be collected to be able to evaluate the impacts of the pollock fishery on target species (Condition 2), bycatch (Condition 4), retained and ETP species (Condition 5) and habitats (TINRO's ongoing marine habitat studies, including maps, seen annually) and that adequate analytical work was being done to enhance understanding of the pollock fishery's effect on the ecosystem generally. The team was also satisfied that not just trophic structure and function of the ecosystem had been analysed, but that new and good work was being produced on community composition, productivity and biodiversity. The report by Kulik (see the original surveillance report for reference detail) was comprehensive and at the time of writing this report being expert-reviewed also by the PICES community in addition to having been presented in detail to the surveillance team. There were three aims of the ecosystem effects evaluation: 1) to determine the dynamics and trends in ecosystem indicators that reflected changes in the trophic structure, community composition and biodiversity; 2) to determine functional groups of species and thence to adjust ecosystem model settings; 3) to use the estimates of biomass, productivity and trophic index (from other scientific components of the Sea of Okhotsk research work, some mentioned earlier in the second surveillance report), to simulate the different levels of the fishery's impact on the ecosystem. Key findings were that: (a) the average annual catch of pollock (then <650 000 t) did not unduly influence trophic flow models for the ecosystem, so the ecosystem was clearly compensating for the pollock extraction already; (b) the effectiveness of biomass accumulation (growth) shown by the catches was demonstrated by the fairly stable level of annual removals of pollock but weakly correlated to the catches of other species, although the catches of those other species facilitated distribution of biomass through other trophic levels; and (c) were the annual pollock catches to increase by 2-3 times, trophic flows through the ecosystem would be negatively affected and trophic structure altered. The team also noted that the Sea of Okhotsk ecosystem and the importance of walleye pollock featured in a comprehensive analysis of all Russian Far Eastern



Status of condition	Closed at second surveillance.
	The team believed that PI 2.5.3 could then be rescored at 80, and the Condition deemed as being met. Such a changed score would have the effect of P2 overall being rescored at 80.7 (up from 80.3 at certification).
	Updated status
	None required
	Changes to Condition
	None
	Remedial actions
	Data to drive the analysis continued to be collected, but the assessment team concluded that the analyses already conducted showed that the ecosystem effects of the fishery were not notable. Overall environmental variability, such as the warm water experienced off Kamchatka in 2015 that influenced distribution patterns and no doubt also pollock recruitment, were likely to have a far greater effect on the ecosystem than the fishery itself. Nevertheless, the team acknowledged that the fishery could alter the behaviour of seabirds and marine mammals that may congregate around the trawlers, although the impact on those species is probably benign.
	seas presented to PICES in 2014 by Dulepova (see surveillance report for reference detail). Notable change was not predicted at current levels of pollock harvesting.

## 4.7 Condition 7

	Insert relevant PI number(s)	Insert relevant scoring issue/ scoring guidepost text	Score
Performance Indicator(s) & Score(s)	3.2.2	Decision-making processes The fishery-specific management system includes effective decision- making processes that result in measures and strategies to achieve the objectives.	75
Condition	By the second [now delayed to the third] surveillance audit, the client will implement a strategy to ensure that its management decision-making processes that respond to serious and other important issues identified in relevant research, monitoring, evaluation and consultation, are transparent (i.e. that information is more readily available) and take account of the wider implications of decisions.		
	First Surveillance		
Milestones	At the first annual surveillance of evidence that a strategy ha decision-making processes th in relevant research, monitorin information is more readily av decisions. The milestone asso a means to monitor progress; in score at that surveillance a	e, the client must provide an interim writte s been implemented to ensure that its ma lat respond to serious and other importan- ng, evaluation and consultation, are trans- ailable) and take account of the wider impo- ciated with the first surveillance audit has meeting the milestone would likely not re udit.	n progress report anagement t issues identified parent (i.e. that blications of s been defined as sult in a change
	Interim score: 75		
	Second Surveillance		
	At the second surveillance, th implemented to ensure that its to serious and other importan	e client must provide evidence that a stra s management decision-making processe t issues identified in relevant research, mo	tegy has been es which respond onitoring,



	evaluation and consultation, are transparent (i.e. that information is more readily available) and take account of the wider implications of decisions. Provided the actions defined in the milestones and the deliverables in the client action plan are met, the PI would be re-scored at 80 or higher at the second surveillance audit.
	The strategy to clearly demonstrate that the decision-making processes as described in the condition are transparent (i.e. that information is more readily available) is as follows:
	By the second surveillance audit PCA will list all the relevant research projects related to this fishery both past and ongoing and make them publicly available to help demonstrate how they have contributed to the basic understanding and sound management of the fishery, in relation to its long-term conservation and ecosystem impact.
	Information will become more readily accessible by non-Russian interested parties and external bodies via PCA-promoted website development activities and published information.
Client action plan	Information availability will identify the decision-making processes and how information generated by fishery-independent and -dependent activities is utilized in the decision-making process.
	Deliverables
	First Surveillance
	The PCA will provide a written progress report of completed tasks, remaining tasks and deliverables timeline update at the first surveillance.
	Second Surveillance
	The relevant list, and related information, detailed in paragraph 1 above will be provided by the PCA and demonstrated as 'publicly available' at the second annual surveillance audit. Over the first two years of certification PCA will develop and enhance the website described in paragraph 2 above. The level of information available and its accessibility will make the fishery fully compliant with the second scoring issue of SG80 by the second surveillance audit. The fishery will thus achieve a minimum score of 80 for this performance indicator.
	Year 1
Progress on Condition [Year 3]	This was always going to be a difficult condition to meet for a Russian-speaking country and fishery, especially to convince non-Russian-speaking stakeholders and others that transparency really is important to the fishery. The Client presented a lot of information through web links, but these were virtually all in the Russian language so those sites remained largely unintelligible to many interested stakeholders (and critics) in the western world. However, following detailed discussion with the client and other parties in Vladivostok and careful perusal of material that was available in English, or using google translator for selected texts and pieces of information, the team was comfortable that very little information of importance to good governance of the fishery, and especially of the UoC fishery prosecuted by the Client, was being withheld or not presented openly. In other words, the team believed that international best practice was being followed in its management decision-making, from the fishery through science to policy. The Client also raised the issue of full transparency at the highest level of Russian scientific advisory processes (those behind management decision-making) and used lcelandic, Norwegian and North American examples as suggestions for best practice. The outcome of the latter initiative was that the TINRO website had started to contain summarized information that did indeed meet the requirement of this first surveillance. The PCA website too was informative, but critics would still be concerned that only Russian-speaking persons could have full understanding of management decision-making processes across all agencies and evaluate whether all decisions were taking full and adequate account of wider implications.



English while this report was being drafted. The first, relating to possible IUU activity, was comforting in that the conclusion was that (as at the certification), IUU activity associated with the pollock fishery was almost certainly negligible or nil and that formal agreements between Russia and neighbouring states did exist.

Inspection/compliance parameter	2008	2009	2010	2011	2012	2013
Number of vessels boarded	1 088	1 334	1 406	1 629	1 578	1 630
Increase over previous year	+43.5%	+22.6%	+5.4%	+15.8%	-3.2%	+3.3%
Number of violations	37	33	24	10	23	13
Decrease from previous year	-14%	-11%	-28%	-41%	+230%	-56%
Annual level of non- compliance (violations/inspections)	3.4%	2.5%	1.7%	0.6%	1.4%	0.8%

Summary	v compliance	information	for the	Sea of	Okhotsk	nollock fisherv	1
Gaillia	, oompnuno			000	ONINCION		

The second report (see the Table above), on inspections and infractions/violations since 2007 (updated from the information provided at certification), provided valuable information relating to inspection and compliance levels in the fishery. The number of inspections carried out by FSB personnel appeared to have plateaued at a reasonable level for such a large fishery, and the team was told that all violations of fishing rules were being dealt with immediately and firmly. Statistics for the year 2012 were seemingly anomalous, however, in that the downward trends in violations and non-compliance levels in the fisheries were arrested, but the general trends of improvement in both were gratifyingly renewed in 2013. In the opinion of the surveillance team, therefore, the fishery was at levels of control and compliance at least as good as would be expected in like MSC-certified fisheries.

