



IUU Risk Intelligence

Putting Compliance First

GLOBAL EVALUATION OF FISHERIES MONITORING CONTROL AND SURVEILLANCE IN 84 COUNTRIES

RUSSIA - COUNTRY REPORT

GANAPATHIRAJU PRAMOD

IUU RISK INTELLIGENCE

Policy Report - Volume 1 Number 1



SUMMARY

*This evaluation of Fisheries Monitoring Control and Surveillance report for **Russia** is one of 84 such country evaluations that covers nations landing 92% of world's fish catch. Using a wide range of interviews and in-country consultations with both military and civilian agencies, the report exemplifies the best attempt by the author(s) at evaluation of MCS compliance using 12 questions derived from international fisheries laws. The twelve questions are divided into two evaluation fields, (MCS Infrastructure and Inspections). Complete details of the methods and results of this global evaluation would be published shortly through IUU Risk Intelligence website.*

Over a five-year period, this global assessment has been subjected to several cross-checks from both regional and global MCS experts familiar with compliance aspects in the country concerned. Uncertainty in assigning each score is depicted explicitly through score range. However, the author(s) are aware that gaps may remain for some aspects. The lead author remains open to comments, and revisions will be made upon submission of documentary evidence where necessary. Throughout the report, extreme precaution has been taken to maintain confidentiality of individuals who were willing to share information but expressed an inclination to remain anonymous out of concern for their job security, and information from such sources was cited as 'anonymous' throughout the report.

Suggested citation:

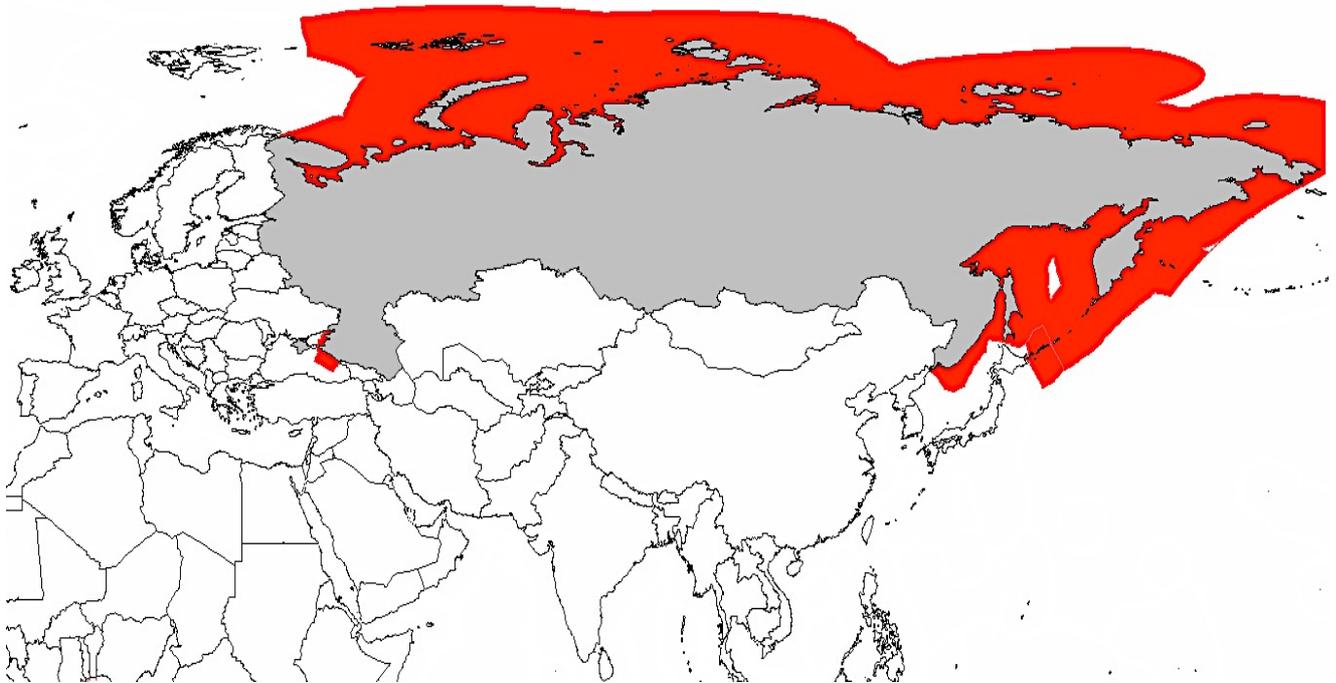
Pramod, G. (2020) Russia – Country Report, 9 pages, In: Policing the Open Seas: Global Assessment of Fisheries Monitoring Control and Surveillance in 84 countries, IUU Risk Intelligence - Policy Report No. 1, Canada, 840 pages.

