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International
Affairs Council**



WORKING PAPER

INTERNATIONAL COOPERATION IN ENVIRONMENT PROTECTION, PRESERVATION, AND RATIONAL MANAGEMENT OF BIOLOGICAL RESOURCES IN THE ARCTIC OCEAN

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Russian International Affairs Council pays special attention to the Arctic. Council is convinced that there are no problems in the Arctic that cannot be solved on the basis of cooperation, common sense and solid foundation of international law. In order to promote realization of Russian interests in the Arctic by establishing effective international interaction in this region RIAC initiated the project titled “Roadmap for International Cooperation in the Arctic”. The International scientific symposium “International Cooperation in Environment Protection, Preservation, and Rational Management of Biological Resources in the Arctic Ocean” was organized in the framework of this project. This Working Paper includes texts of presentations at the symposium held in Moscow on September 4, 2012.

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Introduction

It is well known that in the recent years, the Arctic countries highlighted the *regional level of cooperation* in the Arctic Ocean as the *most effective approach*, first of all, for the purpose of *preservation of especially vulnerable Arctic environment*. Since 1996, following the establishment of the Arctic Council by eight states whose territory is crossed by the Arctic Circle, the political and legal weight of this regional mechanism in solving the Arctic environment protection problems has been steadily increasing.¹ Since 2008, following the adoption of the Ilulissat Declaration and thus, reconstruction of the format of those five countries, from the “Eight Arctic States” whose coasts directly face the Arctic Ocean,² the prospect of this “old-new” regional mechanism, i.e. the “Arctic Five” was accentuated, and not only in the sphere of the Arctic environment protection.

The problem of identification of the legal status of *the ice and water areas of the Arctic Ocean beyond the limits of the 200-mile exclusive economic zones of the five coastal Arctic states* is not especially debatable in the contemporary international law literature, unlike a rather debatable problem of identification of *the status of the seabed* in this smallest and shallowest ocean, the major part of which is still covered with ice.³ The latter debatable problem was not considered at the International scientific symposium in Moscow.

Its participants proceeded from the fact that now the five Arctic coastal states whose territories enclose the Arctic Ocean, have designated therein not only the sea areas that fall *under their sovereignty* but also the *200-mile exclusive economic zones* in which they exercise, according to the current international law, their specific jurisdiction and sovereign environment management rights. That is, the “Arctic Five” have applied universal norms of the international law of the sea relating to coastal sea areas, in order to identify the legal status of ice covered and open water areas adjacent to their coasts.

As to *the legal regime of the Arctic Ocean high-latitude area*, which is entirely surrounded by those 200-mile exclusive economic zones (of Russia, Canada, USA, Denmark, Norway), it is exactly these very states that play a *determining role* in its identification. Global mechanisms created by the UN Convention on the Law of the Sea of 1982 (hereinafter the Convention of 1982) “do not work” in the Arctic – and not only because of enormous differences between the ice-covered North areas and the warm waters of the Indian Ocean; another reason is that one of the five Arctic coastal states is not a party to the Convention of 1982 and is not bound by its provisions. The regional approach in this case yields a more

¹ The Arctic Council member states are Russia, USA, Canada, Denmark (the Island of Greenland), Norway, Iceland, Sweden, Finland.

² They are the first five of the above-mentioned Arctic Council member states.

³ See, for example: International courts: topical issues of international law. Inter-university collection of scientific works. Issue 2 (6). Ed. in charge G.V. Ignatenko, L.A. Lazutin. Ekaterinburg, 2010. P. 23–42 (in Russian). Rivista di studi politici internazionali. Vol. 78. No. 3. 2011. P. 379–391.

fair result compared to a selective fulfillment of global prescriptions of the Convention of 1982. The Minister of Foreign Affairs of the Russian Federation drew attention to the fact that “strengthening the regional level of management in conditions where universal mechanisms do not work serves like a safety net”.⁴

The participants in the Symposium proceeded also from the importance of institutionalization of the “Arctic Eight” format through adoption of the Declaration on the establishment of the Arctic Council of 1996. The role of the Arctic states operating first of all within the framework of cooperation in the Arctic Council is highly praised. The head of the Legal department of the Ministry of Foreign Affairs of Sweden notes that only the Arctic states, “whose population lives in the Arctic and who realize their sovereignty and jurisdiction over vast areas of the region, bear special responsibility for its sustainable development and governance, which is demonstrated testified by the activities of the Arctic Council”.⁵ The Declaration on the establishment of the Arctic Council signed in 1996 by government representatives of the eight Arctic states notes, first of all, their “commitment to the well-being of the inhabitants of the Arctic”, “to sustainable development” of that region, “to the protection of the Arctic environment, including the health of Arctic ecosystems, maintenance of biodiversity in the Arctic region and conservation and sustainable use of natural resources”. The representatives of the governments of the eight Arctic states, desiring “to provide for regular intergovernmental consideration of and consultation on Arctic issues”, declared that “The Arctic Council is established as a high level forum”. The Declaration states that one of its purposes is to provide “a means for promoting cooperation, coordination and interaction among the Arctic States, with the involvement of the Arctic indigenous communities and other Arctic inhabitants on common Arctic issues, in particular issues of sustainable development and environment protection in the Arctic”. The list of *members of the Arctic Council* is conclusive: it includes Denmark, Iceland, Canada, Norway, the Russian Federation, the United States of America, Finland, and Sweden. This conclusiveness is determined by the *regional character* of this institution. At international conferences it is sometimes stated that besides the above mentioned Arctic Council member states, the membership of the Arctic Council includes also organizations representing indigenous Arctic peoples.⁶ Such assertions are *not legally accurate*. The Declaration of 1996 specifies that besides the Arctic Council members, i.e. eight Arctic states, there are also “*permanent participants in the Arctic Council*”. According to the document, they include “the Inuit Circumpolar Conference, the Sami Council and the Association of Indigenous Minorities of the North, Siberia and the Far East of the Russian Federation”. At that, such list of *permanent participants* (but not members of the Arctic Coun-

⁴ URL: <http://www.mgimo.ru/news/guests/index.phtml>

⁵ Jacobson M. Cooperation in the Arctic Region: Legal Aspects. Paper presented at the Swedish—Finish Cultural Center, 8 November, 2010. P. 6–7.

⁶ The author of the introduction, as co-chairman of the International Conference on the Environmental Security in the Arctic Ocean (Cambridge University, 2010), also had to react to those assertions.

cil – the states listed above) *is not conclusive*: the permanent participation status “is equally open to other Arctic organizations of indigenous peoples”, if the Arctic Council determines that such an organization meets the criteria established by the Declaration. Decisions of the Arctic Council “are made by its members” (not by “permanent participants”). At the same time, the Arctic Council member states that, according to the document of 1996, make decisions “by consensus”, necessarily take into account the interests of the indigenous Arctic peoples; otherwise, such consensus could hardly be ensured.

The eight member countries of the Arctic Council have already adopted several legally significant documents: the Inuvik Declaration on Environmental Protection and Sustainable Development in the Arctic (1996), the Iqaluit Declaration of Ministers of the Arctic Council member states (1998), the Nuuk Declaration of Ministers of the Arctic Council Member States (2011), other international documents aimed, first of all, at regional cooperation in the Arctic environment protection.⁷

As was noted, in the recent years the “old-new” *Arctic format* of meetings – only the five states whose coasts face the Arctic Ocean – was recreated. Today, only these states have therein the areas of *internal maritime waters, territorial sea, exclusive economic zone and continental shelf*. In official documents, they are referred to as “*the Arctic coastal states*” or “*the five Arctic Rim countries*”: Russia, Canada, the USA, Norway, and Denmark (because of the Greenland Island). Only these countries have adopted *the Ilulissat Declaration* of May 28, 2008.⁸ Besides, Russia and Canada possess the *most extended Arctic coast*, which exceeds the combined length of the Arctic coasts of Denmark, Norway, and the USA.⁹

Thus, the main geographic, climate and political and legal *specificity of maritime areas of the Arctic Ocean* consists in the fact that even in the conditions of ice melting, a non-Arctic (“non-regional”) state can safely practice navigation, fishery, other economic activities in these extremely severe polar areas only with the consent of a corresponding Arctic coastal state, using its coastal infrastructure, communication facilities, ability to handle emergency situations, search and rescue of people and cargoes, elimination of consequences of marine pollution, *etc.* It will be of a special importance if the latest forecasts about a forthcoming cycle of global freezing (following a warming cycle) on the Earth will prove to be a reality.

It is impossible to cross the Arctic Ocean from Asia to Europe or vice versa not crossing the areas that are under the sovereignty or jurisdiction of any of the five Arctic coastal states. In those areas, including the 200-mile exclusive economic zones, everybody must comply with environment

⁷ Moscow International Law Journal (hereinafter MILJ), 2011. No. 3, 4; 2012. No. 1 (in Russian).

⁸ Ilulissat Declaration, Arctic Ocean Conference, Greenland, 27–29 May 2008. A fundamental legal value of this five-party document will be characterized below. Some authors consider Iceland as an Arctic coastal state.

⁹ The USA became an Arctic state because of the Russia’s concession of the Alaska Peninsulas in 1867; this factor is of a special significance when assessing historic legal rights in the Arctic. See: Oppenheim L. International Law. A Treatise. Ed. H. Lauterpacht. Sixth edition. London, New York, Toronto. 1947. P. 486–538.

protection standards of the corresponding Arctic coastal state. Besides, under the current international law, such standards can be more stringent compared with standards prescribed by international environment protection conventions or documents adopted by competent international organizations. That is, a specific actual state of affairs determines a *leading role of the Arctic coastal states* in identifying the Arctic marine areas legal regime.

One should be cautioned against inadmissibility of a mechanical (not based on the general international law) application of the Convention of 1982 to regulate any relations of the Arctic states, including with a non-party to the Convention of 1982 as it is suggested, for example, in some NATO and European Union documents. In the EU background document – “The European Union and the Arctic region” – the accent is made on the *global-treaty level* of legal regulation of Arctic states relations, on *absolutization* of applicability of the *Convention of 1982* to the Arctic. According to that EU document, “the provisions of the UN Convention on the Law of the Sea provide the basis” of international legal norms concerning the Arctic. At that, the document contains the following oversimplified statement: “Beyond areas of national jurisdiction, the Arctic Ocean contains parts pertaining to the high seas and the seabed managed by the International Seabed Authority”. That is, the EU does not even presume that the five Arctic states have the right to delimitate among themselves all seabed areas of the shallow, semi closed Arctic Ocean as their continental shelf on the basis of international law (customary norms; provisions of Article 6 of the Convention on the Continental Shelf; Article 83 of the Convention of 1982). In this case, in the Arctic there would be no international seabed area.

Further, the EU document teaches the Arctic states: “No country or group of countries have sovereignty over the North Pole or the Arctic Ocean around it”.¹⁰ The EU’s focus on the creation in the Arctic of an international seabed area under the Convention of 1982 (at the expense of the shelf of Russia) is also being developed at the conceptual level. In a representative book titled “The European Union and the Arctic. Policies and Actions”, the authors of the book, proceeding from the position of the European Parliament, assert that for the EU it is important to propose “measures to protect the Arctic waters, meaning an international qualification of the Arctic as a protected area, similar to the Antarctic, and its designation as “a natural reserve devoted to peace and science”.¹¹

Legal practice, first of all that of the Arctic states, has revealed different vectors of solving the issue of the legal status of the high-latitude Arctic waters beyond the limits of national jurisdiction, including areas covered by ice all-the-year-round. It is conditioned, first of all, by the fact that since 1997 the universal international treaty – the UN Convention on the Law of the Sea of 1982 – came into force in relation to Russia, Norway, Denmark (the Island of Greenland), and Canada. On the one hand, the Convention

¹⁰ The European Union and the Arctic Region. Communication from the Commission to the European Parliament and the Council.

¹¹ Airoldi A. The European Union and the Arctic. Policies and Actions. ANP 2008: 729. Nordic Council of Ministers. Copenhagen. 2008. P. 63.

of 1982 did not provide for any exceptions for the Arctic waters. Thus, proceeding from the idea of its applicability to the open water and ice covered areas of the Arctic Ocean, beyond the limits of the 200-mile exclusive economic zones of the five Arctic coastal states there *is a high sea area*. On the other hand, as is known, at the Third Conference on the law of the sea the Arctic coastal states “suppressed” all attempts to specially consider at the Conference the issue of the Arctic, moreover, to specifically mention it in the Convention of 1982. In another book by western international lawyers, which was published long after the adoption of the Convention of 1982, it is noted: “*Despite common issues facing the Arctic states, no genuine regional regime has developed in the Arctic. Instead, the law of the sea for the Polar North has been applied through national approaches. That is, the government of each Arctic State considers, adopts and implements through national legislations those legal rules and norms that it feels best serve its national interests within the context of its own polar seas... Thus, in the process of emergence and development in the XX century of maritime law principles they were adopted and applied by each Arctic State in its own way to its own northern waters*”.¹²

This scientific symposium has contributed to the emergence of a cautious scientific forecast according to which the practice of the Arctic states would develop towards the establishment of an effective *regional legal regime* of preservation and protection of the Arctic marine environment, including the continental shelf, search, rescue,¹³ emergency response, including elimination of oil spills, and also preservation and rational management of marine living resources. Still earlier, “an essential strengthening of the trend to develop the broadest regional cooperation, patient search for mutually acceptable solutions through negotiations on the basis of norms of international law” was noted.¹⁴ This regional approach is conditioned by the applicable *general international law that is based, as is known, on customary norms*.

At the same time, to the extent not covered by this special legal regime of the Arctic, the *universal* level of legal regulation generated first of all by the Convention of 1982 will probably be maintained. In spite of the fact that one of the Arctic states – the USA – is not a party to the Convention of 1982, many its norms concerning the internal sea waters, territorial sea, exclusive economic zone *also represent customary norms* of the contemporary international law. They are already realized by the Arctic states in the Arctic Ocean. Certainly, it does not concern the legal regime *of the seabed of the Arctic Ocean*: as is known, the official position of the USA is that Part XI of the Convention of 1982 (on the Area – the International seabed area, “common heritage of mankind”) is not customary international law; accordingly, conventional positions concerning the border between the Area and the continental shelf of a coastal state (the criteria of establishment of such

¹² Rothwell D.R., Joyner C.C. Op. cit. P. 1.

¹³ A successful example thereof is the conclusion by the Arctic states of the 2011 Agreement on Cooperation in Aeronautical and Maritime Search and Rescue.

¹⁴ Lavrov S.V. Nuuk Declaration: a New Stage of Cooperation between the Arctic States // The Arctic: Environment and Economy. 2011. No. 3. P. 4–5 (in Russian).

border are provided in Article 76 of the Convention of 1982) are not customary legal norms. One cannot disregard this legal reality. Therefore, in the framework of *the regional coordination*, the Arctic states should establish outer delineation of the Arctic shelf and carry out its delimitation on the basis of *the general international law* and not on the basis of one *specific treaty norms* – the above mentioned Article 76. In this sense, *modernization of the legal position of Russia*, compared with that taken in 2001 in the process of the unsuccessful “submission” of corresponding data under Article 76 of the Convention of 1982, is expedient.

The collection of scientific materials of the Moscow Symposium offered to the reader by the Russian International Affairs Council reflects somewhat different, somewhat concurrent scientific assessment of the contemporary legal regime of the environment protection and preservation of the Arctic marine biological resources. A high level of consensus among scientists and experts has evidently been reached on the main issue concerning priority, prime responsibility of the Arctic states for preservation of the Arctic ecosystem, inadmissibility of illegal, unreported and unregulated fishing in the Central Arctic encircled by the 200-mile exclusive economic zones of these countries, their desire to create a regional mechanism for preserving biological resources of that area which mechanism would be open for non-Arctic states.

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International Problems of the Russian Arctic Development

First, we have to make clear: what is the strategic direction of the Arctic development? It appears that the options are as follow:

1. Either “non-regional states” (i.e. non-Arctic states) would extract mineral resources in the Arctic (the Russian Arctic) at a high rate, and “having got what they wanted”, would disappear and forget about the Arctic;
2. Or the Arctic countries themselves would adopt a policy of “settling” this region by their population.¹⁵

The first option (“non-regionals” in the Arctic) would allow temporaries to take a lead. *The second* option would result in a dedicated federal state policy aimed not only at the development of mineral resources in the region, but also at its “settlement”. The process of working out and adopting the law on the Arctic zone of the Russian Federation (which has already continued for ten years and is now almost over) is apparently devoted to this purpose.¹⁶

Today, in terms of ecology, the Arctic region is totally unfit for any serious economic activity, and – in the near future – for human life as well.

Disregarding particulars, the present state of the environment in the Russian Arctic necessitates carrying out corresponding federal (and any other) policies in this region under an imperative “*environmental security enforcement*”. It is no longer to be hoped that through various by-laws (and general laws) one may frighten those who have long and persistently been making (and have actually made) a dangerous garbage dump out of the Arctic whose specificity, flora and fauna vulnerability have been known for a long time. It calls for the adoption of urgent and very expensive measures, including those at the international level, in the interests of all mankind, aimed not only at cleaning the Arctic, but also at maintaining its stable environmental security.¹⁷

¹⁵ Of course, hypothetically a third option is possible, i.e. not to bother about the Arctic at all. Let everything remain as it is and let the indigenous peoples deal with their problems themselves, boiling water over campfires in rusty teakettles of the Soviet period and moving around in reindeer drawn sleds. However, this option can apparently be forgotten since enormous reserves of oil and gas were discovered in the Arctic (basically, on the continental shelf).

¹⁶ It evidently follows from the draft concept of the Federal Law on the Arctic Zone of the Russian Federation in which the northern territories are referred to as an “independent object of the state policy”. The draft is prepared by the Council for studying of productive forces (SOPS) of the Presidium of the Russian Academy of Sciences on the request of the Ministry of Regional Development of Russia.