#### **Remedial actions**

None

#### **Changes to condition**

No change to the condition or the score was suggested at that surveillance, and the condition remained as it was.

#### **Updated status**

The client was encouraged to do more in the second year of certification, probably through supporting and firmly encouraging easily accessible website postings in English, to prove to its critics that it was serious about making all such management information available timeously and that the response by management to any scientific or technical issues that arose were swiftly and appropriately addressed. The key there was that the Client needed to provide good and clear evidence that management was taking account of the broader implications of its decisions. In this regard, English media reports such as appeared in Fishing News International earlier that year about differences of opinion on the latest TAC between KamchatNIRO (the scientific assessment body for Sea of Okhotsk pollock) and VNIRO (the central agency responsible for all Russian fisheries research input into fisheries management decisions made by the FFA) did not help. English-speaking critics would seize on such reports, accurate or not, to undermine the management accountability of the fishery. Clear and scientifically acceptable explanation for the difference of opinion (relating to the strength of incoming year classes) was provided on request to the surveillance team, so the team was satisfied that such differences of opinion/interpretation relating to the UoC fishery no longer existed in formal Russian management circles.

Year 2



Again, it was stressed that this was always going to be a difficult Condition to meet for a Russian-speaking country and fishery, especially in that it had to convince non-Russianspeaking stakeholders and others that the need for total transparency of processes really was being taken seriously. The Client did engage extensively with Government agencies and made a lot of information available, in their website under construction largely in English or through weblinks (virtually all of the latter unsurprisingly are in Russian so are largely unintelligible to interested stakeholders, and critics, in the western world). However, following detailed discussion with the client and other parties and careful perusal of the documentation and material that was available in English, or using google translator for selected texts and pieces of information, the team was comfortable that very little information of importance to good governance of the fishery. and especially of the UoC fishery prosecuted by the Client, was being withheld or not presented openly. In other words, the team reached the conclusion that international best practice was being followed in its management decision-making, from the fishery through science to policy. The TINRO website itself contained summarized information that met many of the requirements to fulfil this Condition, and TINRO was the main provider of the information being used to populate the Client's under-construction website in English (http://www.russianpollock.com). The PCA's traditional website was really only of value to Russian-speakers, so it was deemed essential that the highly informative new website in English be fully populated quickly so that interested parties other than Russian-speaking ones could have access to full understanding of management decision-making processes across all the agencies and could evaluate whether all the decisions being made were taking full and adequate account of their wider implications (ecosystem components, etc.). It was recommended too that the new website also allow or give access to all the documentation and background data used to evaluate fishery and ecosystem performance and management. As the various teams had done previously, the team reviewed whether there was any IUU activity associated with the UoC fishery. It seemed not, with formal agreements between Russia and neighbouring states existing and being taken seriously. Also, with a view to providing proof of management's insistence on total compliance within the UoC fishery, the surveillance team reviewed inspections and infractions/violations since 2008 (updating the information from that provided at certification) - see the Table below. The number of boardings of fishing vessels seemed to have dropped during 2014 as the number of vessels active in the fishery declined slightly through vessel and company rationalization, but in the opinion of the surveillance team it was still at an acceptable level. As mentioned in earlier years too, all apparent violations of fishing rules (2014 posted the largest number since 2009, but were still few relative to the number of boardings) were being dealt with immediately and firmly by the authorities. and tough sanctions were being applied. Overall though, and despite 2014 values of compliance and boarding looking less promising than in earlier years, the fishery was deemed to be at acceptable levels of control and compliance. Summary compliance information for the Sea of Okhotsk pollock fishery Inspection/compliance 2008 2009 2010 2011 2012 2013 2014 parameter 1 334 1 406 Number of vessels boarded 1 088 1 629 1 578 1 6 3 0 1452 Increase over previous year +22.6% +43.5% +5.4% +15.8% -3.2% +3.3% 10.9% Number of violations 37 33 24 10 13 28 23 Decrease from previous year -14% -11% -28% -41% +230% -56% +215% Annual level of non-

It had been intended in the Client Action Plan that with the new website being constructed in 2015 containing *inter alia* the basic material and information required to demonstrate good management and governance in the UoC fishery, it would prove possible to close this Condition at the second surveillance. However, the new website was not yet fully populated nor did it provide all the requisite information or links to the

2.5%

17%

3 4%

0.6%

1 4%

0.8%



1.9%

compliance

(violations/inspections)

most relevant websites (organizations and data) associated with management of the fishery, so the surveillance team was forced to resort to searching for those data on various links provided to largely Russian-language websites. Although those searches were gratifyingly rewarded with evidence of good management practice by international standards, more effort needed to be deployed to ensuring that the new website was kept up to date and made readily available to stakeholders (and critics, with as much as possible translated into English), possibly commissioning a dedicated experienced web manager to assist in this task. The deliverables fell short of a level that might allow the team to rescore this PI in terms of total transparency of information, allowing the wider implications of management decisions to be clear to all, so it proved impossible to rescore and potentially to close the Condition in 2015. The client was told that the situation would be reviewed at the third surveillance, because while the current situation of having an incomplete website existed, no-one in the western world would feel confident that all material relevant to the fishery (and available, i.e. transparent to readers) was being provided accurately and timeously for decision-making and governance to be adjudicated at the level commensurate with what this Condition was originally designed to achieve. Without such proof being available, it would not be possible for anyone to assert that the wider implications of decision-making were being considered effectively in the management process.

#### **Remedial actions**

The new website needed to be populated with all the relevant documentation and information, largely in English, and weblinks, showing all that the wider implications of management decisions on all components of the fishery and ecosystem were being considered effectively.

#### **Changes to Condition**

The Condition was amended to read that it should be met by the third surveillance audit rather than by the second surveillance audit. The PI score remained as it was for 2015.

#### **Updated status**

Meeting the requirements of this Condition is not a trivial task, so serious effort needed to be devoted by more than just a representative of the Client and some TINRO scientists in meeting the necessities for delivery. Specifically, but not only, something needed to be done to bring the interactions with the VNIRO (the central Russian) evaluation system for all fisheries management in the country into a form that critics and stakeholders could see what the team see some evidence of, that it was taking the implications of management decisions on wider aspects of the ecosystem into account.

#### Year 3

During late 2015 and 2016, the client continued to work towards showing how transparent the Russian fishery management system was. A note on the importance of transparency to ecological certification for the fishery was sent to key Russian ministries emphasizing the fact that transparency beyond Russian boundaries was as important as national transparency (to stakeholders and the public).