© **Pramod Ganapathiraju**

All rights are reserved.

<https://iuriskintelligence.com/>

RUSSIA – COUNTRY REPORT



FAO landings (2013): 3,705,354 tonnes

Fisheries contribution to GDP (2012): 0.3%

Law of the Sea (Ratification): 12th March 1997

Coastline: 37,653 km

RFMO Membership: CCAMLR, ICCAT, NAFO, NEAFC, NPAFC, SPRFMO

Patrolling Agencies: Coast Guard unit of the Federal Security Service, Government Marine Inspection, State Committee for Fisheries



Rank	Priority for maritime security tasks
1.	Transnational organised crime
2.	Contraband smuggling
3.	Illegal fishing

SECTION 1: MCS INFRASTRUCTURE

- 1. Does the country have adequate surveillance infrastructure (patrol aircraft, sea based patrol vessels and coastal patrols) to effectively patrol fisheries resources within its EEZ?**

Score: 7.5

Score Range: 7-8

Effective in most jurisdictions; existing assets are adequate for patrolling offshore fisheries, but gaps persist in surveillance of multi-gear coastal fisheries. See Wertheim (2007); Jane (2012); IISS (2020); Q.2 and Q.6 for more information. Current patrolling infrastructure is effective in the Far East, but gaps are reported in the Arctic and north Atlantic maritime waters. Coast Guard unit of the Federal Security Service has more than 500 patrol vessels for conducting sea patrols (Anon 2011; Borisov 2011; Matishov *et al.*, 2012; Novichkov 2015). *Border Guard Service has 195 Patrol and Coastal Combatant vessels* including 25 offshore patrol craft, 35 coastal patrol craft, 87 fast patrol boats and 15 patrol boats (IISS 2020).

From 1 Jan 1998 a function on protection of marine biological resources, incl. at-sea and port inspections, was passed on from the former Fisheries Ministry (and its “Rybvod” bodies) to the Federal Security Service Border Control and then to Government Maritime Inspection (GMI). The current Fisheries Agency is responsible for the protection of inland freshwater biological resources only. From Jan 2009, a new revised version of the Fisheries Act came into force. In accordance with its provisions, in particular, all catches of marine bio-resources made in Russia EEZ and adjacent shelf should be delivered to Russia Customs territories for their further processing for domestic market and export. It was introduced as a new additional measure in curbing IUU fishing and trade (export) in illegal seafood products (Anon, *pers.comm.*, 2012).

- 2. Does the country have adequate trained officers to conduct MCS operations?**

Score: 5.5

Score Range: 5-7

Existing information suggests shortage of manpower especially for monitoring coastal landing sites, estuaries and ports. See Honneland (2005); Anon (2011); Honneland (2018) documents for more information. Russia faces a stupendous task in patrolling and controlling fisheries resources over a very large EEZ area, with extensive reports of flagrant violations in coastal (*Abalone, Sea urchins, Salmon, etc.*) and industrial fisheries (Crabs).

“Currently, more than 200 entities within the agency’s structure, with approximately 2540 inspectors, responsible for overseeing fishing in the country’s rivers, lakes, and seas. The poor financial state of the its inspection facilities, inadequate salaries, and a lack of up-to-date equipment hinder the inspectors from efficient work and lead to low levels of efficiency in combating illegal fishing, the agency said in a press release. The agency also said Russia’s current legal framework as it pertains to IUU fishing also has shortcomings, including the absence of an inspector’s right to destroy seized equipment and release a seized catch, and weak involvement of regional and municipal authorities in addressing the issue.” (Stupachenkov 2018).