¹⁷ I will repeat factors that I highlighted in another publication of mine: deforestation and exhaustion of commercial fauna; barbarous cutting down of woods; constant numerous

The destiny of all preliminary measures to support corresponding activities, primarily economic, depends on the level of the Arctic environmental safety.¹⁸

I will list legal and other steps that have recently appeared most significant in this respect:

- on September 11–12, 2007 St. Petersburg hosted the Eighth International Conference and Exhibition for Oil and Gas Resources Development of the Russian Arctic and its Continental Shelf. Many prominent representatives of the Russian and foreign business circles and government authorities spoke at this conference. Noteworthy is a purely pragmatic approach of the conference participants: *how* to extract resources of the Russian Arctic shelf;
- on September 18, 2008, President of Russia adopted the *Fundamentals of the State Policy of the Russian Federation in the Arctic for the Period till 2020 and Further Perspective*, which, *inter alia*, outlined priorities and mechanisms of the Russian Federation state Arctic policy implementation and a system of measures of strategic planning of the socio-economic development of the Arctic zone of the Russian Federation;
- from October 26 till October 29, 2011, Salekhard hosted the International Arctic Forum “Sustainable Development of the Arctic: Legal Aspects”, organized by the Government and Legislative Assembly of the Yamal-Nenets Autonomous Okrug;
- on July 6, 2011, the leaders of the Siberian branch of the Russian Academy of Sciences met with the delegation of the Academy of engineering sciences of China with a view to create an industrial ecology center. The meeting resulted in the Siberian branch of the Russian Academy of Sciences adopting a package of proposals on scientific and technical cooperation in the creation of a joint industrial ecology center;
- in 2011, the Russian—Chinese “environmental radio bridge” was commissioned, during which it was noted that the Chinese side had for

fires; sharp drop in the numbers of wild animals, birds and fish as a result of poaching; destruction of vegetation, including that on the reindeer grazing grounds by caterpillar machines; pollution of vast territories by large quantities of waste from oil and gas, mining, iron and steel industry (the waste is to be recycled or disposed of, but in practice it is, continuously discharged or dumped). . Such especially dangerous areas (27 of them are identified in the Russian Arctic, including 11 on land, 16 in the seas and the coastal zone) were called “impacted”. Decommissioning of an increasing number of nuclear submarines complicates the problem, generating “environmental issues” as to a safe burial place of nuclear fuel and disposal of the decommissioned submarines whose reactor compartments even after core unloading represent big danger. (Hundreds of dumped barrels, trucks, planes, tractors and so forth are perceived as “household trifles” compared to that). See: Alexeevich T. Is it Awful, is it Dangerous in the Arctic? // The Krasnoyarsk Worker. August 23, 2012 (in Russian). The Arctic is even characterized as follows: “The Arctic now is a chemical dump”. – See: Rossiyskaya Gazeta. August 6, 2012 (in Russian). Besides, the Arctic atmosphere is being polluted with persistent organic pollutants that for many years were locked in the Arctic ices and now start coming back because of warming in the region and general climate change. See: Nature Climate Change. 27.07.2011.

¹⁸ The basic directions of such work here are the following: development of oil and gas fields and of the infrastructure facilities, mainly ports, roads, bridges.

a long time already investigated the Arctic environment and resources, possessing appropriate capability for that purpose. In this connection, the following facts and factors were noted:

- a) intention of the People's Republic of China to organize twice a year icebreaker expeditions to continue observations at its own scientific station;
 - b) aspiration of Chinese experts to drill a well on "one of the Arctic islands covered with thick ice" in order to study the condition of ice and process of its development;
 - c) interest of China in the Arctic hydro carbon reserves and its intention to participate in their development;
 - d) the Arctic can hardly avoid being actively developed. However, one should clearly understand *how the Arctic would sustain industrial development*. The development of the *transport system would entail the development of mineral resources and would inevitably result in environment pollution*. It is impossible to build big cities in the Arctic because the existing technologies relating, *inter alia*, to waste disposal, do not allow alleviating pressure on the territory surrounding settlements;
 - e) international environment protection system in the Arctic should be improved;
- in February 2012 President V. Putin voiced the necessity to expand the access of oil and gas companies to the development of northern deposits. According to the current legislation of the Russian Federation, the shelf deposits could be developed only by those state companies that already had experience in developing similar deposits. At the same time, it was announced that the list of companies applying for developing the resources of the Arctic shelf, could be expanded;
 - in July 2012 Russia launched the first "environmental campaign" to clean the Arctic of dangerous garbage. The organizers of the project were the Russian Geographical Society, the Ministry of Natural Resources and Ecology of the Russian Federation, the "Sevmorgeo" research and production enterprise and the Polar Foundation;
 - on September 2–5, 2012, in Tsingtao (China), the first Russian—Chinese forum on the Arctic problem was held. The author of this article took part in that conference and in his contribution he made several proposals, some of which, in addition to the aforesaid, can be of interest:
 - a) in the Russian Federation, "The Russian Federation National Action Plan on Environment Protection" (NAPEP), which the Government of the Russian Federation recommended to executive authorities for using in their practical activities, is still "suspended". Besides, NAPEP notes that essential "contributors" to pollution of the Russian Arctic seas (through marine currents, river runoffs and air streams) are the sources located *outside the Russian Federation*: nuclear fuel processing plants *in Europe* (mainly, in Sellafield, England), indus-

trial enterprises of *the North America, Western and Central Europe, Central and South East Asia*;

- b) NAPEP includes the National Action Plan – the Arctic (NAP – Arctic), containing section 5 titled “*Participation of the Russian Federation in International Programs on the Arctic Seas Protection Against Anthropogenic Pollution*”;
- c) if the environmental situation in the Arctic is indeed close to catastrophe, then it does not really matter what facilities (public, including military, or civil, to include private) make it explosive. It is quite probable that the Arctic was the first environmental proving ground, where all states are extremely interested in mutual cooperation, possessing the right to enforce the observance of environmental security;
- d) all interested sea carriers enjoy equal access to the Northern Sea Route (NSR) in accordance with the established permit procedure. It is provided by the Federal Law “On Amendments to Certain Legislative Acts of the Russian Federation Regarding State Regulation of Merchant Shipping in the Waters of the Northern Sea Route” signed by President of Russia V.V. Putin on July 28, 2012. While retaining the title of NSR as “a historically developed national transport communication in the Arctic”, the Law introduces a new concept – “NSR waters” and establishes specific borders of this marine area;
- e) the Law provides for the creation (actually, a recreation) of the NSR Administration (NSRA) as a federal state agency with the functions of maintaining navigation safety, pollution prevention and preservation of marine environment when navigating in the NSR marine waters. NSRA is authorized to issue navigation permits for vessels in the NSR waters, provide navigation, hydrologic and weather information, to organize a radio communication system, *etc.* A vessel must conform to design, equipment and supply requirements. Navigation of vessels that do not carry an insurance certificate or other financial security of civil liability of the ship-owner for marine pollution damage is prohibited;
- f) the Law obliges *the proprietor of a vessel to salvage and dispose of the property that sunk in the internal waters and territorial sea of the Russian Federation*. The requirements of the Merchant Shipping Code of the Russian Federation concerning insurance of risks arising out of navigation in ice conditions apply also to foreign vessels.
- g) third countries can engage in exploration and development of mineral resources in that area only with the permission of coastal states and subject to complying with the Arctic pollution prevention regime established by these states.

Summing up the environmental theme, it should be recalled that in 1991 the eight Arctic countries – Canada, Denmark (including Greenland and Faeroes Islands), Finland, Iceland, Norway, the Russian Federation, Sweden, and the USA – adopted the Arctic Environment Protection Strategy (AEPS). In 1996 the Strategy was used as a basis for the creation of the Arctic Council that appeared to be unable to take the entire responsibility

for the condition of the Arctic environment; consequently, multilateral and bilateral relations of the Arctic states concerning also the Arctic environment issues, were left outside the scope of its competence.

The USA also pays special attention to the Arctic problems. Thus, from October 27 till October 30, 2003, the US National Science Foundation, Office of Polar Programs (US NSF – OPP) with the support of NASA, the National Oceanic and Atmospheric Administration (NOAA) and the International Arctic Science Committee (IASC), organized in Seattle a meeting of 400 scientists in the framework of the program “Study of Environmental Arctic Change” (SEARCH).¹⁹

On March 15, 2004, the United Nations Environment Program (UNEP) and the European Environment Agency (EEA) issued a press release concerning their joint (regular) Report titled “Arctic Environment: European Perspectives”²⁰ which journalists labeled as a “panic manifesto”.

Since then, the reasons for panic have multiplied.

Meanwhile, positive steps on cooperation in the Arctic are also being undertaken. Thus, on May 14, 2011, foreign ministers of nine countries (Denmark, Iceland, Canada, Norway, Russia, the USA, Finland, and Sweden) signed the Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic.

In spite of the fact that the document gives rise to ambiguous interpretation and problems concerning its application, it may be useful. We will note only some Russia’s steps promoting the implementation of this document:

- An all-purpose nuclear ice breaker and diesel electric ice breakers of the new generation will be multipurpose, with the capacity to carry out not only piloting operations, but also operations of rescuing people and vessels and liquidation of emergency oil spills at sea;
- In 2003, on the Oleny Island in the Kara Sea, the first-ever Arctic monitoring and error correcting station of the GLONASS/GPS global navigation satellite system was put into operation. In 2009, in the Arctic, two more stations were commissioned – on the Sterligov Cape and in the mouth of the Indigirka River; in 2010, similar stations were established on the Stolbovoy, Andrei and Kamenka Islands. Till 2020, it is planned to deploy a network of GLONASS/GPS monitoring and error correcting stations along all traditional itineraries of the Northern Sea Route.

All those programs are focused on shaping a single search and rescue system in the Arctic. A Russian system, for the time being. It is apparent, however, that in the near future it will be a pan-Arctic system which will probably become a part of cooperation efforts concerning emergency prevention and response within the UN framework, the Global Platform for Disaster Risk Reduction (GPDRR). Actually, if environmental security and related (owing to specific Arctic conditions) search and rescue issues are not resolved in the Arctic, any activity in the Arctic would encounter consid-

¹⁹ Economics. October 30, 2003 (in Russian).

²⁰ URL: http://www.eea.europa.eu/publications/environmental_issue_report_2004_38

erable difficulties and risks. Now, it concerns mostly oil and gas production on the Russian part of the Arctic continental shelf that serves as an attractive point for many foreign companies.

In this regard the situation is ambiguous, but quite manageable. Disregarding particulars, it consists in the attraction of considerable amount of investments, both into the development of resources, and into the “Northern development”.

A corresponding process will be accompanied by discussions on the necessity to change the international legal regime of the Arctic in favor of signing an Arctic Treaty similar to the Antarctic Treaty of 1959. It makes the entire situation somewhat nervous. However, the Arctic states confidently proceed from the fact that the region cannot have any analogues in other regions of the globe owing to a special international legal regime (which has historically developed there) known to experts as a “sectoral principle”. Since, according to this principle, islands situated north of the Arctic states’ coast make part of their territory, with the continental shelf being a natural continuation of the continental margin of an Arctic state, such a state enjoys sovereign rights to exploration and development of the shelf resources within specific limits. That is the provision contained both in the Convention on the Continental Shelf of 1958 and the UN Convention on the Law of the Sea of 1982. Russia, according to that provision and historically developed regime, legally owns the Arctic shelf up to the North Pole within the limits of the Russian (formerly – Soviet) sector declared as early as in 1926.

The increment to such a level of energy resources will become possible as a result of exploration and development of the Northern shelf in the Kara, Barents and Okhotsk Seas (information provided by A. Varlamov, Deputy Minister of Natural Resources of the Russian Federation). In 2013–2015 “Gazprom” intends to start the development of the Ob-gas area of the Kara Sea. The United Industrial Corporation (UIC) has presented the project of a world class compact shipyard for building vessels of up to 300,000 tons displacement intended for the development of the Arctic shelf (a co-investor in the project is the Vneshtorgbank, an official sponsor is UIC). A working process with allocation of huge funds is under way.

Generally speaking, economic, environmental, political, geological, military and other information on the subject is abundant. Nevertheless, the interested states still experience certain mutual mistrust and show restraint when stating their current positions on the Arctic problems at different international forums. The author of this article has witnessed it at the First Russian-Chinese-Arctic Forum mentioned above.

At the Forum, the Russian participants asked their Chinese colleagues some question prepared after careful analysis of the recent Chinese initiatives and undertakings concerning the Arctic problems. To be honest, almost all questions were somewhat “tricky”.

When asked about the purpose of Chinese preparations and activities relating to the Arctic problems, representatives of China answered: “It is in the interests of science”. But see the questions (basically, the majority of them already contain the answer) to understand whether it is the matter of science or practice.

Questions that the Russian Participants Asked Their Chinese Partners

1. Questions Related to International Law

- In the period of cooperation between the USSR and the People's Republic of China, a special international legal regime regarding the Arctic, known as a "sectoral" regime, was formed. What is the today's position of the People's Republic of China regarding this regime?
- The military can provide considerable assistance in peaceful development of the Arctic, especially in maritime search and rescue operations in the Arctic. How can it be achieved it on the basis of international law?

2. International Cooperation

- How does China see the future of the Arctic? What Arctic problems, according to Chinese experts, should be solved first?
- How important are the treaties between China and Norway concerning the development of the Arctic? What is the People's Republic of China doing on Spitsbergen? Has China any difficulties in its relations with Norway in this connection?
- What are the Chinese plans of cooperation with Iceland?
- What is the Chinese concept of interaction with the Arctic Council? It is not quite clear why China attempts to receive a status in the Arctic Council. What are China's intentions and plan of action in the Arctic?
- Does China consider "The Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic" signed on May 14, 2011 by the Ministers of Foreign Affairs of the Arctic states as a partial and initial stage to correct the situation? What further steps in this direction does China see?
- What initiatives in the sphere of the Arctic international cooperation may be expected from the Chinese side (from public authorities, university and academic community, business structures and non-commercial associations)?

3. Environment Protection Cooperation

- Why doesn't the People's Republic of China participate in the Kyoto Protocol, but it actively supports the idea of the Arctic environmental security?
- What adequate international legal and joint (bilateral, collective) practical preventive and response measures regarding climatic changes (warming) in the Arctic should be undertaken?
- What, according to the People's Republic of China, international measures for cleaning the Arctic and preventing its further pollution should be undertaken?
- Does China intend to co-operate with Russia in ensuring safe navigation in the Northern Sea Route waters?

4. Scientific Research

- Does China have a strategy to research and develop the Arctic?
- What is the purpose of the fifth Chinese Arctic expedition (starting in July 2012) and another two expeditions planned for 2016?
- Where and on what legal basis does the People's Republic of China intend to carry out underwater and sub-glacial remote controlled research at the depth of 100 m?
- What is the system of training Chinese experts participating in expeditions in the North and Arctic (university programs, subjects of students' theses and dissertations, names of professors, assistant professors, their universities, *etc.*)? Are there persons in China who have made substantial contributions in the exploration of the Arctic? Where one can see their scientific papers in English and Chinese?
- How are the Chinese polar researchers equipped – availability of ice breakers, meteorological stations, satellite support, *etc.*? What polar countries does China co-operate with in that area and on what subjects?
- What international conferences on the Arctic and the North took place in the recent five years and what Chinese experts participated in them? What scientific research in the North and Arctic has China undertaken during the recent five years?
- What Arctic research interest China?

5. Technologies and Investments

- For what purposes does China build icebreakers? – To transport the resources, develop tourism, provide services to the companies working in the Arctic?
- What does the Chinese side think about the dependence of such development of resources on an adequate development of alternative (renewable) energy sources?
- What are the prospects and conditions of sufficient investment in the Arctic development?
- What is the amount of Chinese investments in the polar countries during the recent five years (primarily in Iceland and Northern provinces of Canada, Finland, Sweden, Norway, Alaska, Greenland, and Faeroes)?
- What are the basic financial resources (funds, grants, provincial and state budgets) that actually finance or can potentially finance international polar research in the fields of social and natural sciences (indicate separately)?
- At the Russian Academy of National Economy and Civil Service there is a special program of training administrators for the Arctic, which co-operates with the Arctic countries (study placements, studying the Arctic strategies of the Arctic countries, their specialization, development of cooperation in the Arctic, holding conferences on the Arctic problems, familiarization with the Arctic territories management, reindeer breeding development, *etc.*). Do you want to be invited to take part in such training?
- Are Chinese experts familiar with innovative technology of processing reindeer products and their properties?

- How does China estimate the prospects of cooperation with Russian companies in the sphere of Arctic technologies?

6. Northern Sea Route

- How does China see its investment participation in projects relating to the Northern Sea Route development? For example, construction of beacons in high-latitude areas of the Russian Federation Arctic zone.
- Does it prove that the People's Republic of China intensifies its economic involvement in the development of the Arctic transport facilities? Along what routes will Chinese vessels navigate in the Arctic?
- Do Chinese companies intend to participate in the NSR development? If so, what companies and when? Please name the challenges that restrain Chinese shipping companies from using NST.
- According to China, what will be the role of the Russian Northern Sea Route Administration in future?

7. Regulation Mechanisms

- What Chinese state authorities are dealing with Arctic problems? In your opinion, what are the prospects of the Russian—Chinese “team-work” in the Arctic game?
- What are the Chinese plans of cooperation with Russia in the Arctic zone of the Russian Federation?
- What specific oil and gas projects on the Russian shelf are of interest for the Chinese side?
- Should only state companies participate in the development of the Arctic continental shelf resources? Are there Chinese state and private companies that are ready to accept risks of investments in such development?
- What are the prospects of the Arctic infrastructure development? What are, in your opinion, the prospects for and common interests in an accelerated development of the polar aviation without which effective economic activities in the Arctic are impossible?
- Do Chinese companies work in the Arctic? How are they interconnected? How are regional specificities of the Northern provinces considered when managing social and economic development of China?
- What is the system of the Arctic conditions survival training for Chinese experts?

It appears that the questions themselves are of interest to the reader. We also suggest that the reader pay attention to the questions that the Chinese side in its turn asked the Russian delegation during the above Forum:

1. “We would like to make sure that the Russian official organs and agencies, organizations and scientific research institutes dealing with Arctic problems take part in the Arctic decision-making process.

We would like to know what Russian organizations the Chinese agencies will have to get in touch with in future. We hope that one of the participants could speak on that issue at the meeting.

2. How does the Russian government see the idea of the Chinese interest in the Arctic? One should admit that some Russian officials and scien-

tists regard with suspicion China's attention to the Arctic and its presence in the Arctic. What are their anxieties and concerns?

3. What are common interests and disagreements between Russia and China in the Arctic? What interests are disputed by both sides?

4. Chinese researchers would like to understand better the regulation mechanisms of navigation through the Northern Sea Route published by the Russian government. They would like to know the main requirements of the application procedure for the passage through the Northern Sea Route. What is the procedure of making an application if a Chinese research vessel wishes to carry out a scientific expedition in the Russian economic zone? What is the application procedure?