The team noted that the Government of the Russian Federation was implementing a complex programme for improving the transparency of all its federal agencies and state governance, known as **Open Government** (Government decree #29-p of 30 January 2014) <u>http://open.gov.ru</u>. The project aims to increase the transparency and public integrity of the state management system, and to enhance public satisfaction with the quality of the governmental management; enhance opportunities for direct participation of the public in decision-making; improve the qualitative level of information transparency of federal authorities; and develop public control mechanisms for decision-making. The key principles are information transparency, clarity, integrity and openness, and the concepts are mandatory for all federal agencies including the Ministry of Agriculture (MoA), which defines strategic principles and policies of fisheries development and management, and the FFA, which has a key role in fisheries management. A transparency standard (<u>http://openstandard.ru/</u>) has been set and the various agencies and ministries graded. Currently, the MoA and the FFA are graded



34 <sup>th</sup> (transparency rating 45.1%) and 36 <sup>th</sup> (44.3%), respectively, out of 41 entries, so there is a long way to go (see <u>http://openstandard.ru/#rating</u> ). However, both agencies are gratifyingly working hard to meet the requirements of the scheme and therefore on an upward trajectory.
Under the Open Government concept, the FFA has established a working group headed by its deputy minister to improve its openness ( <u>http://fish.gov.ru/otkrytoe-agentstvo</u> ), with its <b>Open Agency</b> plans disseminated at <u>http://fish.gov.ru/files/documents/otkrytoe_agentsvto/plan-otchet/plan-real-otkr-2016.pdf</u> . Its own website now includes sections on industry economic policy, tax and customs
regulations and statistics, a description of VMS, stock assessment methodology, an explanation of interagency coordination in fisheries control and enforcement, a detailed explanation of the TAC procedure, and general data on stock health in 2015, material on the protection of bioresources, on international cooperation in fisheries management and cooperation, and sections on fisheries organization and management, fishing rules, regulations and research institute recommendations. In terms of the latter, there are, <i>inter alia</i> , annual and quarterly reports from the research centres involved closely with the pollock fishery in the country's Far East. The FFA's own public council is closely allied to the decision-making processes, with much material communicated through its website at <a href="http://fishcom.ru/otkrytoe-agentstvo/obshchestvennyj-sovet-pri-rosrybolovstve">http://fishcom.ru/otkrytoe-agentstvo/obshchestvennyj-sovet-pri-rosrybolovstve</a> .
Finally, the client has shown itself to be committed to fulfilling its own <b>Open Pollock</b> plans. Its dedicated website (www.russianpollock.com) has been expanded with relevant information from management and science agencies, at least partially (sometimes just a summary) in English. Relevant news and information from the various fisheries agencies plus background information on stock assessment and stock status, stock distribution, bycatch, ETP species, habitat and ecosystem information, environmental protection measures, policy, the agencies involved, enforcement and control, TAC and quotas, and public participation. Many of the reports submitted to the assessment team are also uploaded to the site, the most relevant ones entirely translated into English, so the website has burgeoned in content and relevance (to this Condition) in the past year.
Overall, therefore, the team has confirmed the existence of a much-improved and relevant pollock website, that the client is committed to promoting the website to improve its own and national transparency with a view to ongoing recertification, that it has worked with other agencies and Ministries in implementing their own schemes for increased transparency, and that it has supported and encouraged policies that encourage openness and where relevant public participation in state governance and decision-making. In terms of the latter, the client has used existing (international) models to demonstrate the importance of biological and ecological input through public hearings, public councils, relevant research, monitoring, evaluation and consultation in a transparent, timely and adaptive manner to reach decisions and to take account of the wider implications of those decisions.
The team is therefore delighted to note that the client clearly understands that transparency (of the fisheries management system and material collected to support it) is a key element of the MSC certification process. Specifically, its own easily navigable website is now much improved through being fed with relevant news information and links to original (scientific and advisory) reports and sometimes executive summaries. The team has no problem with original Russian versions of certain material being made available on the website, provided at least an Executive Summary in English is also uploaded. Overall, the website is increasingly being well populated, but efforts will still have to be made to maintain its live and comprehensive coverage status, through more and better material and possibly also the appointment of a (part-time) <i>dedicated</i> webmaster to drive it.
It is easy, from the information provided, to see how interested parties can participate in the decision-making process on pollock fisheries. Existing models are responding to serious and other important issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the



	<ul> <li>Wider implications of decisions. However, it is the background information, including the (scientific and other) reports being delivered in terms of this MSC assessment, which needs to be aired swiftly and comprehensively. For instance, full evaluation of the efficacy of the observer scheme would benefit from being shared with website searchers.</li> <li>Finally, in terms of continuity from earlier surveillance reports, it was ascertained from interviews and literature searches that there is no IUU fishing associated with the UoC fishery, and that boarding and compliance rates within the fishery remain fairly stable.</li> </ul>								
	Inspection/compliance	2008	2009	2010	2011	2012	2013	2014	2015
	parameter	2000	2009	2010	2011	2012	2013	2014	2013
	boarded	1 088	1 334	1 406	1 629	1 578	1 630	1452	1666
	Change from previous vear	+43.5%	+22.6%	+5.4%	+15.8%	-3.2%	+3.3%	-10.9%	+14.7%
	Number of violations	37	33	24	10	23	13	28	34
	Change from previous year	-14%	-11%	-28%	-41%	+230%	-56%	+215%	+21.4%
	Annual level of non- compliance (violations/inspections)	3.4%	2.5%	1.7%	0.6%	1.4%	0.8%	1.9%	2.0%
	In addition to the above fishing compliance statistics, it was noted that, in 2015, the Coastguard inspected 2189 transhipments of fish (a total of 795 600 t of product), an impressive overview of their activities.								
	With the demonstrated and documented vastly improved transparency associated with the research underpinning the advice and in management and its decision-making, PI 2.2.3 can be rescored to 80 (see Appendix 1) and the condition against it deemed met.								
Status of condition	This condition may be	closed as	it has b	een me	t satisfac	torily at	Surveill	ance 3.	

## 4.8 Condition 8

	Insert relevant PI number(s)	Insert relevant scoring issue/ scoring guidepost text	Score			
Performance Indicator(s) & Score(s)	3.2.5	Monitoring and management performance evaluation There is a system for monitoring and evaluating the performance of the fishery-specific management system against its objectives. There is effective and timely review of the fishery-specific management system	70			
Condition	By the third surveillance audit, the client fishery will provide evidence to show that it has in place mechanisms to evaluate key parts of the management system other than the scientific assessment and is subject to occasional external review.					
	First Surveillance					
Milostopos	At the first annual surveillance audit, the client must provide a written interim progress report on establishing an external review of the management system, including a terms of references.					
Milestones	The milestone associated with the first surveillance audit has been defined as a means to monitor progress; meeting the milestone would likely not result in a change in score at this surveillance audit.					
	Second Surveillance	Second Surveillance				



	By the second surveillance audit, the client must have identified potential external reviewers and the key parts of the management system that will be reviewed. The milestone associated with the second surveillance has been defined as a means to monitor progress; meeting the milestone would likely not result in a change in score at this surveillance audit.
	Interim score: 70
	Third Surveillance
	By the third surveillance audit, the client will provide a written report of the proposed review mechanism and the confirmed external reviewers. The milestone associated with the third surveillance has been defined as a means to monitor progress; meeting the milestone would likely not result in a change in score at this surveillance audit.
	Interim score: 70
	Fourth Surveillance
	By the fourth surveillance audit, the client will provide a report of the external review of the management system and that occasional external review will continue, the results of which will be made available to stakeholders. Provided the actions defined in the milestones and the deliverables in the client action plan are met, the PI would be re-scored at 80 or higher at the fourth surveillance.
	By the second surveillance audit PCA will identify and report to the audit team potential external reviewers for the management system and the key parts of the management system proposed subject to external review. Subject to audit team comment, PCA will provide a report of the proposed review mechanism (year 3) and commission an external audit of the key parts of the management system during the third year and provide a report of this external evaluation by the fourth surveillance.
	Deliverables
	First Surveillance
Client action plan	The PCA will provide a written progress report of completed tasks, remaining tasks and deliverable timeline for the second surveillance deliverable.
	Second Surveillance
	By the second surveillance audit PCA will identify and report to the audit team potential external reviewers for the management system and the key parts of the management system proposed subject to external review.
	Third Surveillance
	Subject to audit team comment, the PCA will provide a report of the proposed review mechanism (year 3) and commission an external audit of the key parts of the management system during this third-year surveillance.
	Fourth Surveillance
	The PCA will provide a report of this external evaluation by the fourth surveillance audit.
	Year 1
Progress on Condition [Year 3]	The Client informed the main Russian scientific and management bodies of its plan to meet this Condition, discussed its ideas with those bodies, and produced an acceptable (highly comprehensive) Terms of Reference to meet the Condition, using some indicators from the FAO's Code of Conduct for Responsible Fisheries as the basis for determining management effectiveness. It intended to have such a review carried out by the time of the fourth surveillance, which meets the Condition (by the third surveillance, the



expectation is to provide a report on the review mechanism and to have credible reviewer(s) signed up). The Client also correctly pointed out that such a review did not necessarily need to be international; it may be national but external to the fishery. The team pointed out, however, that the credibility of such reviews of the management systems of other certified fisheries has been enhanced by ensuring the independence of the review through internationalizing it; the Client was receptive to such an argument.