3. Does the country have adequate management plans to monitor their fishing vessels on the high seas?

Score: 7.5

Score Range: 7-8

Limited plans through RFMO membership and national laws, which are well enforced for its high seas fleet (Pitcher and Pramod 2006). There are no reported violations by Russian flagged vessels on the high seas; hence a good score is given here. Foreign fishing vessels are required to report via radio on their entry and exit from the EEZ (Anferova *et al.*, 2005); however, the extent of compliance monitoring with this requirement remains low for vessels transiting or exiting Russian maritime limits.

In the year 2011, Russian fishing vessels were identified for violating conservation measures of CCAMLR (One vessel - Chio Maru No.3) and NAFO (Two vessels - *Severnaya Zemlya* and *Novaya Zemlya*) (NOAA 2013). Russian flagged vessel was also identified for IUU violations in CCAMLR waters for three years (NOAA 2017). Russia took action on the concerned incidents and the recent NOAA (2019) report acknowledges that there are no outstanding compliance issues with Russian flagged vessels in recent years.

4. What proportion of fishing vessels is equipped with vessel monitoring system (VMS) to monitor their movements on a continuous basis?

Score: 7.5

Score Range: 7-8

Vessel monitoring system (VMS) is a major management tool for both foreign and domestic fishing fleets operating in the Russian EEZ. The most recent data from Solodivov (2012) shows that 4524 vessels were equipped with satellite-based vessel monitoring system as of May 2011. The Center of Fishery Monitoring and Communications (CFMC) tracks fishing and transport vessels



that are greater than 80 tons (at least 55 kW) providing real time data on all fishing vessels operating in the Russian EEZ. CFMC has Head Office in Moscow and 8 Regional offices in Petropavlovsk-Kamchatsky, Vladivostok, Novorossiysk, Yuzhno-Sakhalinsk, Murmansk, Kaliningrad, Astrakhan and St. Petersburg. Each Fishing vessel or Transportation Reefer vessel is required to be registered in CFMC's Fishery Monitoring System (FMS) and allotted a unique FMS code for assigning catches to the vessel and company concerned for processing catch reports and quota management for some species. Further, under existing regulations if the VMS device is in operation for 48 hours or more without getting approval for continuing fishing operations current regulations can lead to forced quota termination. The efficacy of this rule remains unknown; as such statistics are not available for review. Noticeably, a fishing vessel can leave a port with out-of-order VMS device once every fishing season.

In February 2020, "the Ministry of Agriculture of the Russian Federation approved a new procedure for transferring data on fishing activity to the Industry Monitoring System (OSM) of the CFMC. The new procedure establishes a single time format for UTC. Ship's daily reports in electronic form and formalized messages for the reporting day should be transmitted within 12 hours. The document spelled out in detail the procedure for adjusting ship's daily reports. Thus, amendments to the SSD data are allowed within the limits of the possible deviations from the catch weight previously declared by the master of the vessel established by the fishing rules: within 12 hours based on the results of unloading and transshipment of catches and products from them, as well as upon presentation of information on fishing for each permission to produce aquatic biological resources until 12:00 UTC, following the established date for the submission of such information. In addition, the adjustment of the data of the SDS is possible according to the results of control measures by the authorized bodies within 12 hours after their completion" (CFMC 2020a).

FAO (2013) data shows that 300 domestic (includes vessels operating in NAFO, NEAFC and CCAMLR) and 800 foreign fishing vessels are equipped with VMS. Spiridonov (2007) states that fishing vessels in Alaska Pollack fishery in Sea of Okhotsk and Bering Sea; Herring fishery in the Northern Sea of Okhotsk, and the Red King Crab fishery in the West Kamchatka shelf have VMS transponders onboard for reporting their positions. However, the efficacy of the Russian VMS is questionable in the light of illegal landings of Russian caught fish in China, North Korea and other neighboring countries often after switching off VMS transponders. See Hønneland (2005b); Spiridonov (2007) for more information.



5. What percentage of fishing vessels (>20 m OAL) is monitored through onboard observers at sea (for major commercial fish stocks)?