5. We would like to know the strategies of the Russian Federation Arctic policy development at the federal and local levels, and measures taken for their implementation.

6. How is the notion of "icebreaker" defined in the Russian legislation? How do Russian scientists interpret the legal ownership of the "Snow Dragon" research icebreaker used by the Chinese State Oceanology Administration? Can this vessel be considered as "private"? How does the Russian Academy of Sciences see from the legal point of view the passage of the Chinese "Snow dragon" research icebreaker through the Northern Sea Route last summer?

7. There are several projects of cooperation between Russia and China in the Arctic research, but they are not part of strategic partnership between China and Russia at the global level. We hope for the development of cooperation in polar scientific research and its inclusion in the strategic partnership between China and Russia. In what sphere can we co-operate in the Arctic?"

A preliminary general assessment of this material is as follows

The basic interest of China in the Arctic in 2012 (not excluding strategic military aspects) consists in the following:

1. To actively participate in research, in independent (or together with Russia) development of hydrocarbons of the Arctic shelf, and in their (total or partial) independent development.
2. To make transit (regular and charter) shipping through the Northern Sea Route from the Bering Strait to Murmansk (and further).
3. In case of producing Arctic minerals, to transport them from Arctic ports or airports (airfields) of Russia to corresponding locations (basically, in China) for their economic use.

Apparently, China decided to play a "partner game" with Russia whose Arctic territory is the most extensive and the most favorable for development.

The questions that the Chinese side put in advance before the Russian side are of a political and legal nature.

On the whole, the Chinese side has shown an obvious interest in the continuation of the Forum activity and in this connection it suggested holding its second session in Shanghai in the autumn of 2013.

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Sustainable Development and the Arctic Environment Protection: International Law Aspects

The interest to the Arctic environmental problems is high. Extraordinary perspectives of developing energy resources open up in the region, though the Arctic is characterized by a severe climate with extreme fluctuations of the light exposure and temperatures, a short summer and snowy icy winter, vast areas of permafrost. The interest of states to cooperate in preventing damage to the Arctic ecosystems grows stronger due to the fact that interaction between the ocean (ice) and atmosphere in the Arctic plays a huge role in the formation of weather and climate conditions in the entire Northern hemisphere. Negative environmental changes in that region of the planet can have global consequences; for example, melting of the Arctic ice under the influence of “greenhouse effect” can result in an increase of the level of the entire world ocean.²¹ For a sustainable development of Russia one should consider the potential of the Arctic as a strategic reserve for its future development.

The World Commission on Environment and Development defines a sustainable development as development where the current problems are being solved without inflicting damage to the interests of future generations. The term “sustainable use” is similarly applied in relation to the use of renewable resources. It means the use in such amounts that allow a reserve for self-renewal.²² The sustainable use results in a sustainable economy that does not destroy the basic natural resources and develops through adaptation to the environment, uses the newest scientific and technical achievements. The sustainable development implies a wide range of measures aimed at environment protection and natural resources conservation: atmosphere protection, preservation of biodiversity, protection and rational use of water resources, environment friendly use of biotechnologies, increasing safety in using toxic chemical substances, solving waste disposal problems.²³

In future the role of the North for Russia will grow; it is conditioned not only by the increasing needs in raw materials and energies, but also by the transit transport potential. The Northern regions have a direct access both to the Western and Pacific world market spheres. The Northern Sea Route plays an exclusive role as a transportation route. The shortest air corridors

²¹ Perelet R.A., Kukushkina A.V., Travnikov M.A. Problems of Ensuring Environmental Safety and Controllability in the Arctic (Economic and Legal Aspects) // Russian Yearbook of International Law. St. Petersburg, 2000. P. 159 (in Russian).

²² See: “Sustainable Development”, “Sustainable Utilization”. – Integrated Management of Coastal Zones. Legal Glossary. Ed. by A.N. Vylegzhanin. Riga, 2005. P. 112 (in Russian). “Planet Earth” Summit. Program of Actions. The 21st Century Agenda and Other Documents of the Rio de Janeiro Conference. Published by “For Our Common Future” Center. P. 1 (in Russian).

²³ Kukushkina A.V. The concept of Sustainable Development (Environmental, Economic and Social Aspects) // Moscow Journal of International Law. 2002. No. 1. P. 54 (in Russian).

between North America, Europe and the countries of the Asian Pacific region pass across the North Pole.²⁴

The climate in the Arctic changes most quickly, approximately two times faster than in average on the planet. During several recent decades temperature in various parts of the Arctic grew by 0.7–4.0°C. While on the planet as a whole the temperature of the surface air increased by 0.7–0.8°C, in the Arctic the temperature rose twice as much.

For the last 30 years the snow cover has shrunk. The total area of the Arctic ice has quickly diminished from 7.5 million sq. km in the late seventies to 5.5 million sq. km in 2005. At that, both the total area of ice and the ice cover of the Siberian Seas (Kara, Laptev, East Siberian, and Chukchi) are shrinking practically synchronously. The ice cover of the Siberian Seas in 2005 decreased to 200 thousand sq. km, while during the “warm period” in the middle of the XX century it was never less than 500 thousand sq. km. Even a more indicative evidence of the ice cover losses is ice thinning, in particular, the reduction of the areas of pack (multi-year) ice. In the recent years the area of the “old” ice has shrunk manifold.

What are the consequences of permafrost melting or even of its higher temperature? First of all, the risk of occurrence of dangerous cryogenic phenomena, such as solifluction, thermokarst and ground subsidence increases. The permafrost degradation represents a danger to the constructions located in the High North areas (roads, oil and gas pipelines, tanks, oil and gas sites, buildings, *etc.*). In the North of Russia more than 30 per cent of the explored oil and about 60 per cent of natural gas reserves are concentrated; an extensive infrastructure for the needs of the raw materials industry is created. Many structures are pile based and designed for operations under specific temperature conditions. During the recent decade, in addition to the temperature impact on the permafrost, wearing away of the Arctic seas coasts due to higher summer temperatures and strengthening of sea waves were recorded.

Sea ice melting will change navigation opportunities at the Arctic Seas. By the end of the XXI century the navigation period through the “bottle-neck” – the Vilkitsky Strait – can increase up to 120 days (now it is 20–30 days). Many non-Arctic countries, in particular China, Germany, Japan and some others, are getting increasingly interested in the Arctic and its richest natural resources.

On January 30, 2008, the Security Council of the Russian Federation held a session concerning environmental security of Russia; at the session, President of the Russian Federation V. Putin highlighted the necessity of creating an efficient system of environmental security in the country that would effectively tackle the current industrial and anthropogenic factors of pollution and would also bring results in meeting new challenges in that sphere.²⁵ Environmental security means an integrated, interconnected and interdependent system of international environmental norms aimed at sup-

²⁴ Kukushkina A.V., Shishkin V.N. The Arctic: Environment Protection in Developing Hydrocarbons (International Law Aspects). Moscow, 2010. P. 6 (in Russian).

²⁵ Security Council Session Concerning Environmental Security of Russia. January 30, 2008. URL: <http://www.kremlin.ru>

porting the security of all vital environmental components of the planet and at preservation and support of the existing natural balance between them.²⁶

Russian scientists note that, along with the general trend of the international legal awareness environmentalization, the biosphere role of the Arctic, including its role in the global climate formation and maintenance of ecological balance is increasingly taken into account.²⁷ According to the Fundamentals of the State Policy of the Russian Federation in the Arctic for the Period until 2020 and Further Perspective²⁸ adopted in 2008, one of the mainstreams of ensuring the national security of the Russian Federation is the preservation and rational use of marine mineral and living resources, prevention of marine pollution and protection of marine environment and its subsoil.²⁹

When carrying out such activity one should consider principles of international environmental law, including:³⁰

- the “precautionary approach” principle; the states must widely apply precautionary approach for the environment protection, namely in the cases where there is a threat of inflicting serious and irreparable damage the failure of full scientific uncertainty should not result in postponing corresponding measures to prevent environment degradation due to their high cost;³¹
- the “polluter pays” principle; the governments should undertake efforts to promote internationalization of costs connected with the environment protection and apply economic levers taking into account the approach according to which the polluter should basically bear the expenses equal to the price of environmental pollution damage, thus considering public interests and not distorting the process of international trade and capital investments;
- the “rational development” principle presuming protection of biologic diversity;
- obligation not to transfer, expressly or by implication, harmful influence or danger of harmful influence from one area of the marine environment to another or to transform one kind of pollution into another.

²⁶ Kukushkina A.V. Environmental Security, Disarmament and Military Activity of States (international law aspects). Moscow, 2008. P. 14 (in Russian).

²⁷ International Legal Basis of Subsoil Use. Eds. Vylegzhanin A.N. et al. Moscow, 2007. P. 116 (in Russian).

²⁸ Fundamentals of the State Policy of the Russian Federation in the Arctic for the Period till 2020 and Further Perspective (in Russian).

²⁹ Titkov P.F. Maritime Supervision in the Far East Federal District: Status and Problems / Federation Council. National Maritime Policy Commission. Records of the meeting in the Primorsky Krai Administration on October 20, 2006 // Implementation of the National Maritime Policy of the Russian Federation in the Far East Region. Information bulletin. 2006. No. 8. Vol. 1. P. 133 (in Russian).

³⁰ Kukushkina A.V., Shishkin V.N. Op. cit. P. 29 (in Russian).

³¹ At the Millennium summit it was stated: “Prudence must be shown in the management of all living species and natural resources, in accordance with the precepts of sustainable development. Only in this way can the immeasurable riches provided to us by nature be preserved and passed on to our descendants. The current unsustainable patterns of production and consumption must be changed in the interest of our future welfare and that of our descendants”. - United Nations Organization. Millennium Declaration. New York, September 6-8, 2000. UN Publication. P. 5.

Today, there is a number of international legal documents concerning oil and gas production in the sea, including the Convention on Civil Liability for Oil Pollution Damage of 1969, the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage of 1971, *etc.* Oil and gas production in the Arctic should be carried out according to the current international law.³² Because of glaciers deterioration, danger of collision with icebergs will be increasing. High mobility of pack ice fields might produce still stronger negative effect. Ice fields measuring dozens square kilometers can detach from solid ice fields covering the central Arctic area and drift independently.

In 1989 Finland made a statement that at the time there was no multilateral international body that could supervise human activities which adversely influenced the Arctic environment, the people living there and natural resources. In 1991, following a two-year preparation, the First Arctic ministerial conference at which the Strategy of the Arctic environment protection was adopted was held in Rovaniemi, Finland. Later, the Arctic Environment Protection Strategy was transformed into the Arctic Council. The Barents Euro-Arctic Council (BEAC) was created at the initiative of Norway in 1993 in Kirkinen. It consists of seven members: Finland, Denmark, Iceland, Norway, Sweden, the Russian Federation and the European Union Commission.

The most serious threats to the Arctic marine environment come from persistent organic pollutants (POP), from oilfields development and transportation of oil products. Considering that POP represent an escalating threat to human health and environment in 2001 the Stockholm Convention on Persistent Organic Pollutants was adopted.³³ The Convention notes that the Arctic ecosystems and indigenous communities are under very high danger as a result of an increasing biological impact of persistent organic pollutants and that the contamination of traditional foods consumed by indigenous communities is a problem of public health care.

With a view to identify environmental impact of marine oil and gas deposits exploration and development, oil and gas transportation and infrastructure development, procedures of preliminary impact assessment and environmental impact assessment should be used. In 1991, in Espoo (Finland) the Convention on the Environmental Impact Assessment in a Transboundary Context was adopted.³⁴ Oil and gas fields development is accompanied by considerable emissions of gases in the atmosphere as a result of electric power generation, surplus gas flaring, well testing, leaking of volatile oil product components, supply and shuttle transportation. Atmospheric emissions of polluting substances influence the climate. They can increase the soil acidity of the surrounding territories and promote atmospheric discharge of hazardous substances.

³² Kukushkina A.V., Shishkin V.N. The Arctic: Environment Protection in Developing Hydrocarbons (International Law Aspects). Moscow, 2010. P. 6 (in Russian).

³³ The Stockholm Convention on Persistent Organic Pollutants. Text and Annexes. UN Publication. Geneva, 2001.

³⁴ The Convention on the Environmental Impact Assessment in a Transboundary Context of 1991 // Environmental conventions elaborated under the auspices of the UN/ECE. UN Publication. New York, 1992. P. 99–122 (in Russian).

According to the sustainable development concept, contemporary Russia is searching for an effective mechanism to provide adequate assessment of the environmental situation, environmental regulation of economic activity and prediction of its consequences. Such mechanism represents a legally established requirement of environmental security, and a major element of environmental security is the environmental impact assessment procedure (EIA). Speaking at the conference of the five Arctic states (Ilulissat, Greenland, on May 28, 2008), the Minister of Foreign Affairs of the Russian Federation S.V. Lavrov noted that the climate on the planet had changed. It is hardly probable that somewhere else in the world the consequences of global warming are shown more dramatically than in the Arctic. Therefore, all Arctic states have to intensify efforts at the national level, to co-operate with each other in nature protection, economic and social areas even more actively. As to the coastal Arctic states, along with the above, they bear special responsibility for ensuring protection against pollution of the Arctic Ocean water areas and coasts, for sustainable development in the region.³⁵

In 1979 the Convention on Long-range Transboundary Air Pollution was adopted.³⁶ In 1985 the Protocol on the Reduction of Sulphur Emissions or Their Transboundary Fluxes to that Convention was adopted.³⁷ In 1988 in Sofia the Protocol concerning the control of emissions of nitrogen oxides or their transboundary fluxes was adopted.³⁸ In 1992 the UN Conference on environment and development adopted the UN Framework Convention on Climate Change (UNCCC).³⁹ The Convention notes that human activity has resulted in a dramatic increase of concentration of greenhouse gases in the atmosphere, which strengthens a natural greenhouse effect and will result in additional warming of the Earth surface and atmosphere and can have an adverse effect on natural ecosystems and mankind as a whole.

In 1997, the 5th conference of the Parties adopted the Kyoto Protocol to UNCCC.⁴⁰ The commitment period under the Protocol is from 2008 till 2012. According to Art. 3, the parties have assumed obligations to reduce greenhouse gases emission (carbon dioxide, methane, nitrous oxide, hydro fluorocarbons, perfluorocarbons, sulphur hexafluoride) by 5.2 per cent. The Russian Federation is committed not to exceed the 1990 emission level.

³⁵ Talking points of S.V. Lavrov's speech at the conference of the five coastal Arctic states (Ilulissat, Greenland, May 28, 2008).

³⁶ The Convention on Long-range Transboundary Air Pollution of 1979 // Environmental conventions elaborated under the auspices of the UN/ECE. UN Publication. New York, 1992. P. 1–10 (in Russian).

³⁷ Protocol of 1985 on the Reduction of Sulphur Emissions or their Transboundary Fluxes at Least by 30% to the Convention on Long-range Transboundary Air Pollution of 1979 // Environmental conventions elaborated under the auspices of the UN/ECE. UN Publication. New York, 1992. P. 19–24 (in Russian).

³⁸ Protocol of 1988 concerning the control of emissions of nitrogen oxides or their transboundary fluxes to the 1979 Convention // Environmental conventions elaborated under the auspices of the UN/ECE. UN Publication. New York, 1992. P. 25–44 (in Russian).

³⁹ The UN Framework Convention on Climate Change of 1992.

⁴⁰ Kyoto Protocol of 1997 to the UN Frame Convention on Climate Change of 1992.

The climate change cannot be stopped immediately. During the next decades both people and ecosystems will need help. Scientific investigation data, evidence of local residents, the information on the present and future damage from the climate change should be accurately and clearly brought to leaders of major countries and persons negotiating a new document that should replace the Kyoto Protocol on reduction of greenhouse gases emissions of 1997 to the Framework Convention on Climate Change of 1992.

On the whole, in the mid-term, the implementation of the state policy of the Russian Federation in the Arctic will allow Russia to maintain its role of a leading Arctic power. In future it will be necessary to implement a comprehensive growth of competitive advantages of the Russian Federation in the Arctic, to strengthen environmental security, peace and stability in the Arctic.

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Legal Protection of the Arctic Environment

For more than one decade protection of the Arctic environment has been a subject of the legal regulation in the international and national legal systems, each of which establishes a set of legal requirements applicable to the sphere of protection of unique Arctic ecosystems. At that, it appears that, by now, no regional legal regime to protect the vulnerable Arctic environment has developed; in this connection, a major part of environment protection problems of this region is being solved in the framework of international environmental law and national environmental legislation of the Arctic states.

At the international legal level, the environment protection of the Arctic (or its separate components) from various kinds of negative influence is dealt with in a considerable number of international agreements, mainly through prescription of general environment protection requirements. Among such international documents are the International Convention on Civil Liability for Oil Pollution Damage of 1969, the London Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter of 1972, the Stockholm Declaration of the United Nations Conference on the Human Environment of 1972, the Convention on Long-range Transboundary Air Pollution of 1979, the United Nations Convention on the Law of the Sea of 1982, the Convention on Biological Diversity of 1992, the Framework Convention of the United Nations on Climate Change of 1992, the Kyoto Protocol of 1997 to the Framework Convention of the United Nations on Climate Change of 1992, the Declaration of Rio de Janeiro on Environment and Development of 1992, the Stockholm Convention on Persistent Organic Pollutants of 2001, *etc.*

The above mentioned and other international agreements set out universal legal mechanisms of the environment (or its separate components) protection that can be applicable to preservation, protection and restoration of the Arctic ecosystems. Such are, *inter alia*, the measures on preservation and sustainable use of the biological diversity provided by the Convention on Biological Diversity of 1992; measures to combat marine pollution by dumping of wastes provided for in the London Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter of 1972, *etc.* As a whole, it should be noted that the current international legal regime of the environment protection allows solving many problems of the Arctic ecosystems protection, including prevention of the Arctic marine pollution, protection of especially sensitive Arctic marine areas, preservation of the Arctic flora and fauna.

Effective national environmental legislation is a necessary condition for preservation of the Arctic environment. The spectrum of aspects of inter-state activity regulated under national legislations of the Arctic states in the field of the Arctic environment protection is rather wide and includes: prevention of the Arctic marine environment pollution from various sources, creation of specially protected Arctic marine and coastal natural territories, prevention of negative impact on the Arctic biological resources, promotion of effective participation of indigenous population in the rational use and protection of the Arctic environment and others.