#### **Remedial actions**

None

#### Changes to condition

No change to the condition or the score was suggested at that surveillance, and the condition remained as it was.

#### Updated status

Everything was on track to meet this Condition as stipulated.

#### Year 2

What was being asked for under this Condition was essentially similar (though covering a different subject) to what was being proposed for Condition 3. In this case, however, the requirement was for the surveillance team to see that a mechanism was in place to evaluate the key parts of the management system other than the standard elements of scientific and stock assessment practice. Terms of reference were drafted at the first surveillance, and these were then honed (evidence was seen of this) to make them absolutely clear as to what was being proposed to meet the Condition. Further, although there had been some discussions about the names of potential reviewers and the Client had apparently contacted some of them, the team was not shown a list of available names under consideration (the eventually selected reviewer should be Russian-speaking, but ideally totally separate from the fishery and, as stated the previous year, internationally based even if Russian-born). It was deemed inappropriate for the audit team to select potential reviewers, but some names had been identified by the surveillance team and others during various discussions over the previous 12 months.

The Client asked for guidance as to whether a slightly different option would be appropriate, namely to contract a Russian-based expert for the review itself and then to have that review internationally peer-reviewed. This would be an option if a single Russian-speaking international reviewer to do the whole job could be found, but in the opinion of the team conducting the second surveillance, would not be the preferred option.

#### **Remedial actions**

None.

#### **Changes to Condition**

No change to the Condition or the score was suggested at that surveillance, and the Condition remained as it was.

#### **Updated status**

Everything was currently on track to meet this Condition as stipulated. Finalized terms of reference should be shown to the surveillance team in 2016, along with the name(s) and CVs of the selected reviewer; in terms of meeting the Condition as written, seeing the actual review was not deemed essential at the third surveillance, but clear progress towards that end by the same time in 2016 would be advisable.

Year 3



	The assessment noted that the client had already developed, and the previous assessment team had approved, the ToRs for the review to meet the requirements of Condition 8.
	The client had contacted Dr Vladimir Radchenko of the North Pacific Anadromous Fisheries Commission (NPAFC) in Vancouver, who has the requisite experience in fishery management system review, including in-depth knowledge of Russian fisheries management through extensive involvement (but not involving Russian pollock) over many years before taking up his post at NPAFC. His CV reveals his candidacy for the work as ideal, and he is able to produce the review early in 2017, as required by the Condition. The team was content with the nomination and agreed with the timeline being proposed.
	Theoretically, the Condition as described in the final certification report could be signed off at this audit, because ToRs have been agreed and a candidate named whose CV (Report 8.1) would make him acceptable to the committee. However, the team noted that the milestones set for the Condition in the final certification report (as well as the Client Action Plan) did not follow that rather simplistic rationale, so to sign the Condition off without actually seeing and accepting the content of the review would rather defeat the object of the Condition as originally set. For this year's 2016 surveillance audit, therefore, the client agreed with the team and confirmed that he believed that Condition fulfilment would only be possible at the fourth audit, having received and reviewed the report being commissioned from the candidate now.
Status of condition	In terms of the Condition as originally raised and written, fulfilment should have been possible in 2016. However, in terms of the milestones set to meet the Condition and the rationale for the Condition set at first certification, Condition meeting was deemed not appropriate at this audit, so the interim score remained as it was. Receipt and acceptance of a full (international) review of the management system during 2017 should demonstrate compliance with the terms of the Condition and allow it to be signed off at the next surveillance.

## 5 Conclusion

## 5.1 Summary of findings

During the third surveillance audit of 2016, three more Conditions were signed off, two delayed from the second surveillance, meaning that, with one signed off during the second surveillance, four more Conditions remained for consideration for fulfilment at the fourth surveillance. All four were deemed by the team to be on target, so the certification should be maintained as is for another year. With the three conditions (one for each Principle) now signed off, P1 now has a revised score of 80.8, P2 a revised score of 81.0, and P3 a revised score of 85.6.

## 6 References

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#### Appendix 1 – Re-scoring evaluation tables

Condition 3	3			
1.2.4	Assessment of stock status: There is an adequate assessment of the stock status	The assessment estimates stock status relative to reference points.	The assessment is appropriate for the stock and for the harvest control rule, and is evaluating stock status relative to reference points.	The assessment is appropriate for the stock and for the harvest control rule and takes into account the major features relevant to the biology of the species and the nature of the fishery.
		The assessment identifies major sources of uncertainty.	The assessment takes uncertainty into account.	The assessment takes into account uncertainty and is evaluating stock status relative to reference points in a probabilistic way.
				The assessment has been tested and shown to be robust. Alternative hypotheses and assessment approaches have been rigorously explored.
			The assessment of stock status is subject to peer review.	The assessment has been <u>internally and externally</u> peer reviewed.

#### **Scoring Comments**

Prior to 2010, assessments of Sea of Okhotsk were based upon the direct enumeration of spawning stock biomass using winter - spring ichthyoplankton / trawl surveys in each subzone. VPA-based assessment models (XSA, ICA, ISVPA) by subzone were then used to project an upcoming year's TAC. While these (and more recently a Statistical Catch at Age (Synthesis) formulation) were run in parallel to the direct enumeration method, the latter was used as the basis of harvest advice. In December 2010, pollock in the Northern Sea of Okhotsk were assessed as one stock using the Synthesis model (described in section 4.2) for the first time. The decision to use Synthesis over the previously used ISVPA was based on a comparison of observed and predicted spawning biomass from the two models. Synthesis better matched recent trends in biomass than did ISVPA. During the site visit, it was noted that Synthesis will be the preferred method for future assessments. An advantage of Synthesis over previous methods is that it evaluates stock indicators such as spawning biomass and fishing mortality against reference points which are also estimated from the same dataset, thus ensuring consistency in the numbers. Further, Synthesis has the prospect of allowing comparison of population indicators with analytically derived reference points. Thus, the assessment estimates stock status relative to reference points, which is used to inform a HCR. The first SI of SG60 and SG80 are met.

The Synthesis model recognizes the major sources of uncertainty as being in the catch at age, the Ricker stock – recruitment relationship, and the fishing mortality - effort, spawning biomass - survey biomass and fishable biomass – commercial catch rate relationships. Uncertainty in these model components is incorporated through lambda terms in the objective function (described in section 4.2) determined by expert judgment. A regulatory change in 2001 was incorporated in the model through use of two selectivity time blocks. While other sources of uncertainty are recognized (e.g. M and ageing), relative to the other sources, these are not considered major. Notwithstanding this, the assessment team considered that while the assessment identifies major sources of uncertainty, it is only taking these into account to a limited degree. The Monte Carlo characterization of uncertainty in historical biomass appears to be understating uncertainty, this due to consideration of error only associated with the catch at age. Both fishing mortality – effort and catch rate – fishable biomass relationships are incorporated into the model, which appears to be redundant use of the same data. Further, catch rate indices are prone to hyper-stability. The use of one weight at age vector for all years in the analysis (1963 – 2010) is worrisome. Finally, error in ageing and natural mortality is yet to be incorporated in the analysis. Thus, while the assessment identifies major sources of uncertainty, it only takes these into account to a limited degree. Thus, the second SI is met at SG60 but not at



SG80. Notwithstanding this, it should be noted that since the site visit, estimation of uncertainty has adopted a bootstrap approach, with sampling of residuals associated with the catch at age and stock abundance indices (e.g. CPUE and survey indices) used to characterize uncertainty and is a positive development in the assessment.