Score: 1.5

Score Range: 1-4

Limited observer coverage is reported in some commercial Russian fisheries (Spiridonov 2007; Pitcher and Pramod 2006; PCA 2017). However, no information is available on exact number of industrial vessels covered through this scheme from coast to coast. According to MSC (2013) nearly 100 observers are deployed in the Russian Far East fisheries. 23 scientific observers were deployed in the Russian Far East pollock fishery (PCA 2018). In the Sea of Okhotsk commercial pollock fishery, 22 observers were deployed in 2019 year (PCA 2019). Compliance monitoring at-sea is carried out by GMI inspectors.

There are two types of observers; ones employed by Russian fisheries institutes through TNIRO who only collect scientific data and GMI inspectors who collect compliance information. TNIRO observers do not collect any MCS related information to check for compliance issues. In 2010, observer coverage by GMI inspectors was 14.3% (Anon, *pers.comm.*, 2016).

SECTION 2: INSPECTIONS

6. How often fishing vessels are inspected at sea (Identification by sight and boarding for inspections)?

Score: 7

Score Range: 5-7

Effective in offshore waters, but coastal fisheries receive minimal enforcement along several sections of the Russian coast. Inspections at sea have fluctuated over the years. In the year 2010, around 30,000 fishing vessels were inspected and more than 1200 tonnes of fish products were seized (Borisov 2011).

Inspections at sea are more visible during annual surveillance operations for salmon, crabs etc., once to twice each year. Some Border Control Posts in the Far East near maritime boundaries with Japan, North Korea and China are far more likely to receive frequent aerial investigation patrols. Administrative agencies such as GMI and Russian Customs inspect a certain percentage of Russian and foreign fishing vessels using Russian ports, but vessels monitored at sea remain far below intended targets due to funding and operational constraints. Corruption remains endemic and it was never addressed earnestly

due to low pay among civil staff; and disproportionate quota allocation among private companies also provide motive for under-reporting and illegal transshipments by fishing companies; likewise, high unemployment and lack of routine surveillance, permits illegal practices to continue unabated in subsistence and scattered coastal fisheries (Anon, *pers.comm.*, 2017).

7. How often fishing vessels are scrutinized through aerial patrols?

Score: 8

Score Range: 7-8

Russia allocates significant effort for aerial surveillance at sea. Most often, patrol aircraft are called for monitoring transshipments or tracking flags of convenience vessels, illegal fishing vessels evading boarding's at-sea or for hot pursuit of illegal fishing vessels trying to cross-over into neighbouring countries after illegal activity in the Russian EEZ or fishing illegally along the maritime boundary within Russian EEZ waters or for not complying with reporting requirements before crossing maritime boundaries of the Russian EEZ. Some vessels don't dock at Russian ports and those vessels are often suspected to engage in illegal activities at sea (Anon, *pers.comm.*, 2017).

The N.E. Regional Border Directorate (NRD) and Pacific Regional Directorate (PRD) use AN-72 aircraft for patrolling high seas area of the NPAFC (Riddle 2006). Russia has more than 28 (*Ilyushin Il-38*) maritime patrol aircraft for surveillance operations (Soper 2015). Russian Naval Aviation has 1 sqn with AN-26 Curl; Be-12 Mail; Mi-8 Hip aircraft (IISS 2020).

8. How often are fishing vessels inspected at landing centers and docks for foreign and domestic vessels (Dockside monitoring)?

Score: 7

Score Range: 5-7

Effective to a moderate extent in some commercial ports; but bureaucratic red tape, and lack of harmonized inspection procedures among various Federal and State agencies have undermined dockside surveillance. See Lajus *et al.*, (2018) for more information. See Q.2 for more information. Container cargo inspections have also been revamped in recent years (Garden 2017).

In the last seven years, there has been a gradual and persistent improvement in monitoring of foreign fishing vessels calling at Russian ports in the north Atlantic and Far East. However, Russian flagged vessels continue to flout national regulations with minimal administrative penalties. Several regulatory changes have brought new management rules (ban on transshipments at sea;



mandated observer coverage for industrial fleets; VMS reporting, mandated landing at ports before exports, new border control check point rules, etc.) in commercial fisheries targeting authorization for global export markets. Cross-country IUU-reporting agreements with South Korea, Japan and USA have also aided in controlling illegal crab dockings in neighbouring countries to a limited extent. Illegal seafood trade to China and Korea continue to pose a problem in the long run for the Russian and Flags of convenience fleet sourcing/transshipping fish in the Russian waters or offshore waters without notifying Government agencies (Anon *pers.comm.*, 2019).