Many of the above mentioned directions of the national public activity in the sphere of the Arctic environment protection are fixed in the Russian legal system as well; to be true, in the Russian Federation there is no special legislative act establishing specificities of the legal regime of the Arctic ecosystems protection.

In the legal system of Russia, relationships in the sphere of the Arctic environment protection are regulated mainly by the environmental law norms contained in the branch environmental legislation and in the normative legal acts of a program nature created in the frameworks of institutionalized state planning. It is the matter of the Water, Forest, Land codes of the Russian Federation, the Federal Laws "On the Environment Protection", "On the Production and Consumption Wastes", "On the Specially Protected Natural Territories", "On the Protection of the Atmospheric Air", "On the Fauna", "On the Environmental Impact Assessment", "On the Internal Sea Waters, Territorial Sea and Contiguous Zone of the Russian Federation", "On the Continental Shelf of the Russian Federation", "On the Exclusive Economic Zone of the Russian Federation", the Law of the Russian Federation "On the Subsoil", the Decree of President of the Russian Federation "On the State Strategy of the Russian Federation on Protection of the Environment and Maintenance of Sustainable Development", the Order of President of the Russian Federation "On the Climatic Doctrine of the Russian Federation", the Fundamentals of the State Policy in the sphere of Environmental Development of the Russian Federation for the Period till 2030, the Fundamentals of the State Policy of the Russian Federation in the Arctic for the Period till 2020 and the Further Perspective, orders of the Government of the Russian Federation "On the Environmental Doctrine of the Russian Federation", "On the Concept of Long-term Social and Economic Development of the Russian Federation for the Period till 2020", "On the Adoption of the Water Strategy of the Russian Federation for the Period till 2020" and many other normative acts concerning environment protection.

The above listed acts of environmental legislation consolidate, with a different degree of detail, the nature protection requirements of our state applied to any activity that has or can have direct or indirect negative impact on the environment (or its components), and also determine instruments of state regulation thereof (environment protection norms, environmental impact assessment, environmental monitoring, environmental supervision, *etc.*).

Thus, the Federal Law "On the Environment Protection", while not establishing a special legal regime to protect the environment of the Arctic zone of the Russian Federation, contains legal instruments applicable

to the solution of nature protection problems of this region. In particular, for the assessment of the environmental condition of the Arctic zone of the Russian Federation and establishment of marginal levels (amount) of negative impact on it prescribed environment protection norms are being implemented.

With a view of establishing conformity of documents and (or) the documentation providing a basis for planned economic and other activities, including those in the Arctic zone of the Russian Federation, to the environment protection requirements, the Federal Laws "On the Environment Protection", "On the Environmental Impact Assessment", "On the Internal Sea Waters, Territorial Sea and Contiguous Zone of the Russian Federation", "On the Continental Shelf of the Russian Federation", "On the Exclusive Economic Zone of the Russian Federation" prescribe requirements to environmental impact assessment in the Russian Federation.

In order to identify, analyze and record direct, indirect and other consequences of the environment impact on the Arctic zone of the Russian Federation by expected economic and other activities, the Federal Law "On the Environment Protection" provides for an environment impact assessment that is necessary for decision-making concerning a possibility or impossibility of implementing those activities in the Arctic region of Russia.

The Federal Law "On Specially Protected Natural Territories" consolidates the general procedure for establishing specially protected natural territories in the Russian Federation and also the legal regime of their protection and use. The establishment of such territories is aimed at resolving a number of problems, including the preservation of unique and typical natural complexes and sites, remarkable natural formations, flora and fauna species, their genetic fund, studying natural processes in the biosphere and monitoring its development. With the purpose to protect the environment in the Arctic zone of the Russian Federation a network of the Arctic marine and coastal specially protected natural territories of the federal and regional significance was created, including state natural reserves (Kandalaksha, Wrangel Island, Nenets, Gydansky, Big Arctic, Taymyr, Ust-Lensky), national park (the Russian Arctic), state natural reserves (Franz Josef Land, Nenets, Nizhne-Obsky, Severozemelsky, Polar Circle, Kuzov, Soroksk, Unsk, Belomorsk, Dvinsk, Mudyug, Primorsky, Shoinsk, Nizhnepechorsk, Vaigach, Yamal, Brehovsk Islands, Yana Mammoths, Chaun Bay), nature sanctuaries (Mogilny Lake, Ayonsk, Pineyveemsk, Routansk, the Birds' Nesting of the Dvorovy Bay, Ivanovo Bay), resource reserves (Terpey-Tumus, Lena-Delta, Kytalyk, Tchaigurgino, Kurdygino Krestovaya, Bear Islands, Kolyma-Koren - the Kolyma delta). Besides, it is planned to further expand the network of the Arctic specially protected natural territories, thanks to the creation of the Onega coastal national park, natural parks (the Tersky Coast, Kolguev Island, Yugorsky), state natural reserves (Karsky Gate, Goose Land, Taz Bay, Haypudyrsky Bay) and a nature sanctuary (Indig Samotsvety).

The environmental legislation of the Russian Federation also provides for other ways and means of the environment legal protection that can potentially be applied for the purposes of the Arctic ecosystems protection. However, the national environment protection practice shows that many of

the above mentioned instruments of the legal protection do not possess a high environment protection potential (for example, environmental impact assessment and environmental monitoring institutes); thus, they cannot quite productively solve the problem they face, i.e. the creation of an effective legal model of regulating social relations developing in the field of the Arctic environment protection and ensuring mitigation of negative impact of economic and other activities on this region. The above problems are yet to be resolved which is clearly demonstrated by the rapid deterioration of the Arctic environment, namely the degradation of the natural Arctic ecological systems, pollution of the Arctic marine environment, modification and (or) destruction of the genetic fund of the Arctic flora and fauna and other negative, often irreversible changes of the Arctic environment.

The program documents adopted in the Russian Federation in the environment protection sphere do not yet create a stable conceptual basis for perfection of legal regulation of the Arctic environment protection either, as many ways, means, mechanisms of achieving the goals and resolving problems of the state environmental policy are just declared as such. In the current practice of environment protection regulation they quite often remain poorly supported by effective rules of law, which certainly neutralizes their protection potential. Such are, in particular, some means of state policy implementation in the sphere of the environment that were fixed in the Environmental Doctrine of the Russian Federation as early as in 2002. The matter now is about the necessity to introduce a strategic environment impact assessment declared in the above doctrine and to analyze its efficiency throughout the country and regions. The ten year long implementation of the Environmental Doctrine of the Russian Federation of 2002 failed to consolidate the institution of the strategic environment impact assessment in branch legislation; therefore, it has not been incorporated in the national environment protection practice at all.

The provisions of the Fundamentals of the State Policy of the Russian Federation in the Arctic for the Period till 2020 and the Further Perspective, fixing overall objectives and strategic priorities of the state policy of the Russian Federation in the Arctic in the sphere of environmental security (preservation and ensuring protection of the Arctic environment, liquidation of environmental consequences of economic activities in the conditions of expanding economic activity and global climate changes) that are not fully supported with corresponding implementation mechanisms demand a further specification and development as well.

Of course, shortcomings of the Russian environmental legislation interfere with the organization of an effective legal protection of the vulnerable Arctic ecosystems; however, it would be incorrect to connect all problems of state regulation of the Russian Arctic zone environment protection with deficiency of such regulation only. The main reason of poor efficiency of environment protection legal regulation in Russia is in the sphere of enforcing the environment protection legislation; numerous errors and abuses committed by legal persons and individuals, frequent non-compliance and non-observance of legal prescriptions by all parties to the environmental relationships neutralize the potential of legal protection instruments.

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Contemporary Arctic Marine Research

For Russia, the Arctic is a zone of special economic, geopolitical and social interests. Active exploration and development of the Arctic, the necessity to track the ecological state of the Ocean and especially its coastal areas highlight the main current problem – the organization and materialization of the entire Arctic Ocean (AO) water column monitoring in real time according to a set of meteorological, ice, hydro physical, geochemical, geophysical, biological and other parameters. The contemporary environmental, economic, social and geopolitical problems bring to the foreground three mainstreams of research:

1. Tracking climatic changes in the environment, explaining and forecasting the Arctic climate changes; assessing climate changes impact on the infrastructure, economy, environmental and living conditions in the Arctic;
2. Studying environmental changes in connection with the Arctic shelf natural resources development, including exploration and development of natural gas and oil, building hydraulic engineering facilities and intensified navigation in the Arctic, encouraging different kinds of economic activities and increasing the standard of living in the Arctic conditions;
3. Researching hydro-meteorological and ice processes, providing the current and forecast information about the environment and population, organizations, firms and government agencies in new conditions of the Arctic development.

Exploration of the high Arctic latitudes vessels always encounters considerable difficulties due to the presence of ice fields. The first attempts of high-latitude navigation were “secret expeditions” of 1765 and 1766 commanded by V.Ya. Chichagov with the purpose of finding “a sea pass through the Arctic Ocean to Kamchatka”. During that voyage in the north of the Greenland Sea the expedition vessels were the first to cross the eightieth degree north latitude in free navigation. F. Nansen’s expedition of 1893–1896 during which a specially designed and constructed vessel “Fram” drifted, trapped in ice, across all western part of the Arctic ocean became a remarkable event in the high-latitude Arctic research. The information gathered during that expedition substantially changed the then visualization of the climate, structure of water column, nature of the ice cover of the Ocean central part; its scientific results have not lost their value till now.

The Arctic Ocean hydrographic expedition on the “Taymyr” and “Vaigach” ice-class vessels during the 1910–1915 Arctic navigation may be considered as the beginning of the Russian regular Arctic research. The expedition, starting annually from Vladivostok, with every passing year

moved further to the West along the Arctic route and performed extensive oceanographic and other observations in the Chukchi, East-Siberian, Laptev and Kara Seas. However, a large-scale discovery in August 1913 of the Northern Earth archipelago, which surprised all civilized world, should be regarded as a top achievement of the Arctic Ocean hydrographic expedition. The discovery of an archipelago of 37 thousand square kilometers was considered as the most outstanding geographical event of the XX century.

In 1937–1938, the first-ever drifting station “Severny Polyus-1” (headed by I.D. Papanin) launched research of the most remote part of the World Ocean. The “Severny Polyus” stations and related “Sever” High Latitude Air Expeditions collected a vast database of unique environmental information, i.e. ice, meteorological and oceanological information (temperature and salinity of water, hydro chemical characteristics, currents).

In 1960–1980, the center of gravity in the logistical support of high-latitude Arctic expeditions moved towards drifting ice stations and aviation, therefore research vessels ceased to navigate in the Arctic basin of the Arctic Ocean. During that period the same trend prevailed also in foreign high-latitude research. In the late eighties the situation began to change as a result of launching a new generation of ice-class or reinforced ice-class research vessels intended for operations in difficult ice conditions.

In 1984 and 1987 the German research icebreaker “Polarstern” carried out a range of meteorological, hydrological, hydrochemical, biological and geological investigations in the Eurasian sub-basin of the Arctic Ocean Arctic basin. In 1991 similar works were carried out by the Swedish icebreaker “Oden”. In 1993, in the eastern part of the Arctic Ocean Arctic basin, the Canadian-American expedition aboard the icebreaker “Polar Star” was carried out. The main tasks of the expedition were to investigate the Canadian basin geological structure, determine the level of contamination of the ocean waters with radioactive nuclides from the burial site of nuclear wastes in the Kara and Barents Seas and expand the knowledge of the structure of water column and currents, physics of sea ice. In 1994, the icebreakers “Louis S. St.-Laurent” (Canada) and “Polar Star” carried out a broad research program to investigate the nature of the high-latitude Arctic regions. During the following years investigation of the Arctic basin waters of the Arctic Ocean by foreign vessels became practically regular.

Since 1980s creative cooperation of the Arctic and Antarctic Scientific Research Institute (AASRI) oceanologists with their colleagues from Norway, Germany and the United States of America has developed; joint expeditions are carried out, scientific works published. In the framework of the LAPEX program expedition research together with Norwegians took place in the Barents and the Kara Seas, with Germans – in the Laptev Sea. Joint works with the colleagues from the USA are carried out in the Chukchi and Bering Seas, and in the Bering Strait. Together with the American colleagues, electronic atlases of the Arctic Ocean for the winter and summer periods were prepared.

Economic recession of the 1990s and reduction of the state funding have resulted in a considerable gap in the domestic system of collecting

information in the northern polar area. Expeditions as the most expensive element of the monitoring system suffered the greatest reduction. The coastal supervision stations network whose marine environment activity was in most cases restricted to measurements of temperature, salinity and sea level was also affected; the number of stations was considerably reduced during the period from 1992 until 1997.

In the early and mid-2000s a tendency towards more intensive expedition investigation of the Arctic high latitudes was outlined. In 2000, for the purpose of carrying out geologic and geophysical research on the Mendeleev Rise with a view to specify the Russian continental shelf limits in the Arctic ocean, a complex sea expedition onboard the “Academician Fedorov” research vessel was carried out.

In the summer of 2004, the “Academician Fedorov” research vessel, assisted by the “Arktika” nuclear icebreaker went as far as the 85th parallel where it found an ice field suitable for deploying the “SP-33” drifting ice station. Next to the station’s location, a hydrological testing area was built. Following the unloading and construction operations related to the drifting station deployment, comprehensive oceanologic investigations on the structures connecting the Severnaya Zemlya, the Franz Josef Land archipelago and the northern extremity of the Severnaya Zemlya were carried out. Throughout the entire expedition, integrated investigations of the Arctic environment of Arctic were conducted.

The “Arctic-2005” expedition was carried out in two stages: at the first stage, research aimed at identifying the characteristics of the continental shelf around the Mendeleev Ridge were carried out from the deck of the “Academician Fedorov” research vessel; at the second stage, the main task of the expedition was to evacuate the “SP-33” drifting ice station and deploy accommodate a new “SP-34” drifting ice station. On August 29, the “Academician Fedorov” research vessel reached the point of the Geographic North Pole. For the first time in the history of navigation, a non-icebreaking vessel in autonomous navigation summited the most northern point of the Globe. During the entire expedition onboard the research vessel a maritime expedition group operated carrying out integrated research in the framework of the subprograms: physical oceanography and water dynamics; interaction processes in the “atmosphere - sea ice - upper sea layer” system; sea ice; ice resisting characteristics of the vessel; marine geology.

During the International Polar Year (IPY) of 2007–2008 Russian scientific organizations under the guidance of the Arctic and Antarctic Research Institute (AARI) took an active part in the extensive oceanologic investigations in many domestic and foreign maritime expeditions. One of the brightest events of marine investigations in the Arctic high-latitude during the IPY was the 2007 voyage of the “Academician Fedorov” research vessel during which, *inter alia*, for the first time in the history of polar research, the “Mir-1” and “Mir-2” deep-water manned submersibles dived at the point of the geographic North Pole and planted there a national flag of the Russian Federation.

In total, during the International Polar Year and in 2009, AARI experts participated in more than twenty research expeditions, most of them or-

ganized by the Institute. Among them, one should first note large-scale projects, such as the continuation of hydro physical monitoring of the Arctic water condition with the help of the “SP-36”, “SP-37” and “SP-38” drifting ice stations. Besides, in 2007–2009, in the framework of the Russian national program of high-latitude Arctic expeditions, integrated research was carried out in the extensive area of the Arctic basin under the “Arctic” program and in water areas of the Barents, Kara, Laptev and East Siberian Seas under the “BARKALAV” program.

Participation of AARI experts in international projects during IPY allowed carrying out a number of expeditions in cooperation with research institutes of Germany (the “Laptev Sea System” project, LAPEX expeditions) and the USA (the “Nansen and Amundsen Basins Observation System” project, AVLAP expeditions; the “Russian American Long-term Census of the Arctic” project, “Mermaid” expeditions).

The total number of all oceanographic research accomplished during IPY by AARI experts or with their participation, amounted to almost two and a half thousand. The information obtained during the research has allowed acquiring new ideas about the nature of the current changes in thermohaline conditions of the marine environment of the Northern Polar area and about its interconnection with the global climatic changes. At that, the IPY period coincided with the period of abrupt warming in the Arctic and that makes the materials collected during that period exclusively meaningful. Acquisition of an overall picture of the related current changes tendencies in the Arctic marine environment in many respects became possible thanks to the efforts of the Institute researches in the Eurasian part of the Arctic Ocean.

Thus, generalization of the Russian and foreign materials obtained during IPY served as a basis for producing a number of new and important results including, first of all, the formation of extensive abnormal salinity zones in the surface layer of the Arctic Ocean. At that, the overall picture of anomalies represents a dipole structure where negative salinity anomalies reaching 2–4 *per mil* of average multiyear values were registered in the areas of the Amerasian sub-basin. During the same period, in the Eurasian sub-basin it was possible to fix positive salinity anomalies amounting to two *pro mil* and forming, between the two sub-basins, a positive and negative anomalies separation zone that extends along the Lomonosov ridge. The results of investigations during the following years demonstrated that the contrast of superficial salinity anomalies between the Amerasian and Eurasian sub-basins somewhat decreased in terms of salinity values, though structurally the position of the abnormal zones has not changed.

Also, the recent years have turned to be abnormally warm in terms of the entire history of observations of the surface layer of the Arctic Ocean in the last century and in the beginning of the XXI century. Thus, in 2007, anomaly of water temperature observed in a considerable part of the Amerasian sub-basin water area reached +5°C. The following years could be also considered as abnormally warm, though the value of anomalies in relation to the average long-term level was somewhat lower and reached up to +2°C in the Beaufort Sea, in the southern part of the Podvodnikov Basin and in the western part of the East Siberian Sea.

The changes in the thermohaline structure characteristics have affected not only superficial, but also deeper water layers. At that, the stage of regular Atlantic Arctic waters layer warming that started in the XXI century, significantly differs from those observed previously, both in the layer abnormal temperature values and in the size of the water area where this anomaly is observed. In 2007, in some areas of the Arctic basin, temperature anomalies of the Atlantic waters reached unprecedented values of up to $+1.5^{\circ}\text{C}$. In 2008–2009, there was a trend towards an insignificant reduction of the Atlantic waters maximum temperature positive anomaly in comparison with climatic values in the entire water area of the Eurasian sub-basin which allows presuming that the deep water thermohaline structures start to return to an average climatic condition. At the same time, in 2009, the Northern Atlantic areas experienced intensified warm North Atlantic current inflow through the Fram Strait, which can cause a wave of another deep Atlantic Arctic waters temperature rise in the years to come.