Third Surveillance supplementary comment: There is now (in 2016) an international review of the assessment methodology and in particular how the main (and some minor) sources of uncertainty are being taken into account. The methodology was deemed by the American (Russian-speaking) assessment scientist carrying out the review to be entirely appropriate by international best standards, and a few suggestions were made for consideration by the assessors in the 2017 cycle to improve the rigour of the assessment overall. In terms of uncertainty, the same reviewer carefully evaluated the extent to which the model was taking its various forms into consideration and concluded that sufficient rigour and depth (generally through bootstrapping) was being applied to conclude, unlike at the certification evaluation, that the major sources of uncertainty, including in M and ageing, were indeed being taken into account. This allows the second SI now to be scored also at SG80.

The assessment is subject to a multi-level Russian peer review process including scrutiny at the laboratory (e.g. TINRO), regional and national level. Review consists of experts both within the fisheries agency and outside in the academic environment. During the site visit, it was noted that this peer review can result in modification to draft TACs (reductions only permitted), evidence of which was presented in submission documents. No foreign experts have been involved in this review process and it is unclear as to the level of scrutiny that assessments receive. On balance, however, it is considered that the third SI of SG80 is met.

*Third Surveillance supplementary comment*: Better understanding of the national (VNIRO-led) peer review of the TAC process has been gleaned during all surveillances, and it is obvious that it is a rigorous process that can also include (2016 comment) suggestions on methodology. The involvement of academics not associated with fisheries research and management is now clear, lending credibility to ecological questions posed and their answers during the peer review. However, the formal system of review is still national only, and international involvement, other than in a minor way through the forum of PICES, has tended to be missing. This year's international review of the assessment commissioned for this MSC certification does, however, add a layer of international credibility to the process and the reviewer made some telling and highly positive statements about the quality of the KamchatNIRO-led assessment and its methodology underlying the advisory document prepared for the VNIRO national evaluation. The surveillance team is thus satisfied that the final sentence of the paragraph above is correct, and indeed that the third SI of SG100 is now met.

#### Score

A score of 75 was awarded. The two SIs of SG60 are met as are the first and third SIs of SG80. The second SI of SG80 is not met and thus a score of 75 was awarded and the following condition set.

*Third Surveillance supplementary comment*: With all three SIs now met satisfactorily at SG80 (and the 3<sup>rd</sup> SI of SG100 now also met), the surveillance team has rescored this PI at 90, closing the condition.

#### Condition

#### **Condition 3**

By the third surveillance audit, provide a report which details how the assessment appropriately evaluates major sources of uncertainty and takes them into account.

*Third Surveillance supplementary comment*: The report has been received, and the aim of the Condition in terms of uncertainty evaluation in the model fully met (with assessment methodology also reviewed), so this Condition may be closed.



Russian Sea of Okhotsk Midwater Trawl Walleye Pollock Fishery

Information / monitoring Information on the nature and amount of bycatch is adequate to	Qualitative information is available on the amount of main bycatch species affected by the fishery.	Qualitative information and some quantitative information are available on the amount of main bycatch species affected by the fishery.	Accurate and verifiable information is available on the amount of all bycatch and the consequences for the status of affected populations.
determine the risk posed by the fishery and the effectiveness of the strategy to manage bycatch.	Information is adequate to broadly understand outcome status with respect to biologically based limits.	Information is sufficient to estimate outcome status with respect to biologically based limits.	Information is sufficient to quantitatively estimate outcome status with respect to biologically based limits with a high degree of certainty.
	Information is adequate to support measures to manage bycatch.	Information is adequate to support a partial strategy to manage main bycatch species.	Information is adequate to support a comprehensive strategy to manage bycatch, and evaluate with a high degree of certainty whether a strategy is achieving its objective.
		Sufficient data continue to be collected to detect any increase in risk to main bycatch species (e.g. due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the strategy).	Monitoring of bycatch data is conducted in sufficient detail to assess on-going mortalities to all bycatch species.
	Information / monitoring Information on the nature and amount of bycatch is adequate to determine the risk posed by the fishery and the effectiveness of the strategy to manage bycatch.	Information / monitoringQualitative information is available on the amount of main bycatch species affected by the fishery and the effectiveness of the strategy to manage bycatch.Qualitative information is available on the amount of main bycatch species affected by the fishery.Information on the nature and amount of bycatch is adequate to determine the risk posed by the fishery and the effectiveness of the strategy to manage bycatch.Qualitative information is available on the amount of main bycatch species affected by the fishery.Information is adequate to broadly understand outcome status with respect to biologically based limits.Information is adequate to support measures to manage bycatch.	Information / monitoring       Qualitative information is available on the amount of main bycatch species affected by the fishery.       Qualitative information and some quantitative information are available on the amount of main bycatch species affected by the fishery and the effectiveness of the strategy to manage bycatch.       Qualitative information and some quantitative information are available on the amount of main bycatch species affected by the fishery.         Information is adequate to broadly understand outcome status with respect to biologically based limits.       Information is adequate to support measures to manage bycatch.       Information is adequate to support apartial strategy to manage main bycatch species.         Sufficient data continue to be collected to detect any increase in risk to main bycatch species (e.g. due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the strategy).

#### **Scoring Comments**

SG60: Bycatch and discard species have been separated from those species retained by the fishery. The differentiation between retained species and other species that mat be caught in pelagic pollock trawls is based on comparison of GMI and FFA inspectors' bycatch (retained species and discards) data and Observer data for the period 2006 to 2010. Observer deployments are made according to an annual plan by each science institute. TINRO deploys about 12 observers in the Sea of Okhotsk and other institutes (e.g. KamchatNIRO) also deploy observers. In 2010, 6.1% of hauls were observed with an average of 4% and 1% between 2006 and 2010 on the large and medium-sized vessels, respectively. Observers are highly trained scientific observers that focus on the critical biological data needed for the stock assessment as well as other aspects relating to bycatch composition. The number of hauls observed was further increased by the observations of FFA and GMI inspectors, who observed 14.3% and 3.8% of hauls, respectively. While these observations have a strong compliance function, they are required to sample hauls to estimate, amongst other things, proportions of juveniles and bycatch composition, primarily to enforce management rules, e.g. the move-on clause if bycatch exceeds 2% of the target catch. Section 4.2 of the FCR provides details of the tasks of each of these groups of inspectors.

Observer deployment is organised into a strategy between the research institutes (the Far Eastern Research Institutes) to ensure representative coverage and sampling. Deployment of observers on fishing vessels and their mode of operation are governed by the "Regulations of the observers ...". For the Sea of Okhotsk fishing season in the winter-spring period (season "A"), 6 observers are deployed from TINRO on the large trawlers and another 3 from KamchatNIRO that includes the medium class vessel with



another two each from MagadanNIRO and SakhNIRO. In the "B" season (autumn, in the norther part of the Sea of Okhotsk), 2 observers are deployed to two large vessels from TINRO and 2 from KamchatNITO. SakhNIRO also send one observer on the pollock trawlers fishing in the East Sakhalin subarea.

The data output from these deployments is therefore considered representative of the commercial fishing operations both spatially and temporally (see 2011 Sea of Okhotsk pollock fishery observer deployment figures above). Sample sizes relative to the total catch of the fishery is noted to be low compared to the similar Alaskan pollock fishery in the East Bering Sea. However, it is not low compared globally to most other observer programmes whose observation rate varies considerably from almost zero to 100%. The IMM assessment team considered the extent of the monitoring systems in the fishery and is of the view that the data provided are adequate to reliably determine bycatch in the fishery with respect to bycatch/discard levels. Bycatch levels are consistent with similar fisheries for example such as reported in the FAO technical paper on discard estimates for the Simpson's diversity index measurements for the Bering Sea fisheries (0.02 or 2%) for the pollock pelagic trawl.