The Russian fishing industry is gradually switching to electronic reporting forms for catch data directly from vessels at sea. In accordance with the 2019 decree of the head of the Federal Fisheries Administration Ilya Shestakov, the Center for Fisheries and Communications Monitoring Systems is working with users of aquatic biological resources to operate the Electronic Fishing Journal (EPL) software package on fishing vessels. From second quarter of 2020, Russia will start using electronic reporting of catch data for its vessels operating in the Barents Sea (CFMC 2020b).

Port inspections are not consistent for fishing vessels calling at local ports. Until 2017, majority of the illegal catches were laundered through foreign ports or illegally transhipped at sea without notifying Government agencies resulting in huge losses to the Russian state.

In the past, routine inspections of catches at landing centres were non-existent for many major industrial fisheries. From 1 January 1998 a function on protection of marine biological resources, incl. at-sea and port inspections, was passed on from the former Fisheries Ministry (and its “Rybvod” bodies) to the Federal Security Service Border Control and then to its Government Maritime Inspection (GMI). The current Fisheries Agency is responsible for the protection of inland freshwater biological resources only. From Jan 2009 a new revised version of the Fisheries Act came into force. In accordance with its provisions, in particular, all catches of marine bio-resources made in Russia EEZ and adjacent shelf should be delivered to Russia Customs territories for their further processing for domestic market and export. It was introduced as a new additional measure in curbing IUU fishing and trade (export) in illegal seafood products (Sabourenkov, *pers. comm.*, 2013).

The Russian MCS and Enforcement system contains all elements of a modern system but still has several shortcomings (Anon, *pers.comm.*, 2012). The main pros and cons are:

1. Absence of a full integration of MCS databases of all fishery regulatory and MCS bodies, mainly of those, which are under jurisdiction of the Fisheries Agency and GMI of the border Control. Some exchange of information exists between them, but it is not enough for the close to real time verification of catches and compliance with fisheries regulations in force.
2. The catch reporting and verification system works on so-called Daily Vessel Reports (DVR). The only verification means are at-sea and port inspections. However, the latter are generally limited to checking cargo declarations. Full inspections are being carried out only occasionally and subject to risk assessment information. The system of DVR has a couple of its own shortcomings, with the main one being an absence of any time and volume limits to subsequent corrections of DVRs and associated monthly and quarterly reports by vessel owners.
3. There are no mechanisms for the verification of reports on by-catches and discards, including discards of undersized fish. It includes deployment of proper fisheries observers on fishing vessels.
4. Introduction of electronic logbooks, automated generation of DVRs signed by electronic signature is still in its development and testing stage.

PSMA Status: FAO Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (Signed on 29 April 2010; Not ratified yet).

According to Pew (2009) there were 20 reported visits by 10 IUU vessels to Russian ports between 2004 and 2007. (www.portstateperformance.org/).

9. Are there adequate plans to monitor catches in coastal areas through coastal patrols (beach patrols, small-scale fishing gear and catch inspections) on a regular basis?

Score: 5

Score Range: 3-5

No, catches from small-scale fisheries are poorly monitored in Russian fisheries (Anferova *et al.*, 2005; Williams 2003; Gritsenko *et al.*, 2006; Sinyakov 2006; Spiridonov 2007; Doronova and Spiridinov 2008; Matishov *et al.*, 2012; Nakhshina 2016; Lajus *et al.*, 2018). See Q.8 for more information. In recent years, good progress has been achieved in monitoring salmon (MSC 2012), cod, pollock stocks in some Far East industrial fisheries, but overall state of monitoring still needs improvement for commercial quota fish stocks. Large

number of fishing vessels, low boarding inspections at sea, lengthy coastline and remote docking sites make it extremely difficult to monitor all fish landed or caught at sea in the Russian Far East (Anferova *et al.*, 2005). Existing legislations are also poorly enforced due to weak monitoring of the coastal fisheries sector (Matishov *et al.*, 2012; Pitcher and Pramod 2006).