On the whole, in the recent two decades, oceanologic research of the Arctic Ocean have been more and more clearly characterized by new moments connected with the current status and methodology of natural phenomena perception. The first example could be addressing fine structures of the Ocean which allows expanding knowledge of the Ocean, in particular calculations of the so-called “fresh water” and ocean ices reserves, use of level fluctuations data as a cumulative indicator of a number of processes occurring in the Ocean for the purpose of zoning the Ocean waters.

The second new moment is the creation of specialized field data bases concerning temperature and salinity of water, sea level (based on coastal observations) and currents for the previous period of investigations, mainly since 1945. Such a specialized base does not only store a field data file, but it also yields it in a more orderly form, removing fragmentariness of a water area observations which is inevitable when studying such a complex system as a sea and ocean. As a matter of fact, only the availability of specialized data bases on temperature and salinity of water, coupled with the perfection of computer technologies, has allowed investigating subtle structures of thermohaline characteristics of the Arctic basin waters and the seas of the Siberian shelf, from the Kara Sea in the west to the Chukchi Sea in the east.

The third new moment of the recent twenty years is the attempt to base the investigations of regularities not only on such an indisputable source as the field data, but also to make maximum use of possibilities of numerical methods of calculation (mathematical modeling) without which the results of research will not be complete.

In the summer of 2010, a large-scale expedition to determine characteristics of the continental shelf of the Russian Federation in the Arctic Ocean (the “Shelf-2010” expedition) on the “Academician Fedorov” research vessel took place. The expedition’s main objectives were: obtaining additional hydrographic data for delineation of the underwater continental edge in the part forming the underwater continuation of the land territory of the Russian Federation, according to the United Nations Convention on the Law of

the Sea of 1982; formation of an open bathymetric digital data base using sea-bed survey results.

In total, during the expedition the sea-bed survey covered 17,079 linear kilometers, depths were measured at 822,802,528 points, out of which 386,450,640 points were measured along the survey line. Processing produced 100x100 grids covering 4,749,618 points of depth measurements. As a result of surveying the sea-bed relief with a multi-beam and one-beam echo sounders and a profilograph with an option of a one-beam echo sounder, a file of biometric data was obtained. A data file was obtained as a result of hydrological and associated hydro meteorological works.

As to the amount of work accomplished during one season in the high latitudes of the Arctic Ocean and the amount of obtained information complying with the world quality standards, that expedition considerably exceeds the results achieved by other Arctic coastal states during the investigation of the Arctic basin. For the first time in the world, surveying of the sea-bed relief was carried out in heavy ice conditions along the previously outlined rectilinear bathymetric profiles; at that, the deviation from the profile axis did not exceed one fourth of the multi-beam echo sounder coverage sector.

The need for marine expedition activities in the Arctic is conditioned by the fact that the renewal of national expeditionary research in the national seas and in the adjoining water areas of the World Ocean is of a crucial importance for stabilization and development of Russia's activity in the World Ocean. Such research forms a basis for studying, monitoring and use of the Ocean. Comprehensive investigations in the Russian Arctic seas are of a special value in connection with the needs of expanding Arctic natural resources use and environment protection. An important part of research in the Arctic seas natural resources use is studying the interaction of transport facilities and mineral production means with the ice cover, and analyzing equipment operation at low temperatures.

Special attention to the Arctic basin of the Arctic Ocean and the Arctic seas is also caused by the fact that those areas, possessing a high bio-resources potential, are to the greatest degree subject to anthropogenous pressure (pollutants transferred by the Atlantic waters, drains of the Pechora, Ob, Yenisey, Lena and other big rivers, radioactive burial sites on the shelf). In this connection, reliable forecasts of the region's environmental status in the conditions of expected increase in anthropogenous pressure are extremely timely. Such assessments can be made only on the basis of detailed field data concerning the current situation with the basic biota components of the Arctic Ocean Arctic basin and the seas of the Western Arctic sector.

The Arctic attracts an increasing attention of the Arctic states and international organizations; it is an arena of implementing national and many international programs the involvement of Russia as the largest Arctic state is vital. Russia's own research in the fields of its economic and defense interests above all correspond to its national interests.

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Preventing Unregulated Fisheries in the High Seas of the Central Arctic Ocean

The Central Arctic Ocean Status is Changing

Beyond the northern maritime boundary of all five Arctic coastal states is an area of Arctic high seas encompassing 2.8 million sq. km or roughly the size of the Mediterranean Sea⁴¹ (Figure 1). Ninety-two percent (92 per cent) of these international waters in the Central Arctic Ocean have no existing regional agreement to regulate commercial fishing.⁴² This has never mattered since the area has been covered with permanent ice for all of human history. This status is changing, however, as *satellite surveys indicate that over the past five years during the height of summer melting, between 14 per cent to 40 per cent of the Central Arctic Ocean high seas was open water* (Figure 2).

A Future Open to Unregulated Fishing?

Of the high seas waters in the Central Arctic Ocean, roughly 8 per cent are within the area of competence of the Northeast Atlantic Fisheries Commission (NEAFC), and, thus, currently under fisheries regulation (Figure 3). This area of the high seas is predominately deep water and remains inaccessible to commercial fishing due to persistent ice.

However, satellite images show that open water areas in September 2007 (totaling 1.1 million sq km or the size of the Norwegian Sea) included 476,000 sq. km (the size of the Black Sea) of the Chukchi Plateau⁴³ and associated continental ridges – relatively shallow water of “fishable depth” – adjacent to the U.S. and Russian maritime boundaries north of Bering Strait (Figure 4). *Thus, for Russia and the U.S., it is as if a new sea of substantial size with extensive shelf features is emerging from the Arctic ice on their borders.*

This area is much closer to Pacific fishing ports than the site of krill fisheries in the Antarctic (Figure 5). Given the transboundary populations

⁴¹ Two other areas of international waters are found in the Arctic: the Arctic “banana hole” (269,000 km²) and the Arctic “loop hole” (66,000 km²). Because these areas already are heavily fished and are managed under the Northeast Atlantic Fisheries Commission, they are excluded from consideration in this note.

⁴² The boundary delimiting the high seas of the Central Arctic Ocean for fishing and shipping is unaffected by extended continental shelf claims by Arctic countries. Regardless of the outcome of those claims about the Arctic seabed, the international Arctic boundaries for the water column are fixed.

⁴³ A 2011 survey of the Chukchi Plateau discovered massive phytoplankton blooms under the first-year ice in the region, leading scientists to speculate that primary productivity in this and similar Arctic continental shelf areas may be greatly underestimated. K. Arrigo et al. Massive Phytoplankton Blooms Under Arctic Sea Ice. *Science* (June 7, 2012). URL: <http://www.sciencemag.org/content/early/2012/06/06/science.1215065>

of Arctic cod in the Central Arctic Ocean, a similar reduction fishery may be technically possible in the near future. *The chances of future exploratory fishing by distant water fishing nations is high, especially in the case of non-Arctic countries that have ice-breaking capability and an interest in asserting rights in the Arctic Ocean.*⁴⁴

Unregulated fishing could disturb the Central Arctic Ocean ecosystem at a time it is already undergoing unprecedented changes. This in turn could have significant negative impacts on future potential commercial Arctic fisheries stocks, Arctic communities and indigenous peoples that depend on a variety of living marine resources – fish, marine mammals, seabirds – for their way of life.⁴⁵ Unregulated fishing in this area could also disturb sensitive relations among Arctic nations – and between Arctic and non-Arctic nations.

Coastal states could also see additional demands on border and coast guard agencies at a time when search and rescue assets are already stretched thin. Arctic nations may be hard-pressed to respond effectively to commercial fishing vessels in distress at the same time that increased shipping and oil and gas activity is taking place. And new fishing activity in the Central Arctic Ocean near national boundaries will require complicated and expensive enforcement capability to ensure that unregulated international fishing at 201 miles does not drift across into territorial waters.

Decision Point for the High Seas of the Central Arctic Ocean

The overriding question is: as permanent ice is replaced by open water and seasonal ice, what should be done about 92 per cent of the Central Arctic Ocean high seas area unregulated for commercial fisheries? All five Arctic coastal nations are parties to the 1995 UN Fish Stocks Agreement,

⁴⁴ In the last few years, a Chinese icebreaker research vessel (the “Xue Long”) has operated in the Chukchi Plateau and the adjacent Canadian Basin. According to the Chinese government, one of the research purposes of these trips is to study: “Effect of the ecosystems and living resources in the sea area adjacent to the Arctic Ocean on the development of China’s fishery.” Chinese Arctic and Antarctic Administration, “Projects of Chinese Polar Scientific Research”. URL: <http://www.chinare.gov.cn/en/index.html?pid=science> (accessed 17 November 2011).

In addition, a Korean government research organization recently concluded: “In the near future, the thawing of the Arctic Ocean will influence the fisheries by creating more fishing opportunities. The Arctic Ocean coastal states and other states like China, Japan, and EU have competitively established and announced their development policies for the Arctic including those related to fisheries. And it is no doubt an opportunity for the Korean fishing industries as well as those who are seeking new fishing grounds abroad due to diminishing fishing resources and forthcoming free trade regimes. . . . Despite the uncertainties in developing the Arctic fisheries and the lack of scientific data or statistics, the Arctic fisheries can become the center of world fisheries in the near future” (emphasis added). Seon-hee Eom. *The Arctic Fisheries Regime and Its Implications to Korea* // Korean Maritime Institute International Journal. 2011. Vol. 3. No.1. URL: <http://www.kmi.re.kr/kmi/en/publication/index02.jsp>.

⁴⁵ The U.S. recently set harvest levels of Arctic cod in U.S. Arctic waters at zero. U.S. Arctic Fishery Management Plan (August 2009). URL: <http://www.alaskafisheries.noaa.gov/sustainablefisheries/arctic/> (accessed 17 November 2011).

Commenting on the same plan, the Inuit Circumpolar Conference stated: “Commercial fishing in these waters could compete for the same species on which we depend. It could also threaten marine mammals by competing directly for food...” (ICC Alaska letter to North Pacific Fishery Management Council, 9 Feb. 2009).

which places on them special responsibility for precautionary actions to conserve fish stocks that occur both within and beyond national jurisdiction. Options for fisheries management of this area include:

- 1) *No action*: Arctic coastal countries could choose to do nothing in the belief that melting permanent ice will not make “fishable” areas accessible in the near future or that distant water fishing nations will not pursue commercial fishing ventures in such areas. Russia and the U.S. in particular have reason to be concerned about delaying action. First, the areas opening each summer in the last four years are adjacent to their EEZs in the Chukchi Sea. And, second, the two countries experienced a very negative example of unregulated fishing near the Arctic two decades ago in the Bering Sea.⁴⁶ But all five Arctic coastal countries have negative experiences with unregulated commercial fishing in adjacent international waters.
- 2) *Extending NEAFC*: Because NEAFC covers a small part of the Central Arctic Ocean, one way to prevent unregulated fishing in the remainder would be to extend NEAFC’s geographic scale. However, this would require extensive changes to NEAFC (both the U.S. and Canada are not contracting party members, for example) and could disrupt the working arrangements NEAFC has for countries fishing within currently managed areas.
- 3) *Creating a new RFMO*: Coastal and other interested countries could establish a new regional fisheries management organization (RFMO) with responsibility for the 92 per cent of the Central Arctic Ocean outside of NEAFC. However, starting such a new organization likely would take years to develop and, in the meantime, could allow – and might even encourage – unregulated, exploratory fisheries by distant water fishing nations to begin.⁴⁷ In addition, the cost in time and money for Arctic coastal nations to participate in a full-fledged RFMO likely is not commensurate with the scale of commercial activity that could take place in the near- and mid-term.
- 4) *Arctic Council action*: The Arctic Council has proven to be a very valuable international forum for producing and sharing information such as the Arctic Climate Impact Assessment and the Arctic Marine Shipping Assessment. In recent years the Council has played an important role in encouraging Arctic countries to negotiate new agreements for cooperating on response to shipping and oil and gas accidents and black carbon. However, the Council has never substantively addressed fisheries and, after discussing the issue of the Central Arctic Ocean fisheries,

⁴⁶ Unregulated fishing in the Bering Sea Donut Hole in the 1980s by Poland, South Korea, Japan and others led pollock catches to precipitously collapse. Russia and the U.S. eventually were able to persuade these nations to sign an international agreement to close the area until science and management measures indicated fishing could be prosecuted on a sustainable basis. Unfortunately, the damage was done and pollock fishing remains closed today.

⁴⁷ The Western Central Pacific Fisheries Commission (WCPFC) was established since the 1995 UN Fish Stocks Agreement and took six years to negotiate. URL: <http://www.wcpfc.int/about-wcpfc> (accessed 17 November 2011).

decided not to get involved.⁴⁸ Although its working groups could play an important role in monitoring future fisheries and other living marine resources, the Arctic Council currently is not well-suited for developing and implementing fisheries management measures.

- 5) *International instrument to maintain the status quo*: As an alternative to formation of a full-blown RFMO, Arctic coastal nations could take the lead in developing a simple agreement to (a) maintain the status quo of no fishing in the high seas portion of the Central Arctic Ocean that is not covered by NEAFC *until an RFMO or similar regime is established*, (b) encourage joint research and (c) establish a cooperative program of research and monitoring. Such an agreement could permit fishing in the future if member countries agree that scientific, management, and enforcement provisions are in place to ensure sustainability. The simplicity of this approach means it could be adopted relatively quickly so that all future options are maintained. *The exclusion of the area already covered by NEAFC would ensure that nothing in the new instrument would prejudice the status of waters north of Svalbard* (Figure 6).

Scientists Urge Action

In April 2012, over 2,000 scientists from 67 countries published an open letter (www.arctic-fisheries-letter.com) urging Arctic coastal countries to take the lead in developing just such an instrument. Signatories included over 1,300 from all five Arctic coastal countries. The scientists recommend:

- A precautionary international fisheries management accord;
- Starting with a catch level of zero until sufficient research can assess the impacts of fisheries on the central Arctic ecosystem; and,
- Setting up a robust management, monitoring, and enforcement system before commercial fishing begins.

Arctic Cooperation

Momentum toward an international Arctic fisheries instrument appears to be building:

United States. The negotiation of an international fisheries agreement is a U.S. foreign policy goal mandated under by a law adopted by a bipartisan majority of Congress with the support of the Alaska commercial fishing industry, indigenous people and environmental NGOs.⁴⁹

⁴⁸ In Nov. 2007, the Council discussed the U.S. law in favor of developing an international Arctic instrument and concluded: "There was strong support for building on and considering this issue within the context of existing mechanisms." Arctic Council, Meeting of Senior Arctic Officials Final Report, 28-29 Nov. 2007. URL: <http://www.arctic-council.org/index.php/en/about/documents/category/48-sao-meeting-2007-2-in-narvik-norway-november-2007?download=172:sao-report-narvik-november-2007>. In addition, the membership of Finland and Sweden in the Arctic Council is problematic for the Council's consideration of fisheries agreements because these countries operate under the European Union Fisheries Policy and the EU is not a member of the Arctic Council.

⁴⁹ Public Law 110-243 was signed by President Bush on June 3, 2008.

Greenland. In 2011, the Kingdom of Denmark on behalf of Denmark, Greenland and the Faroe Islands called for an international Arctic fisheries agreement and stated that commercial fishing should not start until management measures are in place.⁵⁰

Canada. The Canadian government in April 2012 stated: "...any possible future commercial fishery in the high seas of the central Arctic Ocean must be governed by effective management and conservation measures that are based on sound scientific advice, in consultation with Northerners and are agreed upon internationally".⁵¹ This position is strongly supported by Canadian polls.⁵²

Norway has not taken a position on the need for an international agreement in the Central Arctic Ocean. However, domestic law makes it illegal for Norwegian-flagged vessels to commercially fish in high seas areas not covered by an existing regional fisheries management organization. And its High North policy already places a strategic priority on sound fisheries management, environmental protection, strengthening cross-border cooperation, and preventing illegal, unregulated and unregistered (IUU) fishing.⁵³

Russia's position is central to whether the coastal states exert effective leadership for a new fisheries agreement for the Central Arctic Ocean. The majority of the melting is taking place adjacent to Russian waters. Its experience with the Bering Sea Donut Hole provides an important lesson for establishing precautionary fishing rules before distant water fishing fleets move into new areas. Moreover, the Russian Federation has taken a strong leadership role in cooperatively resolving Arctic resource issues.

Protecting the Interests of Coastal States

The present situation and momentum offer an opportunity for the coastal states of Norway, Canada, Denmark, the Russian Federation, and the United States to demonstrate leadership on an Arctic fisheries challenge. Resolving this potentially contentious issue *before* it becomes a resource conflict provides an opportunity for Arctic states – in the words of the Ilulissat Declaration⁵⁴ – to "implement appropriate measures" for the Arctic Ocean in light of climate change.

Leadership by the Arctic coastal states is needed to chart a course for the international waters of the Central Arctic Ocean that reflects the responsibility these coastal states have under international law, as well as their obligation to conserve Arctic resources and further the aspirations of Arctic

⁵⁰ The Kingdom of Denmark released its Arctic strategy in August 2011. URL: <http://www.arctic-council.org/index.php/en/about/general-news-archive/173-denmarks-arctic-strategy>

⁵¹ Joint Statement by the Honourable Keith Ashfield, Minister of Fisheries and Oceans and the Honourable Leona Aglukkaq, Minister of Health and Minister of the Canadian Northern Economic Development Agency (April 25, 2012). URL: <http://www.dfo-mpo.gc.ca/media/statement-declarations/2012/20120425-eng.htm>

⁵² "No Arctic fishery until more is known, Canadians say." June 25, 2011. URL: <http://www.ctv.ca/CTVNews/Canada/20110625/arctic-fishing-ban-canadians-110625/#ixzz1dJG5fp00>

⁵³ Norwegian Government's High North Strategy (2006). URL: <http://www.regjeringen.no/upload/UD/Vedlegg/strategien.pdf> (accessed 17 November 2011).

⁵⁴ The Ilulissat Declaration (28 May, 2008) of the five Arctic coastal states. URL: http://www.oceanlaw.org/downloads/arctic/Ilulissat_Declaration.pdf

peoples. If Arctic nations do not exercise this leadership role, then other interests such as the European Union and non-coastal states will fill the vacuum.