The assessment team notes that the information at SG60 is required for <u>main</u> bycatch species. As there are no main species, all scoring issues of SG60 are met. Notwithstanding this, it is noted that there is considerable qualitative data available on bycatch which is adequate to broadly understand outcomes (extremely low) and which is adequate to support the implementation of bycatch measures.

SG80: The assessment team notes again that the information at SG80 is required on <u>main</u> by catch species. Both qualitative and quantitative information has been presented for the fishery including perspectives of fishing captains and comments from researchers who have been involved in the pollock fishery. This gave the team a broad understanding of the bycatch in the fishery and this perspective has been used as the basis for management measures (qualitative). However, the quantitative data are based on limited scientific reports and on the presented Observer data summaries. Annual assessments are made of all the primary commercial species as well as precautionary limits (possible catches) set for many of the species for which there are no formal stock assessments. These data continue to be collected, but more comprehensive information from independent sources could further corroborate the catch declarations of retained species as well as the other bycatch species not declared in the catch reports, which are either discarded or processed for meal.

Notwithstanding this, it is useful to note that the consolidation of data and information was sufficient to characterize bycatch in the Sea of Okhotsk pollock fishery and that scientific observer deployments gave spatial and temporal structure to the data collection as well as its veracity, which would meet the first two scoring issues of SG80. This information supported the conclusion that a partial strategy was in place for all bycatch (PI 2.2.2).

Third Surveillance Supplementary Comment: At the time of certification, two scoring issues in P2.2.3 were deemed problematic: (1) the adequacy of information to estimate outcome status with respect to biological limits for main bycatch; (2) whether sufficient data were being collected to detect any increase in risk to main bycatch. In both the second, and now the third surveillance audits, detailed reports were provided demonstrating the continued collection of data of a high quality on bycatch. During the third surveillance, the report tabled a full breakdown of bycatch species, including main and minor. The table provided in 2016 is consistent with the information provided at the time of full assessment (i.e. at first certification) and reflects no material changes; bycatch species proportions remain consistent with the original interpretation of the data in respect of main and minor species. Further, there are clearly no "main" species, and those species, which include herring, Greenland halibut and cod, caught in small quantities in the pollock fishery are under full assessment and their biological limits and other stock dynamics sufficiently assessed.

#### Score

SG60: Qualitative information has been presented on bycatch that is adequate to broadly understand outcome status, and on this basis there is information on which measures can be based to manage bycatch.



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SG80: There are some quantitative data as well as independent observer estimates of bycatch. The data collected are adequate to support a partial strategy for the management of bycatch species and are considered sufficient to detect any increase in risk to possible bycatch species. Increased levels of independent observer data would give higher confidence in the information provided, i.e. SI1, 2 and 3 are met at SG80, but not SI 4.

A score of 75 was awarded as three of the four SG80 scoring issues were met.

*Third Surveillance Supplementary Comment*: The team concludes now that the SIs considered problematic or not scored at 80 at certification have been met adequately. Therefore, with the other SIs having been met at certification, an overall score of 80 has been attained so that the condition may be closed.

Condition

Condition 4

By the second surveillance audit, demonstrate through a detailed analysis and written report, that sufficient data continue to be collected to estimate outcome status with respect to biological based limits (SI 2) and to detect any increase in risk to main bycatch species (e.g. due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the strategy) (SI 4).

*Third Surveillance Supplementary Comment*: Given the commentary above, the Condition is deemed as having been met at the third surveillance audit, one year later than originally anticipated and hoped for.



Russian Sea of Okhotsk Midwater Trawl Walleye Pollock Fishery

Condition 7				
Condition 7 3.2.2	Decision-making processes The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives.	There are <u>informal</u> decision-making processes that result in measures and strategies to achieve the fishery-specific objectives. Decision-making processes respond to <u>serious issues</u> identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take <u>some</u> account of the wider implications of decisions	There are <u>established</u> decision-making processes that result in measures and strategies to achieve the fishery-specific objectives. Decision-making processes respond to <u>serious and other important issues</u> identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner	Decision-making processes respond to <u>all</u> <u>issues</u> identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications
		of the wider implications of decisions.	<ul> <li>and take account of the wider implications of decisions.</li> <li>Decision-making processes use the precautionary approach and are based on best available information.</li> <li><u>Explanations</u> are provided for any actions</li> </ul>	of decisions.
			or lack of action associated with findings and relevant recommendations emerging from research, monitoring, evaluation and review activity.	stakeholders describes how the management system responded to findings and relevant recommendations emerging from research, monitoring, evaluation and review activity.

#### **Scoring Comments**

There are established decision-making processes that result in measures and strategies to achieve the fishery-specific objectives. The process leading to decision-making in the Russian pollock fishery for the Sea of Okhotsk is clear and seemingly robust, at least in terms of its broad-ranging, comprehensive consultation. The system is based on sound science, all available information being used in the process and evaluated by experts regionally and centrally in Moscow. Experts in many fields of science and economics then probe the outcome of the assessments and ask the questions necessary to achieve the objective of sustainability of the fishery and of the ecosystem in which it operates. As in most such consultations worldwide, the evaluation tends to be weighted towards the target species, in this case pollock, but the type of environmental/ ecosystem questions posed and answers given to the evaluation process are appropriate and relevant; the questions show good understanding of the system in which the pollock fishery is prosecuted. The established decision-making process clearly responds to the requirements of the first scoring issue of both the 60 and 80 SGs.

Decision-making processes respond to serious issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take some account of the wider implications of decisions. There is a national research plan that is subject to regular updating, although there is evidence that much of the research is being done "because it has always been done that way". In other words, decisions could be made on the basis of how there has always been a response to



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research output, rather than by stimulating a response by requesting that new, innovative appropriate research be carried out. In terms of the formal assessment and the output in terms of management advice, however, the decision-making process is fully reactive and adaptive, based on up-to-date catch statistics, survey results and all other relevant research output. That it is timely (though takes a long time, as all such systems do) is also not questioned, but it was not that easy to conclude that the processes involved in this scientific evaluation, as opposed to management evaluation, are transparent throughout, specifically in the ability of the team to access some of the crucial assessment documentation. This was almost certainly the consequence of interpretation issues, but simply making material more available publically on, for instance, the internet will help. Notwithstanding, all requests from the team for information were met positively, and documentation swiftly provided. It is notable that the wider implications of all decisions, on the serious issues and possibly other more mundane issues too, are considered in producing the management advice, judging by the notes of the evaluation meetings and the expertise present at them. The team was concerned too that, although the management system "seemed" to be transparent, at least that the team was told it was by all those questioned, we were not that convinced that the culture of the system in Russia promoted the form of transparency to which one is accustomed in the western, developed (by definition) world. Overall, therefore, the team considered that the evidence provided did not demonstrate that all identified issues in research, monitoring, evaluation and consultation were being responded to openly and as transparently as they should be, although the serious ones were, so the 60 SG scoring issue was met, but not the 80.

*Third Surveillance supplementary comment*: A comprehensive website on the pollock fishery under the auspices of an "Open Pollock" communication strategy has been developed, and it contains news items, research outputs, reports pertaining to various aspects of the certification and management, etc., plus links to other websites (e.g. the FFA's and TINRO's) where massive quantities of background material is available. Much of the new website is populated in English, but where link material and certain documents are still in Russian, summaries are gradually being provided in English. It is crucial that this website be kept live and updated in future, in order to deflect ongoing criticism of previously found opaqueness in communicating background and advisory material. The surveillance team was also impressed with national projects under the auspices of Open Government, and at a lower level, Open Agency that showed clearly that the administration was trying hard to deflect criticism levelled at the country in the past that transparency of information dissemination was not high up its agenda. Given all these developments, and assuming the new website developed under the Open Pollock agenda will remain live and updated, the 2<sup>nd</sup> SI has now been deemed to be met adequately at the level of SG80.