Fishing vessels operating in the Russian EEZ are required to submit Daily Vessel Report (DVR) via satellite every day. Such information is then used to conduct inspections at sea and ports to verify authenticity of trip reports. DVR provides crucial information on vessel's position at the time of transmittal of report; predicted port of destination and estimated date of arrival; daily catch by species; data on number of fishing hauls by gear; harvested catches; time spent for each haul by depth, fishing grounds, etc.; total volume of the fish and processed products by each species; transshipped fish products; volume of processed cargo stored onboard. This information helps in cross-checking VMS signals and coordinate at sea inspections by FFA, FSB and GMI inspectors. However, DVR system relies on inspections after vessels enter ports and any illegal transfers of cargo at sea or bulk frozen cargo landings at ports cannot be effectively monitored through this system due to unavailability of inspectors. For the coastal fleet, inspections have been low except during peak salmon/crab fishing seasons (Anon, *pers.comm.*, 2017).

10. Are all the catches that are caught in this jurisdiction at sea accounted for (i.e., unreported Trans-shipments at sea)?

Score: 5

Score Range: 5-7

Effective for some national industrial fleets targeting pollock, salmon and crabs. Russia is signatory to the UN Fish Stocks Agreement. GMI carries out inspection of fish transshipments within the Russian EEZ. Foreign fishing vessels are required to report via radio on their entry and exit from the EEZ (Anferova *et al.*, 2005). However, this regulation is poorly enforced with both Russian and foreign vessels illegally landing seafood in foreign ports in the Far East (Golunov 2018). Numerous transshipments are reported between Russian flagged vessels and flags of convenience vessels in the Russian EEZ that also need further investigation (Miller *et al.*, 2018; Boerder *et al.*, 2018). 36 Coast Guard inspectors conducted at-sea inspections of processing and transshipments for industrial fishing fleet in the Russian Far East (Radchenko 2017; Rosrybolovstvo 2017).

Starting in 2009 all seafood caught in Russian EEZ must be first landed in Russian ports for clearance from GMI (check legality of catch), Customs and

Veterinary Control Service (inspect fish products for domestic and export markets) for port state control. In addition, all foreign fishing vessels operating under fisheries agreements in the Russian EEZ are required to carry one GMI inspector for each fishing trip.

In the pollock fishery on the Russian Far East *"The (GMI) inspectors verify the weight of landings delivered to transshipment vessels and ports; verification of the landings and transshipments has been 100% since 2010"* (MSC 2018).

11. Are vessels required to undergo inspection of equipment and fishing gear for every fishing trip?

Score: 5

Score Range: 3-5

Routine inspections before or after fishing trips are not reported in Russian fisheries. In the year 2010 alone, 12,200 meters of illegal fishing nets were confiscated by officers of the Border Guard, with the figure rising to 34,000 meters in 2011 (ITAR-TASS 2011). See Honneland (2005); Honneland and Jorgensen (2002); Spiridonov (2007); Pitcher and Pramod (2006); MSC (2012) documents for more information.

In a historic decision on 1 July 2015, the Russian President Putin brought amendments to the Federal Law on fishing and preservation of aquatic biological resources to ban driftnet fishing in Russian waters (Федеральный закон от 29.06.2015 № 208-ФЗ "О внесении изменений в Федеральный закон "О рыболовстве и сохранении водных биологических ресурсов"). This law is likely to improve management of salmon and several other fish stocks in the Russian EEZ.

12. Has the country taken adequate measures to revise and implement national fisheries laws to curtail illegal fishing practices; and does it comply with national and international laws signed?

Score: 7

Score Range: 5-7

Federal Law No. 420-FZ amending Federal Law No. 166-FZ on fisheries and conservation of aquatic biological resources of 28 December 2010 is the main national legislation for fisheries management in Russian waters. In 2015, Russia adopted NPOA on IUU Fishing approving the Regulation to fight and eliminate illegal fishing. Russia has signed the UN Port State Measures Agreement on 29 April 2010 and ratified the UN Fish Stocks Agreement on 4 August 1997. Russia is not a party to the FAO Compliance Agreement. In the past decade, several new regulations have been introduced in commercial

fisheries for fleets operating in the Russian Far East and Barents Sea (Lajus *et al.*, 2018).