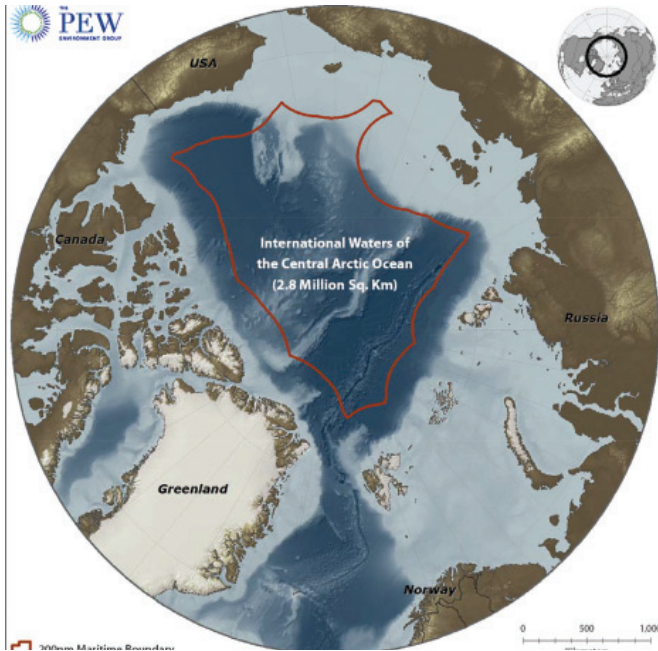
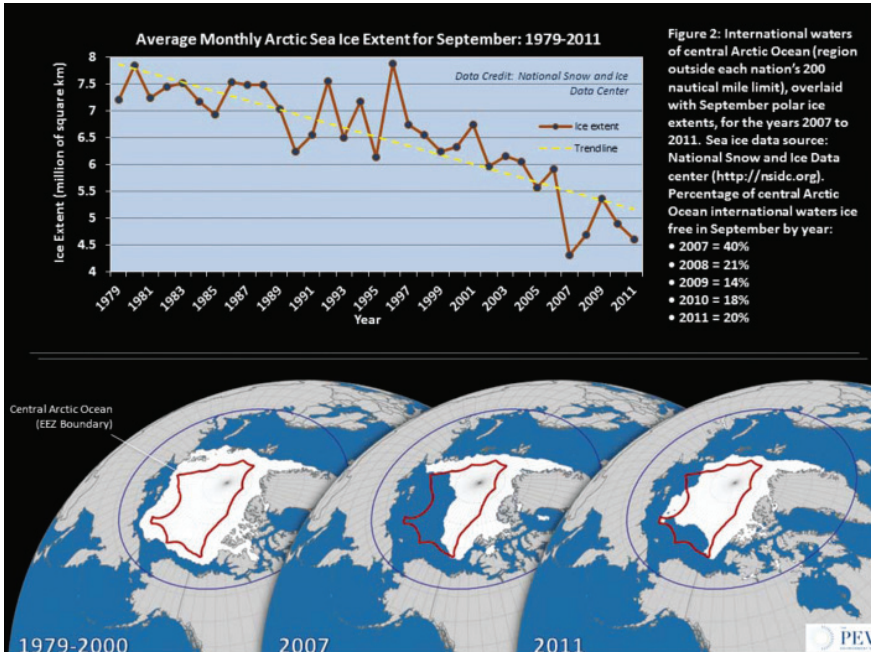


Figure 1: The international waters of the Central Arctic Ocean are defined by the maritime boundaries of the 200 nautical mile exclusive economic zones (or equivalent) for the five countries bordering the Arctic Ocean.



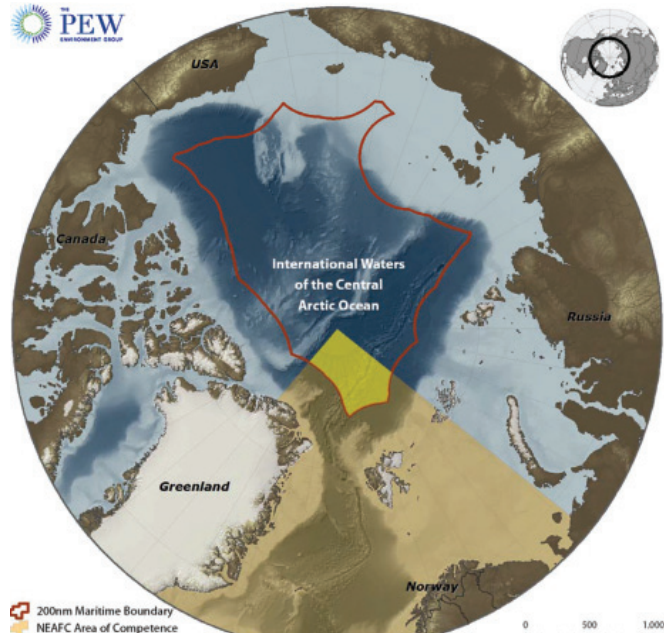


Figure 3: A small part (8 per cent) of the Central Arctic Ocean high seas area lies within the area of competence of the Northeast Atlantic Fisheries Commission (NEAFC). However, no regional fishery agreement covers most of the CAO (92 per cent).

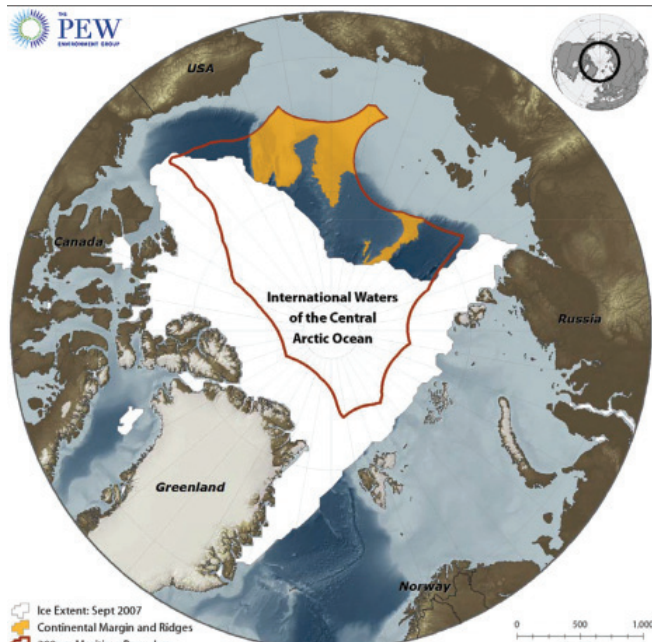


Figure 4: In September 2007, 40 per cent of the Central Arctic Ocean high seas area was open water, including continental margins and ridges of "fishable" depth totaling 476,000 sq. km.

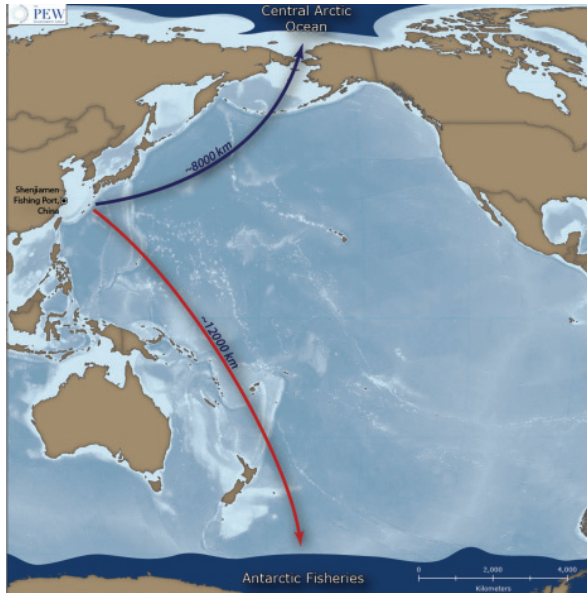


Figure 5: The estimated travel distances from a large Chinese fishing port to the Antarctic krill fishery and the Chukchi Plateau within international waters of the Central Arctic Ocean.

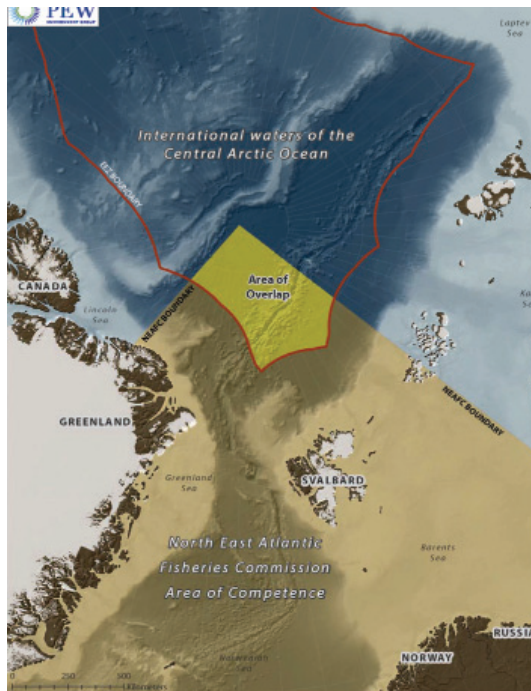


Figure 6: The small portion of the Central Arctic Ocean high seas that lies within the NEAFC area of competence (labeled "area of overlap" in the figure) could be excluded from a CAO instrument in order to ensure no prejudice to the status of waters north of Svalbard.

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Cooperation of the Arctic States in Combating Illegal, Unreported and Unregulated Fishing of Water Biological Resources

Today, the problem of an illegal, unreported and unregulated fishing (hereinafter IUU fishing) is a key problem for preservation and rational management of water biological resources. Stocks of biological resources of the World Ocean are practically inexhaustible. However, states should use them reasonably, based on the precautionary and ecosystem approaches. However, IUU fishing that occurs practically in all areas of the World Ocean – both in the zones of national jurisdiction and at high seas – cause an irreparable damage to the rational use of resources. Some fishermen do not observe fishing regulations, others do not observe prohibited harvest seasons and areas; still others fail to report (or report inaccurately) their catches. Some ship owners change the flag of states that cannot or do not wish to monitor fishing activities of their vessels. Such fishing undermines national and international measures on preservation and managements of water bioresources and leads to exhaustion of these resources.

IUU fishing causes serious damage to the economy of the Russian Federation. In its exclusive economic zone and on the continental shelf IUU fishing is periodically carried out by foreign vessels under “convenient” flags (Belize, Cambodia, Georgia, Singapore, Mongolia, Panama, *etc.*). Sometimes private vessels under the Russian flag also engage in illegal fishing, including in the territorial sea and in marine reserves.

IUU fishing catches are transferred to foreign vessels or are delivered to ports of Japan, South Korea, China, Norway, Portugal and many other countries for sale. Such unauthorized fishing has resulted in the depletion of the Kamchatka crab stocks in the seas of the Far East and the Barents Sea; of the Newfoundland cod, flounder, halibut, pollack in the enclave of the Bering Sea, and other species.

Combating IUU fishing is an international problem. Elimination of this negative phenomenon is possible only by collective efforts of states, international organizations, fishermen and their associations on the basis of norms and principles of international law. In the recent years, this problem was given a considerable attention on both multilateral and bilateral levels. Thus, in 2009, in the framework of the United Nations Food and Agricultural Organization (hereinafter FAO), participants developed and adopted the FAO Agreement on port state measures to prevent, deter and eliminate illegal, unreported and unregulated fishing. Besides, now a document provisionally titled “Criteria for assessing the performance of the flag States” which should prescribe responsibility of the flag state for engaging its fishing vessels in IUU fishing is being developed.

At the bilateral level, states also attempt to co-operate with each other in combating IUU fishing.

Thus, the Russian Federation has concluded several memorandums on combating IUU fishing. In particular, in 2009, the governments of the Russian Federation and Japan signed the Memorandum on the fundamentals of further cooperation in the field of prevention of illegal, unreported and unregulated fishing of marine living resources and illegal export of production therefrom. In 2010, the Federal Agency on Fisheries of the Russian Federation and the Ministry of Agriculture of the People's Republic of China signed the Memorandum of understanding in the field of the preventing of illegal, unreported and unregulated fishing of marine living resources.

In 2011, the USA and EU signed the Joint statement on combating IUU fishing. That document reaffirms that IUU fishing represents one of the most serious threats to the preservation and sustainable use of marine bio-resources. The best way to prevent IUU fishing is international cooperation. In 2012, EU signed a similar Statement with Japan. These documents are not international treaties and do not provide for any international commitments for the parties. Nevertheless, they represent an element of cooperation, and in the near future they may serve as a basis for the conclusion of bilateral treaties on combating IUU fishing.

Unfortunately, the Russian Federation has no bilateral agreements on combating IUU fishing with the Arctic states. However, there is already one positive example of cooperation on tackling this problem between the Arctic coastal states. Thus, on July 3, 2012, the Memorandum of understanding between the Government of Canada and the Government of the Russian Federation on cooperation in preventing, deterring and eliminating illegal, unreported, and unregulated fishing was signed.

The negotiation of the draft Memorandum began in May 2009 and continued throughout several years. Consultations were carried out both in the form of exchange of letters and in the framework of the first session of the Russian—Canadian Committee on bilateral fisheries cooperation (St.-Petersburg, September 13–14, 2010) following which the Canadian side submitted a new draft document to the Russian side. The preamble of that document fixed the intention of the sides to determine the conditions of cooperation in combating IUU fishing of living marine resources.

The Memorandum provisions are based on the principles stated in the Food and Agriculture Organization of the United Nations International Plan of Action to prevent, deter, and eliminate illegal, unreported and unregulated fishing approved by FAO Council in 2001. The purpose of the Memorandum is to enhance cooperation between the two countries in preventing, deterring and eliminating IUU fishing through the exchange of information on the vessels authorized to fly the flag of one the States and seeking to enter or found in a port of the other State. According to the document, the parties would create a mechanism of cooperation on preventing IUU fishing and would also negotiate and conclude an Agreement thereon. The parties to the Memorandum would co-operate in preventing, deterring and eliminating IUU fishing through the exchange of informa-

tion on the vessels authorized to fly the flag of the other state, including co-operation through exchange of information. Russia and Canada would promote convening meetings between their officials, fisheries inspection experts or other relevant authorities with a view of prevention and elimination of IUU fishing. According to Art. 4, the parties to the Memorandum would notify each other about ports to which vessels might request entry for fishing-related activities. For this purpose, the master of the vessel must provide at least the following information: name of the vessel; vessel type; registration (hull) number; international call sign; name of owner; net weight of fish products on board by species; and a copy of any fishing permit. In case of any discrepancy concerning the above information the Competent Authorities of the Port State have the right to inspect the vessel. After a vessel enters the port, observers of the flag state are authorized to inspect the vessel. If on board the vessel the inspectors find fish illegally harvested in the course of IUU fishing, such a vessel would not be allowed to unload any fish or to use any port facilities beside those necessary for life-support or safety of the vessel. The Memorandum designates the Competent Authorities to implement the Memorandum: for the Russian Side the Federal Agency for Fisheries; for the Canadian Side, the Department of Fisheries and Oceans of Canada. That Memorandum entered into force as of the date of its signature.

As is known, a memorandum is not an international treaty, i.e. a binding act containing legal norms. Nevertheless, signing of the above Memorandum between the Russian Federation and Canada represents an important step towards bilateral regulation of activities related to combating IUU fishing.

Referring to the Arctic resources assumes, in most cases, possibilities of exploration, development and extraction of natural mineral resources. However, under no circumstances should living marine resources be disregarded. Fishery is a source of income and subsistence for millions of people all over the world. According to FAO, the number of people directly, fully or more often partially involved in fisheries or fish-breeding is approximately 45 million people, out of which 35 million are fishermen (in a broad sense).

In this connection it is extremely important to ensure rational use of the Arctic water biological resources without threatening their populations. It is obvious that at present commercial fisheries in the Arctic Ocean are not of large-scale. For the time being, the matter is basically about the future of such fisheries. Nevertheless, according to the assessments biologists, those areas of the World Ocean are rather promising.

It appears that the time has come to create a Regional Fisheries Management Organization (hereinafter RFMO) in the Arctic Ocean, whose objective would include, *inter alia*, combating IUU fishing. Now, that area of the World Ocean remains "a white spot" on the map covering the activities of international regional organizations, i.e. the only area that does not fall under the competence of any organization. Only a small area of the Barents Sea belonging to the Arctic Region falls under the competence of the Northeast Atlantic Fisheries Commission (NEAFC).

As an option, some experts propose solving the problem of RFMO absence in the Arctic region by expanding NEAFC's authority to cover the Arctic Ocean high seas areas. However, such a proposal is not a way out of the situation because NEAFC as any other international organization cannot exceed the limits of its authority. In that case it is necessary to change legal documents. In particular, it is necessary either to amend the Convention on Future Multilateral Cooperation in the Northeast Atlantic Fisheries of 1980 or to adopt a new convention. But it is hardly possible and appears unnecessary. It is necessary to create a new RFMO whose jurisdiction would cover the Arctic Ocean.

Naturally, the creation of such an organization would necessitate the conclusion of a multilateral convention. Such a treaty could be initiated by the Arctic coastal states. Besides, it is quite probable that in the near future the conclusion of a multilateral co-operation agreement between the Arctic states to prevent, deter and eliminate IUU fishing would become topical. The conclusion of such a treaty would not only considerably affect preservation of stocks and rational use of the Arctic water biological resources but would also allow using corresponding measures in relation to vessels of non-Arctic states engaged in IUU fishing or somehow involved in it.

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Arctic Fisheries: New Challenges

1. The Arctic area includes the Arctic Ocean with ten marginal seas, namely, the Barents, White, Kara, Laptev, East-Siberian, Chukchi, Barents, Lincoln and Greenland Seas and the northern part of the Norwegian Sea. Some studies propose considering the Arctic Circle, north of 66° 33' 44" as a southern Arctic border. Along with these definitions of the Arctic, the July isotherm of +10°C, crossing both marine and land areas, is often mentioned as its southern border. In this case, in the western part of the Arctic and especially in the Barents and Greenland Seas its southern border, because of the Gulf Stream warm current, moves north (in comparison with the geographical definition on the Arctic circle), and in the eastern part of the Arctic, due to specificities of the cold waters southern transfer, it moves considerably southward. Consequently, even the Bering Sea becomes included into the Arctic, though it is connected with the Arctic only through the narrow Bering Strait. Besides, with such an approach there will be a permanent inter-annual mobility, "pulsation" of the southern border of the Arctic. Such an approach is rather inconvenient.