Decision-making processes use the precautionary approach and are based on best available information. As stated above, all (and best) information is used in decisionmaking, at least all natural scientific information. There are few parts of the world where social and economic data are taken into consideration formally and rigorously in the evaluation process, so the pollock fishery is not unusual in that respect. However, explicit in the assessment methodology is the precautionary principle, as explained in the Babayan (2000) document. Overall, adherence to the precautionary principle as defined by the FAO (1995) is strong, so this aspect of decision-making is well catered for. The third scoring issue under the 80 SG was considered met.

Explanations are provided for any actions or lack of action associated with findings and relevant recommendations emerging from research, monitoring, evaluation and review activity. Effort is made to provide formal feedback resulting from decisions on management, through publicizing the minutes of the various meetings, but there does not seem to be directed formal reporting to all (or even to some) stakeholders unless the latter specifically request it. The same clearly applied to the team's specific requests for access to information, as stated above. This might be a part legacy of the system applying 20 or so years ago in Russia (the Soviet Union), but in terms of international standards, it is not unusual. Certainly, the team found no attempt to hide the decisions and the reasoning on which they are based, and websites are used to support such actions. The fourth 80 SG scoring issue is considered met.

*Third Surveillance supplementary comment*: The content of the new website has provided further evidence that the 4<sup>th</sup> SI is being met at the SG80 level, though not yet at a higher level because formal reporting mechanisms have not been proved to be in place.

As per the requirements of the MSC Policy Advisory 18, the first and third scoring issues under the 100 SG have been deleted from the higher scoring guidepost because of their repetition from the 80 SG, and do not contribute to scoring under those SGs. All but one 80 SG scoring issues were clearly met (and that one scored 60 based largely on the transparency issue), and no 100 SG scoring issues were met. A score of 75 was therefore awarded.



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Third Surveillance supplementary comment: The scoring issue that failed to meet SG80 has now achieved that level so the overall score for this PI can be increased.

#### Score

The two scoring issues of SG 60 and three of four scoring issues of SG 80 are met. Therefore, a score of 75 is awarded and the following condition set.

*Third Surveillance supplementary comment*: All four scoring issues of SG80 are now met, so the overall score for this PI is raised to 80 at the 3<sup>rd</sup> surveillance audit and the condition closed.

## Condition

**Condition 7** 

By the second surveillance audit, the client will implement a strategy to ensure that its management decision making processes which respond to serious and other important issues identified in relevant research, monitoring, evaluation and consultation, are transparent (i.e. that information is more readily available) and take account of the wider implications of decisions.

*Third Surveillance supplementary comment*: The transparency issue has largely been addressed, so the Condition is deemed as having been met one year later than originally anticipated.



#### Appendix 2 - Stakeholder submissions

#### Email received from Konstantin Zgurovsky dated 20 October 2016

#### Dear Acoura colleagues,

The WWF-Russia Marine Program appreciates the opportunity to submit comments on the 3rd surveillance audit for the Russian Sea of Okhotsk pollock fishery to Acoura Fisheries. We are terribly sorry to be late with our comments; it is caused by serious restructuring of our program for sustainable fisheries at both the international and national level. And we are deeply grateful to the CAB that they have agreed to accept our considerations and shared with us and the Kamchatka colleagues your valuable time during the Skype discussions.

We note that the Client has made some good progress in a process of training of additional observers. More information has been collected and presented on SOO ecosystem and the assessment of fishery impacts on marine mammals and seabirds. Detailed program with clear principles and criteria on how observers are trained is developed and classes for observers were executed. 12 observers were trained and received a special certificate, but only two of them went to sea and the status of observers is still not stipulated. We understand that the PCA is a not vertically integrated structure and could enforce all recommendations, but we encourage the PCA to convince their members, especially fillet producers to demonstrate more transparency and accept observers onboard. It could help to receive more info on volumes of bycatch and discard of pollock juveniles, ETP species if any and to avoid accusation in slave labor usage.

To ensure transparency of information reported by the team of observers WWF believes that the Client should be obliged to make publicly available on its web-site not only the final reports in English which are typically provided to the CAB, but also the initial reports prepared by observers in the Russian language. This is critically important to ensure that final English reports prepared by the Client are consistent with the data and information collected by observers and none of the facts relevant to assess progress of the Client are missed and represented incorrectly.

We still do not see any serious measures within the harvest strategy that address bycatch and discard of juvenile pollock. Despite the fact that the fishing operations observers' coverage increased, there is no information on whether juvenile bycatch and discard occur or not and whether the associated regulations are enforced. WWF also remains concerned that the accuracy of landings continues to be calculated using the final product weight multiplied by a coefficient.

This year the WWF provided some funding for the field experiment with the pelagic trawl sorting grid testing, but much more funding for these experiments from the industry required. At this time, gear experts are engaged in the concrete proposals development and we continue to encourage the CAB to recommend the Client to work together with the Fishery Agency and Coast Guard to develop a special program to evaluate discard and mitigate measures that includes: observers and cameras onboard; field experiments with special devices installed in the trawl opening such as sorting grids to minimize juvenile bycatch; up-to date acoustic equipment that can distinguish adult and juvenile fish assemblages. It is required to evaluate measures to minimize unwanted catch under the new MSC Fishery Certification Requirements v2.0.

The Russian Fishery Agency announced that they developed the EFJ (electronic vessel logbook) and proposed the Russian fishermen to test it, but it is still unclear whether the Client uses it somehow in the SOO pollock fishery.

The continuing attention should be paid to a program to quantify seabird and SSL interactions, bycatch of steelhead (a red list species) and Chinook salmon in the pollock fishery.

We applauded the PCA efforts to make the TAC assessment process more transparent, there is evidence that the PCA continues to work with government agencies towards a more transparent management system. However, a lot of info is still not publically available and joint efforts required to change it for better.

We are interested to continue our active involvement in the observers WG activities and to participate in updating of the plan of this fishery improvement and its execution.

Overall WWF believes that progress has been made and we continue to support the collaboration between the PCA, management agencies and stakeholders but more efforts are required to fully meet the MSC requirements for a fully sustainable fishery.

Cordially,

Konstantin Zgurovsky, Seniour Advisor of the Sust. Fishery Program of the WWF RU, PhD Andrey Vinnikov, Director of the Sust. Fishery Program of the WWF RU, PhD

Assessment team electronically sent reply

27 November 2016 (communicated by email under Acoura letterhead)

Drs Andrey Vinnikov, Konstantin Zgurovsky, Sergey Korostelev and Sergey Rafanov Russian Sustainable Fisheries Programme Worldwide Fund for Nature Moscow and Petropavlovsk-Kamchatsky

**Dear Colleagues** 

Thank you for sharing with us, by skype, face-to-face in Petropavlovsk-Kamchatsky and in summary through the email sent from the office of Konstantin Zgurovsky on 20 October 2016, your issues and concerns relating to the current MSC certification of the Russian (walleye) pollock fishery in the Sea of Okhotsk. As you are all aware, two of the assessment team were in Russia during October 2016, conducting the third surveillance audit of the fishery for the CAB named in this letterhead. Input from committed stakeholders such as yourselves is crucial to us getting the facts right about this fishery, so be assured that both your summary input and this response will form part of the report into the 3<sup>rd</sup> surveillance audit. That report along with relevant documentation will be appearing on the MSC website shortly, after it has been thoroughly checked by all interested parties.

In response to your email, I would like to address each of the subjects you raise individually (annotated by paragraph number in your email), to let you know our thinking on them at the moment, including how we have addressed them, adequately we hope.