Russia has also signed bilateral trade agreements with USA, China, South Korea and Japan to curtail illegal crab trade. The new IUU agreements have led to a noticeable decrease in illegal crab exports to nearby countries from the Russian EEZ. Prior to the Japanese agreement up to 20,000 tonnes of Russian crabs was illegally landed in northern Japan alone. Although, such exports are still reported through Chinese and Korean ports, new agreements are seeking a change in the right direction. Border security needs to be reinforced esp., through checkpoints near maritime boundary with southern countries. Further, when the entire Russian coast is taken into consideration there is still a lot to be done to tackle illegal fishing in both industrial and coastal fisheries of Federal Districts (synonymous to Provinces). Constructive measures could include more pay for Border Guards, Customs and Port authorities, while creating more jobs for coastal communities and awareness campaigns through media and television can improve compliance in coastal fisheries (Anon, *pers.comm.*, 2019).

In 2018, fisheries violations decreased by 14 percent compared to 2017, and the number of detained Russian fishing vessels also declined by 35%. Illegal fishing by flags of convenience (FoC) vessels also declined in the territorial seas and the exclusive economic zone of Russia. Illegal FoC vessels targeting crabs had Russian crews on board, but were flying under the flags of Belize, Panama, Sierra Leone, Tanzania, Togo and other countries. The number of FoC vessels detained for illegal fishing decreased from seven in 2017 to four in 2018. However, the problem of poaching remains. In 2018, Russian Border Guard detained 324 people and 234 small craft, and 108 tons of aquatic biological resources were seized for illegal fishing of valuable seafood and fish species. Over 77,000 specimens of valuable species of fish and crabs were released into the natural habitat. Coast Guard officials identified more than 8000 violations of the law on the state border, fisheries and the conservation of aquatic biological resources. 39 Russian and foreign vessels as well as 1037 small vessels were detained. Judgments were passed on the confiscation of 4 foreign and 23 Russian small vessels at courts (Rossiyskaya Gazeta 2019).

See Sergunin (2019); Golunov (2018); Stupachenko (2018); Radchenko (2017); Mikhaylichenko and Sinetsy (2015); Pristupa *et al.*, (2015); Gulbrandsen and Hønneland (2014); Hønneland, and Jørgensen (2018); Homeland (2018); Pramod *et al.*, (2014); McConnell (2013); Eide *et al.*, (2013); Pitcher and Pramod (2006); Solodivov (2012) documents for more information.

Flag of Convenience	No	Source: ITF (2015)
Vessels on the RFMO - IUU vessel list	No	

RFMO	Year of the assessment	Compliant	Partially Compliant	Not Compliant	Source
CCAMLR	2018	Yes			CCAMLR (2019); NOAA (2019)
ICCAT	2017	Yes			ICCAT (2018); ICCAT (2019)
NAFO	2018	Yes			NAFO (2019)
NEAFC	2018	Yes			NEAFC (2019)
NPFC ¹	2016	Yes			NPFC (2018)
SPRFMO	2018	Yes			SPRFMO (2019)

Last Updated: 09 February 2020

¹ NPAFC Committee on Enforcement (ENFO) meeting proceedings is only shared with contracting parties and members. Data from annual Enforcement Evaluation and Coordination Meeting (EECM) is also not available for scrutiny on member countries compliance performance each year.



Note:

Bibliography and other notes relevant to this country report including methods, results and discussion for the global evaluation of 84 countries would be released shortly through IUU Risk Intelligence website (<https://iuriskintelligence.com/>). (The author can be contacted at pramod.raju@gmail.com to provide any feedback).

© Pramod Ganapathiraju

All rights are reserved.

<https://iuriskintelligence.com/>

No part of this publication may be reproduced or transmitted in any form or by any means without permission in writing from the author.



Connect with us @



<https://twitter.com/iurisk>

@ **LinkedIn**

<https://www.linkedin.com/groups/4928027>

Website & Report design (<http://ojdesign.com.au>)