2. It is necessary, at least for the sake of fisheries in the Arctic, to specify the definition of the southern border of this region. Considering the fishing areas and existing international legal regime of marine areas, this article presumes as the southern border of the Arctic fisheries the southern border of the 200-mile exclusive economic zones (EEZ) of the five Arctic coastal states – Russia, USA, Canada, Denmark (Greenland) and Norway. In this case the Arctic fisheries are fisheries in the EEZ of the above mentioned states and also in the central part of the Arctic Ocean located beyond the limits of the 200-mile zones.

3. In spite of the fact that the Arctic Ocean and its 10 marginal seas occupy huge spaces and that the population density on its coast is insignificant in terms of quantity in comparison with more southern areas of the Euro-Asian-American continents, large-scale fishery is basically carried out only in the Barents and Greenland Seas and in the northern part of the Norwegian Sea. Annual catch in those areas by all countries varies depending on the condition of stocks of major harvest species (cod, haddock, herring, capelin, coalfish, halibut, *etc.*) and the oceanological regime and amounts to 2–4 million tons. Essentially, products from the harvested Arctic living marine resources is used not only for personal consumption by the local coastal population of the Arctic coastal states, but is also exported to many countries of Europe, Americas and even Africa. Another feature of the Arctic fishery is that it is effected basically within the 200-mile zones of the Arctic coastal states. In view of

fish migrations between zones of different states, the latter have to take co-coordinated actions concerning their rational use and fishery regulation through conclusion of corresponding intergovernmental agreements and arrangements. Such agreements may be based on corresponding provisions of the UN Convention of 1982, the 1995 Agreement relating to the conservation and management of straddling fish stocks and highly migratory fish stocks, and some others. Such a system most widely and effectively operates in the northwest sector of the Arctic, in particular, in the Barents and Greenland Seas and in the northern part of the Norwegian Sea. Simultaneously, for a small part of the Barents, Greenland and Norwegian Seas that possess “high sea enclaves” located beyond the limits of the 200-mile EEZ, fisheries regulation by intergovernmental organizations, in particular NEAFC and ICES, are in force. All this allows fishery on a scientific basis avoiding destruction of stocks of living marine resources in open (“enclave”) sea areas.

4. In the recent years, the warming of the Arctic is accompanied by fishery displacement in the northern and northeast direction that is caused by migration in these areas of the basic species – cod, halibut, capelin, coalfish, herring and other living marine resources. Thus, now the fishing of cod is already carried out west and north of the Spitsbergen archipelago and black halibut is found in the waters next to the Franz Josef Land. Such Arctic species as capelin and coalfish migrate still further to the north and northeast, as compared to cod and halibut. For the time being, all these migratory displacements take place within the limits of the 200-mile zones of Norway and Russia. At the same time, as the warming of the Arctic increases, further migration of living marine resources in the northern and northeast directions and their exit beyond the limits of the 200-mile zone to the central part of the Arctic Ocean is not excluded. Besides, during warm (in terms of hydrology) years, as a rule, the population of the majority of harvested species of the Barents Sea increases and their habitats expand to the north and east, up to the exit to the Kara Sea.

5. In the central part of the Arctic Ocean, beyond the 200-mile zone of the five Arctic coastal states, there is the biggest World Ocean’s high sea enclave – 2.8 million sq. km (that is twice as large as the area of the Barents Sea) that, because of its ice cover, has been until recently inaccessible not only for commercial fishery, but also for fisheries research. In the recent years, in connection with the Arctic warming, some areas of that open part have become free of ice and accessible both for fisheries researches and for commercial fishery in case of discovery there of any significant stocks of living marine resources or migration thereto of the species that are harvested now in the 200-mile zones. In this case, development of unregulated fishing is quite real, which, as similar “experience” in others enclave areas (the enclaves of the Bering, Okhotsk, and Barents Seas) shows, will inevitably lead to destruction of stocks of living marine resources. It is extremely difficult to stop such destructive

fishing when it has already developed. It is much more productive to create beforehand a specific international regime for the central part of the Arctic Ocean becoming free of ice. That regime should be based on the international practice and corresponding norms of international law and give priority to scientific research.

6. Proceeding from the aforesaid and taking into account Arctic climate changes that could quite probably result in the development of unregulated fishing in the central part of Arctic Ocean, the Arctic coastal states must necessarily take the following measures:

- a) To create a fund and, based on that, carry out annual programs of scientific monitoring of the open part of the Arctic Ocean.
- b) To start developing and to conclude an intergovernmental Agreement on preservation and management of living resources in the central part of the Arctic Ocean.
- c) Trial fishing in the central part of the Arctic Ocean can be carried out only on the basis of scientific recommendations developed under the future intergovernmental Agreement on preservation and management of living marine resources in that area.

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New Regimes of Environment Protection Governance in the Central Arctic: Accent on the Regional Approach

The global climate warming is still a scientific hypothesis; nevertheless, a slow, but systematic reduction of the ice layer in the Arctic caused, first of all, by the process of global circulation of the World Ocean waters is an actual reality of the recent years. Under the conditions of this tendency protection of the Arctic marine environment, the problem of preservation of biodiversity of the region, undoubtedly, acquires new importance. There is a probability of systematic increase of the Arctic navigation, exploration and production of mineral and energy resources which, in turn, will considerably increase the danger of worsening marine environment pollution and affecting the Arctic biological diversity. Besides, shrinking ice layer can lead to opening up new fishing grounds and make new species accessible to commercial harvesting which will create problems connected with their sustainable use.

In that connection, there are frequently voiced proposals concerning the necessity to establish new international institutions, conclude bilateral and regional agreements regulating various forms of marine economic activities in the environmentally vulnerable Arctic region are more. Naturally, it is a question, first of all, of zones beyond the national jurisdiction of coastal states, i.e. the high sea areas covered by corresponding freedoms provided for both in the Convention on the High Seas of 1958 and in the Convention on the Law of the Sea of 1982. Some experts have for a long time already paid attention to the fact that the high sea areas are the last regions of the World Ocean concerning which the international law evolution lags behind the development of economic activities. From their point of view, in the long term, in any areas of the high sea rigid international regulation concerning any activity and more stringent control over its environmental consequences can be imposed.⁵⁵

It should be noted that specific fragmentary, "targeted" international governance regimes and cooperation in the Arctic have been known for a long time already. They include the Convention on Conservation of North Pacific Fur Seals (1911, 1957), the International Agreement on the Conservation of Polar Bears (1973), the Agreement on the North American Deer (1987), and the Paris Spitsbergen Treaty (1920), and a num-

⁵⁵ Van Dyke J.M. International Governance and Stewardship of the High Seas and Its Resources // J.M. Van Dyke, D. Zaelke, and G. Hewison (eds). *Freedom for the Seas in the 21st Century: Ocean Governance and Environmental Harmony*. Washington, DC, Covelo, California, Island Press, 1993. P. 14–18.

ber of other multilateral and bilateral treaties and agreements.⁵⁶ Perhaps, their main shortcoming is that they have, as a rule, rather narrow specialization and are based on accurate following the so-called zone approach.⁵⁷ As a result, as the environmentalization of the international law of the sea went on, one could more often hear critical voices saying that such zonal division and priority accent on the observance of the national sovereignty of the coastal state is inadequate in the contemporary situation, and that the international law of the sea should be supplemented with a new integrated approach recognizing that the international community has specific common interests superseding interests of individual national states. First, thus, its framework should contain and apply an essentially different scheme of “common use” of areas and resources of the World Ocean with the account of interests of all members of the international community and with accent on the development of international cooperation. Second, that new approach should be based on the concept of integrity of a marine ecosystem, i.e. disregarding any state/convention borders separating the system.

Different options of governance regimes for the Arctic with a view to protect the marine environment and biodiversity beyond the limits of the national jurisdiction of the Arctic states already exist and are actively promoted by various countries, scientific circles and environmental organizations. The main postulate of those concepts consists in the fact that the development of an efficient governance of the quickly changing Arctic region is possible only through recognition of the waters and ices of the central part of the Arctic (beyond the limits of the 200-mile economic zones of the five Arctic coastal states) as a certain international space, to which no claims would be valid.⁵⁸ However, forms and methods of effecting that international governance essentially differ.

Thus, some nature protection organizations advocate the idea of recognizing the status of the so-called “World Park” of the polar areas (the Arctic and Antarctic), which implies prohibition not only of any military and economic activities (navigation, fishery, oil and gas development), but also scientific research that can also have negative impact on the marine environment (for example, research of deep-water areas with their vulnerable genetic resources). A similar concept was supported by the European Parliament that substantiated the necessity of adopting an international Arctic

⁵⁶ For more details see: A.N. Vylegzhanin, V.K. Zilanov. Cancellation of the Provisional convention on conservation of seals in the northern part of the Pacific ocean 1957. Moscow, 1989; A.N. Vylegzhanin, V.K. Zilanov. Spitsbergen: legal regime of adjacent sea areas. Moscow: SOPS, 2007; Polar Politics. Creating International Environmental Regimes. Eds. O.R. Young, G. Osherenko. New York: Cornell University Press, 1993; Young O. Creating Regimes. Arctic accords and International Governance. New York: Cornell University Press, 1998.

⁵⁷ That approach is known to be based on the division of the World Ocean into zones of diverse jurisdiction differing from each other both in the degree of sovereignty (territorial sea, EEZ, continental shelf, high sea) and freedom (freedom of navigation, freedom of fishery, freedom of laying pipelines *etc.*).

⁵⁸ Paul Berkman, Oran R. Yang. Governance and Environmental Change in the Arctic Ocean // Science. 2009. Vol. 324. No. 5925. P. 339–340. URL: http://www.bren.ucsb.edu/news/documents/Berkman_Young_Science.pdf

protection treaty.⁵⁹ It is quite natural that such radical proposals were first of all opposed by the Arctic countries that consider the Arctic as a vital strategic and resource area. It is not by chance that the Ilulissat Declaration⁶⁰ reaffirmed the inadmissibility of developing a new international legal regime for the Arctic.

An even more ultra-radical approach is based on applying the concept of “the common heritage of mankind” to all living resources and areas of the World Ocean beyond the limits of national jurisdiction, including, accordingly, the central part of the Arctic. However, this approach does not consider that under the UN Convention on the Law of the Sea (hereinafter the Convention of 1982) only one organ regulating the development of mineral resources of the international sea-bed was established, i.e. The International Sea-Bed Authority. No other organ regulating relations of states in the use of areas and resources of the World Ocean beyond the limits of national jurisdiction was created. Some experts have for a long time already advocated the idea to create such an organ that would deal with the World Ocean as a whole, including the integration of the oceanic policy, protection of the environment.⁶¹ Thus, there have been attempts to form an Environmental Security Council of in the framework of the United Nations; to assign new powers to the UN Trusteeship Council whose decolonization mission has through vesting it with the functions of the keeper and trustee of the common heritage of mankind; to create an International environment organization introducing uniform environmental standards, including those in the field of the marine environment protection.⁶² It is obvious that the creation of such a structure possessing supranational powers regarding the entire World Ocean is a matter of rather a long-term perspective, which, at least, would require consent of the majority of the states; as far as the Arctic is concerned, no regulatory regime can be applied honoring the principle of unanimity of the five Arctic countries.

Nevertheless, some researchers believe that similar regulatory regimes in the high sea areas of the World Ocean, including the Arctic, will be more “democratic” since they are focused on the achievement of overall objectives, are based on global transboundary interdependence of the states and account for excessive anthropogenous pressure on the World Ocean biosphere.⁶³ They are not afraid of the existing tendency to form in the World Ocean some ecological limits that can in the long term result in the

⁵⁹ European Parliament resolution of 9 October 2008 on Arctic governance. URL: <http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+TA+P6-TA-2008-0474+0+DOC+XML+V0//EN>

⁶⁰ The Ilulissat Declaration. Arctic Ocean Conference. Ilulissat, Greenland, 27–29 may 2008. URL: http://www.norvegia.ru/nr/rdonlyres/945fb4d9-f4c7-4bcd-a5f9-57c91dce-4a7b/94847/080525_arctic_ocean_conference_outcome.pdf

⁶¹ Borgese E.M. The oceanic circle: Governing the seas as a global resource. United Nations University Press, 1998. P. 161–162.

⁶² Speth J.G., Haas P.M. Global Environmental Governance. Washington: Island Press, 2006. P. 134.

⁶³ Pisarev V.D. Diplomacy of the oceanic governance // International processes. 2007. No. 2(14) (in Russian). P. 4–16; Pisarev V.D. Concept and practice of the global governance // International processes. 2007. No. 3(15). P. 89–95 (in Russian).

situation where the latter would be considered as priority limits compared to state and political borders.

From our point of view, such a position does not seem quite correct, since a “democratic nature” of such co-governance and any restrictions of the sovereign rights poorly correspond with each other and have a so-called inverse, negative correlation. The environmental imperative as a whole cannot act as an absolute substantiation of the necessity to infringe upon the rights of nations, both for the purpose of protection of the World Ocean ecosystems and for the sake of achieving such a speculative situation as “sustainable development”. Though problems of protection of the sea environment, its resources and biodiversity are already leading to gradual transformation of the established international legal norms, many of the existing and suggested forms of international cooperation in the Arctic have both positive and negative sides, as well as essential restrictions. We will dwell on some of those aspects in greater detail.

Thus, one of the most acceptable models of the governance regime that could be theoretically applicable to the Central Arctic is titled the *OSPAR Convention* (the Convention for the Protection of the Marine Environment of the North-East Atlantic Ocean). First, its geographical coverage includes the sea water areas of the Greenland, Norwegian, and Barents Seas and a part of the Arctic ocean, and its participants are both states of the “Arctic Five” (Norway, Denmark) and other members of the Arctic Council (Sweden, Finland, Iceland). Second, its basic difference from other similar regional agreements is that it is completely based on an integrated approach, i.e. it attempts to coordinate frequently contradicting economic development interests and marine environment protection interests both within the zones of national jurisdiction of the participants and beyond their limits.

With that end in view, in the framework of the OSPAR regime, a regular monitoring of the marine environment (including the control of the eutrophication level, discharge of dangerous, toxic and radioactive substances), atmospheric conditions and river drains is carried out; measures on protection and preservation of marine ecosystems and their biodiversity in the conditions of climatic changes (including those resulting both from the negative impact of commercial fishery and navigation and oil and gas development) are analyzed; recommendations about the formation of a network of protected sea areas are being developed.

One of the basic provisions of that governance regime is a priority use of the *ecosystem approach* which admits the interdependence of all resources (both living and mineral) of a region and influence of all forms of marine economic activity over the status of those resources. The law enforcement of such approach in relation to the marine environment protection in the central part of the Arctic apparently does not raise doubts. However, it is necessary to take into account some restrictions inherent to the ecosystem approach.⁶⁴

⁶⁴ For the most pointed critical analysis of the legal applicability of the ecosystem approach see: Ovlashchenko A.V., Pokrovskiy I.F. On the issue of “environmentalization” of the contemporary international maritime law // Transport law. 2009. No. 2. P. 31–37 (in Russian).

First, it is often too difficult to determine the limits and size of an ecosystem since marine living resources vary in time and space. Despite a long-term practice of building a hierarchy of large marine ecosystems,⁶⁵ even already defined ecosystems remain a dynamic, constantly varying object. Accordingly, only scrupulous marine scientific research can solve this problem. It appears that the existing scientific data, in particular the data concerning the central part of the Arctic, is clearly insufficient in order to undertake measures aimed at protecting the marine environment and its biodiversity. Second, until now, there is no common stand between various participants in the marine economic activity and coastal countries as to the substance of such ecosystem approach. It is differently interpreted depending on circumstances. As a result, one can speak about infringement of any provisions of the ecosystem approach only when all these contradictions in its interpretation are removed.

Finally, the ecosystem approach proceeds from the necessity of application of identical measures of the marine environment and marine living resources protection both in zones of national jurisdiction of the coastal states and beyond their limits in the framework of one ecosystem. In this respect, this approach essentially differs from those basic principles that have been introduced by the Convention of 1982 and according to which areas of the World Ocean are divided into zones of various jurisdiction, and its practical implementation demands a certain revision of the traditional national sovereignty concept.

Moreover, as far as the central part of the Arctic is concerned, application of the ecosystem approach faces contradictions. It is connected with the fact that, as of today, the deep-water areas of the Arctic ocean are divided into two parts: the first part are water spaces of general use to which traditional principles of high sea freedoms apply; the second part is the seabed and its subsoil which is legally qualified by the "Arctic Five" parties as their continental shelf. Accordingly, there exist essentially different governance regimes in relation to the water column and Arctic seabed and subsoil. Such a division of areas is already a deviation from the ecosystem approach principles, which implies regarding the seabed and water column as one ecosystem requiring uniform management.⁶⁶

Similar reservations may also be voiced concerning *the precautionary approach*,⁶⁷ which is one of the basic elements of the ecosystem approach. Thus, considering that until now the current data base about the World Ocean, marine ecosystems and processes occurring in them is not complete, a reasonable question arises as to how it is possible to determine the presence of serious or irreversible risks necessitating the application of the precautionary approach. Finally, the applicability of the precautionary

⁶⁵ Large Marine Ecosystems of the World. URL: <http://www.lme.noaa.gov>

⁶⁶ Vallega A. Sustainable Ocean Governance. A geographical perspective. New York, London: Routledge, 2001. P. 223.

⁶⁷ Essentially, it can be formulated as follows: any potential risk, even absence of any scientific evidence about the cause-and-effect relationship between an action and its consequence, cannot be used as the basis for non-taking measures on environment protection.

approach can lead to restrictions national economic and industrial policies. In other words, implementation of the precautionary approach can frequently be an exclusively opportunistic and political, but not scientifically proved nature.⁶⁸

The second basic principle on which the OSPAR Convention is based, is the necessity of formation of *marine protected areas (MPA)*. In this case it is a question of those World Ocean areas regarding which uniform measures for protection, preservation and restoration of the marine environment are established and applied with the purpose of preservation both the biodiversity and regulation of all processes occurring within the limits of an integrated ecosystem. From this point of view, MPA formation is one of the important steps aimed at the implementation of the ecosystem approach. In the OSPAR framework, such areas are already formed both within the 200-mile zones of the participants and in high sea areas. In particular, in the central part of the Arctic Ocean, an ecologically and biologically significant area (EBSA) was designated.⁶⁹ Some environment protection organizations insist on the creation in the central part of the Arctic of a kind of natural reserve/World Park based on rather a similar concept of creation. However, this idea, as well as the universal introduction of the ecosystem and precautionary approaches, also has its restrictions and shortcomings.