*Training and deployment of observers* (Paras 2 and 8): Your suggestions here are twofold, to ensure that training of new observers is annually undertaken, with the numbers active in the fishery rising year on year, and to ensure that more vessels are "observed" than currently. The first issue is being addressed through training modules at the Far East University, but like you, the assessment team was surprised that the actual numbers of observers at sea did not rise concomitantly with the number being trained. The number of observations (including as you note, on ETP species and seabirds) made burgeoned, but the number of observers only rose by one. The explanation we were given was natural attrition, but the team is confident that numbers of observers on the ground will now rise annually, towards the optimum

number for the fishery already determined quantitatively a couple of years ago. The team also encouraged PCA to ensure that the working group (which includes the WWF as well as the PCA and TINRO) to meet annually to review developments and to push for the number of observers active in the fishery to rise faster than it did in 2016. In terms of the second issue, the team like you has asked for the number of vessels taking observers to be increased. We understand that some (smaller) vessels cannot accommodate an extra person, but we are equally sure that there are (some larger) vessels in the fleet that currently have never seen an observer, and it is with that group of vessels that we are concerned. PCA is working on this, and hopefully next year's surveillance team will be able to report positively on developments in this sphere. Incidentally, we know what the term "slave labour" means, but both the team and the client were surprised that such a practice may exist, and the client will be investigating the allegation in the months to come.

*Transparency, for instance through website* (Paras 3 and 7): We have asked PCA to make more original material available on its website, even if it is in Russian (in which case an executive summary in English should accompany it). The client has agreed to do this, and we are confident that the good start the website has seen will be followed up in future with much more of the crucial information being aired.

Bycatch and discard monitoring, and product: green weight relationship (Para 4): The assessment team carefully interrogated the observer corps and the fishing vessel personnel and is comfortable that every effort (for instance through the moveon rule) is being made to ensure that excessive bycatch and juvenile pollock catch is avoided. However, your point is taken and the client has been asked to ensure that more easily found data on juvenile Pollock catch and bycatch is provided in summary observer reports. The issue of the green weight to product relationship was addressed thoroughly at the second surveillance audit, and we see little need to repeat the exercise again now. Succinctly, the relationship is checked regularly and thoroughly reviewed every three years. Internationally, such regular review is often lacking, so the PCA performance in this regard is taken to be good.

Onboard sorting and monitoring through sorting grids, acoustic technology and *CCTV* (Para 5): We are pleased that WWF is pursuing experimentation in these fields through providing funding, because anything that improves the catch mix or raises confidence that the observer data are in fact as good as they say they are can only be to the good. As stated in earlier years' surveillance reports, though, CCTV and acoustic solutions to observing at sea are still in their infancy, and sorting grids are already being used to a significant extent. Notwithstanding, we do thank the WWF for supporting research into this facet of fishery observation and control systems, and look forward to receiving news on the results of the experimentation in future years.

National electronic vessel logbook system (Para 6): At the time of the site visit, 31 vessels were trialing the national EFJ system at sea, 24 of which were in the PCA– associated fleet. Another four PCA vessels were due to start trials the week after the site visit. Therefore, the assessment team is confident that, nationally, great strides were being made in rolling out the system to the Russian fishing fleets, and hopes that within a short period, the EFJ system, which was demonstrated to the team in Petropavlovsk-Kamchatsky, will cover all Russian fishing vessels larger than a certain minimum size.

*Quantification of seabird and Steller sea lion interactions with the fishing gear* (Para 7): Interactions between the pollock fishery and seabirds and Steller sea lions are recorded by the observer corps, and the client is well aware, from the current year's report and earlier ones, that production of an in-depth report on the extent of SSL foraging on pollock is a critical requirement for meeting one of the Conditions still in place at the 4<sup>th</sup> surveillance. Plans are in place to commission just such a report urgently.

Finally, the assessment teams reiterates its thanks to WWF for its meaningful suggestions for improving confidence in the belief that the fishery is being prosecuted sustainably, and specifically for its will to maintain membership of the observer working group that was established largely as a consequence of the correct prompting of the WWF.

Best regards

(Dr) Andrew I.L. Payne (team leader), David Japp and Geir Hønneland Surveillance team 3<sup>rd</sup> SA, PCA Poll

Assessment team electronically sent a further response:

Drs Andrey Vinnikov, Konstantin Zgurovsky, Sergey Korostelev and Sergey Rafanov

Russian Sustainable Fisheries Programme Worldwide Fund for Nature Moscow and Petropavlovsk-Kamchatsky

08<sup>th</sup> December 2016

Dear All,

Under the heading *Training and Deployment of Observers* of our original response email dated 27 November 2016, the subject "allegations of slave labour" was mentioned in response to your raising the subject in your original stakeholder input to the Acoura team. Although we note that labour issues do not form part of the scoring under the current MSC standard we do take such comments seriously and some investigations have been made and we wish to place on record the following statement.

Neither the client nor the CAB (Acoura) have any knowledge where the accusation that the Russian pollock fishery may be employing slave labour has come from, other than the single recent comment emailed to the Acoura team by the WWF. Having now made some careful enquiries, the CAB wishes to assure the WWF and any other stakeholders that there are no grounds for believing that this practice may be happening at all in the Russian pollock fisheries. Succinctly, the Russian Federation has strict internal regulations regarding social and labour conditions in all sectors including its fisheries, and Russia participates in and/or is signatory to all key international labour conventions and agreements.

Acoura and its surveillance team are therefore satisfied that the issue you raise is of no relevance to the certified fishery and the allegation comment is therefore deemed unproven.

Again, we thank you for your valued ongoing input to the Russian pollock certification programme.

Yours sincerely

Billy Hynes Fisheries Manager

#### Appendix 3 - Surveillance audit information

The client provided confidentially a written report and summary of the relevant information the team had been expecting to see, plus supplementary background material such as reports on the commissioned work in support of issues generally covered in the Conditions originally set, both closed and still open. In particular, a lot of information was given on the progress and performance of the fishery over the past year. All this information was reviewed by the team and has been included where relevant in the surveillance report, some as references and some in summary as substantive text.

## Appendix 4 - Additional detail on conditions/ actions/ results (if necessary)

Not applicable.

#### Appendix 5 - Revised Surveillance Programme

No revision of the surveillance programme is needed at this stage. However, it is necessary here to reaffirm the whole surveillance schedule given that several conditions remain to be met and that a recertification site visit needs to be planned well in advance to allow the recertification against MSC FAM vs. 1.3 to proceed, as the client has indicated is preferred.

Table 5.1 : Surveillance level rationale

Year	Surveillance activity	Number of auditors	Rationale
Annually, 2014–2017	On-site audit	Two auditors on site and a third auditor available for remote consultation, up to the fourth surveillance, when three auditors need to be on site	Given the number of conditions and the complexity of the fishery and its management system, on-site auditing is imperative, but at the final surveillance audit, with which is piggy-backed a recertification site visit, auditors covering all three Principles (one each for P1, P2 and P3) need to be present.

#### Table 5.2: Timing of next surveillance audit

Year	Anniversary date of certificate	Proposed date of surveillance audit	Rationale
2017	27 September 2017	Late July or early August 2017	The next surveillance being the fourth and therefore doubling up with a recertification site visit associated with MSC FAM v 1.3, it is imperative that the site visit takes place well before the deadline date for FAM v 2.0 to start, i.e. 1 October 2017. Scientific and management advice and input, other than final TAC calculations for 2018, will be available by then.

#### Table 5.3: Fishery surveillance programme

Surveillance level	Year 1	Year 2	Year 3	Year 4
Normal	On-site	On-site	On-site	On-site surveillance audit and recertification site visit
surveillance	surveillance audit	surveillance audit	surveillance audit	

The level of surveillance required over the 5-year life of the certificate is determined according to Section 27.22 of the MSC certification requirements and specifically Tables C3 and C4.

The fishery makes use of the default assessment tree (so scores 0), has >5 conditions (so scores 2), has P1 and P2 scores <85 (so scores 2) and has no conditions on outcome PIs (so scores 0). Annual investigative site visits with interpretation and translation facilities are therefore crucial for this fishery with its manifold conditions and language challenges.