Theoretically, formation of MPA beyond the 200-mile zones of the Arctic countries may be also possible under the Convention on Biodiversity. In the working papers of the Convention it was repeatedly noted, that “there are increasing risks to biodiversity in marine areas beyond national jurisdiction... there is an urgent need for international cooperation and actions to improve conservation and sustainable use of biodiversity in the marine area beyond the limits of national jurisdiction, including the establishment of further marine protected areas consistent with international law and based on scientific information...”⁷⁰

The main weakness of such an approach consists in the fact that the problem of biodiversity protection cannot be dealt separately from protection of the marine environment in which those biological species have their habitat. At that, the official UN statistics say that the land-based pollutants cause the major damage (which accounts up to 80 per cent of the total damage) to the marine environment. Accordingly, a reasonable question arises concerning the expediency of MPAs formation for the biodiversity protection because those MPAs would not be in a position to combat the basic source of marine environment pollution since it is under direct jurisdiction of the coastal states.

⁶⁸ For more details about the ecosystem and precautionary approaches see: Gudev P.A. An ecological imperative // International conditions of maritime activities. Series: Theory and practice of maritime activity. Issue 18. Moscow: SOPS, Russian Academy of Sciences, 2010. P. 274–299 (in Russian).

⁶⁹ See: Charlie-Gibbs. Marine Protected Area – Preserving Diversity in the High Seas. URL: <http://charlie-gibbs.org/charlie/sites/all/themes/motion/images/Map-15-2011.png>

⁷⁰ Decisions adopted by the Conference of the parties to the Convention on Biological Diversity at its seventh meeting. UNEP/CBD/COP/7/21. §29–31. P. 164. URL: <http://www.cbd.int/doc/decisions/cop-07/full/cop-07-dec-ru.pdf>

Thus, the MPA creation in the high sea zones faces considerable difficulties that are connected with the absence of any specific norms of international law on that issue. For the time being, there is no universal treaty/agreement, which would legalize this practice. Moreover, MPA creation often contradicts the fundamental principles of freedom of navigation, freedom of underwater cabling and pipelines installation, freedom of fishery and freedom of scientific research. Art. 89 of the Convention of 1982 speaks about illegitimacy of claims for the sovereignty over the high sea; the formation of MPA in the high sea actually means creating there a kind of a “restricted” area that, however, cannot belong to any state.⁷¹

As to the central part of the Arctic, it is a question of preserving the so-called straddling fish stocks that can be a fishing object for all states in the high sea, but in the EEZ of the Arctic states they become an object of the latter’s jurisdiction. Fishing straddling species in the high sea directly affects the population of these stocks in EEZ. The coastal states interested in harvesting certain species in the high sea area adjoining their EEZ traditionally considered foreign vessels fishing therein as an infringement of their interests.⁷² For the purpose of settling these contradictions, in 1995 the Agreement on the implementation of the provisions of the United Nations Convention on the Law of the Sea of December 10, 1982 (relating to the conservation and management of straddling fish stocks and highly migratory fish stocks) was adopted. Its basic idea is that uncontrolled fishing may lead to gross imbalances in the marine ecosystems, exhaustion of certain marine living resources species.

Unfortunately, one of the shortcomings of the Conventions of 1982 as a whole and of the Agreement of 1995 in particular consists in the fact that all their provisions concerning the need for interstate cooperation with a view of preserving high sea living resources are rather ambiguous. The obligation to co-operate is not binding and depends on good will of the parties. A big question remains whether, for example, the largest fishing powers of the Asian-Pacific region will fully observe those provisions prescriptions when fishing in the open part of the Arctic Ocean. The creation by the five Arctic states of a regional organization on the preservation of resources in these waters may become an effective step towards the implementation of the 1995 Agreement fundamental provisions. Moreover, the very Agreement can be considered as a legal substantiation of the necessity to adopt such a decision.

⁷¹ See: Yoshifumi Tanaka. A dual approach to ocean governance. The cases of zonal and integrated management in international law of the sea. Bodmin: The Ashgate international law series, 2008. P. 198–204.

⁷² See: Burke William T. Unregulated high seas fishing and ocean governance // J.M. Van Dyke, D. Zaelke, G. Hewison (eds). Freedom for the Seas in the 21st Century: Ocean Governance and Environmental Harmony. Washington, DC, Covelo, California, Island Press, 1993. P. 235. Vylegzhanin A.N. Marine natural resources (international legal regime) / Foreword by A.G. Granberg, RAS Academician. Moscow: SOPS, Ministry of economic development and RAS. 2001. P. 196–214 (in Russian).

Summing up, it is necessary to note that all suggested variants of introducing in the Arctic of international governance over areas and resources have both positive and negative aspects. Often, the most radical projects directly contradict the current norms of international law. Even the application of such widespread approaches as the ecosystem and precautionary approaches faces the necessity to significantly expand the scientific base proving the need for their introduction. Otherwise, there is a probability of their opportunistic use. The assessment of the idea to form in the Arctic a marine protected area beyond the 200-mile zones of the coastal states in many respects depends on its specific legal content.

Thus, one may say that a broad internationalization of the problem of protection of the marine environment and living resources of the Arctic is rather disputable. The regional approach for tackling the Arctic problems seems much more effective. In particular, it is a question of the possibility to conclude regional agreements between the countries of the "Arctic Five" (indeed, a broader format is also possible, i.e. in the framework of the Arctic Council) on preservation of fish resources, on protection of the marine environment and its biological diversity in the Arctic. It is quite possible that there is an expediency of considering the introduction of special "environmental borders", originally within the limits of the Arctic sectors, and also extending some norms of the national environmental legislation of the Arctic countries to cover the central part of the Arctic Ocean. In that case, when regulating nature protection issues connected with the development of areas and resources of the Central Arctic, it is possible to give priority to the interests of the Arctic states as having a privileged right therein.

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Legal Issues of Preservation and Rational Management of Marine Living Resources in the Central Arctic

In the Russian science of international law, the general international legal regime of the *marine natural*, including fish and other *living resources*, is investigated in sufficient detail, especially regarding the *global level* of regulation.⁷³ Many scientific and legal works are devoted also to the analysis of the legal regime of the *Arctic region*, including the environment protection in the region both on the universal and regional level, including the nature protection measures designated by the Arctic Council.⁷⁴ This article considers *legal features* of preservation, use and rational *management of biological resources* in the high-latitude Arctic area located beyond the 200-mile exclusive economic zones of the five states whose coasts are washed by the Arctic Ocean, in the general context of the contemporary *marine and environment protection law*.

Applicable General Theoretical Issues

The "Marine Resources Management" Concept in International Law

In the beginning of the XX century, Russian scientist F.I. Baranov developed the first mathematical model featuring the dependence between the state of a fish stock and harvesting pressure on it. In 1918 that model was published and was accepted at the broad international level. Subsequently, the model of stock management offered by F.I. Baranov was modified, including modifications made by the so-called "biological" school (first of all, by another Russian scientist, N.M. Knipovich).⁷⁵ In foreign legal

⁷³ See, for example, Molodtsov S.V. Legal regime of sea waters. Moscow, 1982. P. 64–133 (in Russian). Volkov A.A. (editor), Bekyashev K.A. et al. Maritime and fishing law. Moscow, 1986. P. 129–148 (in Russian). Vylegzhanin A.N. Marine natural resources (international legal regime / Foreword by A.G. Granberg, Academician, RAS. Moscow, 2001. P. 16–85 (in Russian). Vylegzhanin A.N., Zilanov V.K. International legal bases of marine living resources management. Theory and documents. Moscow, 2000. P. 9–82 (in Russian).

⁷⁴ See on this: International law. Foreword by S.V. Lavrov. Editorial board: Vylegzhanin A.N., Kolosov Yu.M., Maleev Yu.N., Kolodkin R.A. Moscow, 2009. P. 195–207 (in Russian). Maleev Yu.N. An ecologically dangerous Arctic is a threat to the world // International law. 2004. No. 4(20) (in Russian). Vylegzhanin A.N. Specification of the limits of Russia's jurisdiction in the Arctic on the basis of the general international law // International courts: topical issues of international law: Interuniversity collection of scientific works. Issue 2 (6). Eds. G.V. Ignatenko, L.A. Lazutin. Ekaterinburg, 2010. P. 23–42 (in Russian).

⁷⁵ For more details see: Babayan V.K., Borodin R.G., Yefimov E.N. Theoretical basis of fisheries regulation. Theory of formation of the amount and rational use of commercial fish stocks. Moscow: Nauka, 1985. P. 166–174 (in Russian). Vylegzhanin A.N., Zilanov V.K. International legal bases of management of marine living resources. Theory and documents. Moscow, 2000. P. 55–77 (in Russian).

literature, the Convention for the Preservation of the Halibut Fishery of the Northern Pacific Ocean and Bering Sea co-ordinated between the USA and Canada in 1923 was rightly called the first example of an international legal approbation of the manageable marine living resources model of. The term “convention waters” covered both the territorial waters of the USA and Canada, and the areas of the high sea, which was the habitat of halibut. Within the convention waters, the halibut fishery was prohibited to nationals and residents of the two countries, except for the halibut fishery prescribed by the International Pacific Halibut Commission under the above Convention for the purpose of increasing halibut stocks “to levels which will permit the maximum sustained yield from that fishery and for maintaining the stocks at those levels” (par. 1, Art. I). In line with those purposes, the Commission was assigned “to make investigations into the life cycle of the halibut in the convention waters and publish a report of its activities and investigations from time to time”; based on the results of the investigations, to regulate fishing in the following ways: to divide the Convention waters into areas; establish one or more open or closed seasons in each area; limit the catch in a given area; regulate the minimal size of the fish and the variety of fishing gear; establish the procedure for issuing fishing licenses; collect statistics data; prohibit departure of vessels from any port or place for any halibut fishing area after any date when, according to the judgment of the Commission, the established catch limit could be achieved in a given fishing area (par. 2, Art. 3). That Convention was highly appreciated at the International technical conference on the conservation of marine living resources of 1955.⁷⁶

*Agreement for the implementation of the provisions of the UN Convention on the Law of the Sea of 10 December 1982 relating to the conservation and management of straddling fish stocks and highly migratory fish stocks.*⁷⁷

The international recognition of the “straddling fish stocks” concept and its practical value was confirmed at the UN Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks in 1993–1995 (hereinafter the UN Conference of 1993–1995). Underlining the importance of the Conference, its chairman ambassador S.N. Nandan noted a prevailing necessity to preserve marine living resources. “If we do not properly meet this present challenge, marine living resources will keep being exploited excessively and their stocks will be exhausting”.⁷⁸

⁷⁶ General Assembly. Official records. 9th session. Addendum No. 21 (A/2890) P. 55 and al. For more details see: Vylegzhanin A.N. Marine natural resources (international legal regime / Foreword by A.G. Granberg, RAS Academician. Moscow, 2001. P. 16–78 (in Russian).

⁷⁷ The title this Agreement dated December 4, 1995 in English, being the authentic language (along with Russian, Arab, Spanish, Chinese and French), is formulated not less bulky: “The Agreement for the Implementation of the Provisions of the UN Convention on the Law of the Sea of 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks”.

⁷⁸ UN Conference on Straddling Fish Stocks and HMFS. Closing Statement of Ambassador S.N. Nandan. New York, 30 July 1993. P. 1. For more details see: Vylegzhanin A.N. Op. cit. P. 196–223 (in Russian).

On the whole, the 1995 Agreement, as compared to the Convention of 1982, has strengthened the general legal regime of preserving the World Ocean living resources. It was achieved mainly through:

- a) creating obligations for third countries to preserve marine resources (in particular, by making legally binding the conservation measures adopted by the parties to a regional agreement for a country that is not a party thereto but is using the regional stocks regulated by the above agreement);
- b) establishing internationally coordinated rules concerning the application of national measures for natural resources preservation along with international measures; the rules should also take account of national measures in case international measures and their application are not agreed upon;
- c) determining the content of the precautionous (precautionary) approach principle;
- d) focusing on the marine ecosystems preservation.

Arctic Ecosystems Preservation

According to Professor D. Freestone, the concept and legal basis of the ecosystem approach were laid down in the texts of the Stockholm Declaration of 1972, in the World conservation strategy and the World charter for nature.⁷⁹ These documents, however, neither define the term “ecosystem” nor explain ecosystem management. D. Freestone considers that the first international treaty providing for the ecosystem approach to the preservation of living natural resources was the Convention on the Conservation of Antarctic Marine Living Resources concluded in Canberra in 1980,⁸⁰ and this point of view of the western lawyer coincides with the opinion of Russian international law experts.⁸¹

The ecosystem approach is especially called for in cases of stocks depletion danger in the so-called “enclaves” of the high sea, i.e. marine areas surrounded with exclusive economic zones of coastal states. Illustrative is the successful cooperation between Russia and USA, the two states – whose exclusive economic zones surround the Bering Sea enclave of the high sea. Those two countries took the lead in the creation of a multilateral mechanism aimed at preventing bioresources depletion in that area of the high sea which occupies less than eight percent of the total area of the Bering Sea, but which accounted for over 30 per cent of the total Bering Sea catch prior to the creation of such a mechanism.

The Central Arctic area encircled with the 200-mile exclusive economic zones of the five Arctic coastal states is *also a high sea enclave, though*

⁷⁹ Freestone D. *The Conservation of Marine Ecosystems under International Law // International Law and the Conservation of Biological Diversity*. Eds. M. Bowman, C. Redgwell. Kluwer Law International. London – The Hague – Boston, 1996. P. 100. For more details see: Vylegzhanin A.N. *Op. cit.* P. 254–257 (in Russian).

⁸⁰ D. Freestone, making common cause with the assessment of other scientists, calls the regime of marine bioresources established under the Canberra Convention of 1980 “a model of ecological approach”. Freestone D. *Op. cit.* P. 100.

⁸¹ For more details see: Golitsyn V.V. *Antarctic: tendencies of the regime development*. Moscow, 1989. P. 231 (in Russian).

of a special nature (first of all, because its considerable part is covered by centuries-old ice).

The coastal and other interested states use different ways to resolve environment protection issues in high sea enclaves, i.e. on the basis of a bilateral treaty between a coastal state and another interested state (the experience of New Zealand); by negotiating and implementing a multilateral treaty primarily by the efforts of two coastal states (the above mentioned experience of the USSR/Russia and the USA in the Bering Sea enclave). Such experience has revealed some general components of resolving environment protection issues in high sea enclaves using international law:

- a) It was confirmed that the enclaves' water column has the high sea status, and areas of the shelf forming the sea-bed of an enclave are subject to sovereign rights of the coastal states or state (as in the case of the Okhotsk Sea or New Zealand enclaves);
- b) An enclave resources production not regulated at the international or national level with the involvement of coastal states (state) is qualified as contradicting current international law;
- c) A moratorium on fisheries in an enclave is considered a rational measure.

A new trend in the contemporary law of the sea development is the combination of measures of marine ecosystems management and the precautionary approach.

The Precautionary (Precautious) Approach

Among other obligations of a coastal state, the Convention of 1982, provides that "the coastal State, taking into account the best scientific evidence available to it", shall ensure that the situation with the living resources in the exclusive economic zone is not endangered by over-exploitation (par. 2, Art. 61). However, it is not defined what data is "the best". For the purpose of conservation of the living resources in the high seas, states *inter alia* "take measures which are designed, on the best scientific evidence available to the States concerned, to maintain or restore populations of harvested species at levels, which can produce the maximum sustainable yield" (par. 1, Art. 119).

Thus, the account of the best scientific evidence available when adopting measures on preservation and management of resources is an international legal obligation. However, this very evidence can contain errors. Today, a possibility of errors is generally recognized; among the sources of such errors might be the fact of marine living resources mobility, limits scientific understanding of the planet's ecosystems, lack of funds allocated for the assessment of a stock biomass and other scientific marine research, *etc.* Errors in scientific evidence lead to errors in adopted conservation and management measures. Besides, there are situations when scientific evidence (for example, about stocks in a new fishing area) is totally absent. In order to prevent living resources depletion in similar situations, international law sources provide for the precautionary approach principle.

The FAO paper titled “The precautionary approach to fisheries with reference to the straddling fish stocks and highly migratory fish stocks” is the most elaborate document on this issue. The document explains the necessity of “the precautionary approach principle” as follows: today, the biomass of many important fish stocks “is close to or even below the level that could produce the maximum sustainable yield, leading to resource instability and economic losses”. In a situation of a great potential risk, insufficient volume and quality of information, the precautionary approach requires that the burden of scientific proof (for example, in the form of the environmental impact assessment) is laid on the party which intends to benefit from the exploitation of certain resources.⁸² The higher the degree of uncertainty or risk, the more acute is the necessity to exercise care.⁸³ Based on the text of the Rio de Janeiro Declaration on environment and development, the FAO document defines the precautionary approach principle as follows: “In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall be not used as a reason for postponing cost-effective measures to prevent environmental degradation”.⁸⁴

The content of the “precautionary approach” was revealed in the text of the above mentioned 1995 Agreement for the implementation of the provisions of the UN Convention on the Law of the Sea (1982) relating to the conservation and management of straddling fish stocks and highly migratory fish stocks.⁸⁵

Taking into account the available doctrinal assessments and published official legal positions, one can state that all Arctic states consider that the provisions of the Convention of 1982 on *the surface waters and marine living resources* (unlike the Convention provisions regarding the sea-bed as “the general heritage of mankind”) reflect the current international *customary law*, i.e. they are simultaneously *both conventional*, and *customary* norms of the applicable international law. At that, the majority of sources point to the necessity of taking into account geographic and other features of the ice and water areas of the Arctic Ocean, its special ecological vulnerability.⁸⁶

Now, the marine living resources management in the internal sea waters, in the territorial sea and in the 200-mile exclusive economic zone of

⁸² The text of the document “Precautionary approach...” see: Vylegzhanin A.N., Zilanov V.K. Op. cit. P. 458–475 (in Russian).

⁸³ Ibid. P. 463.

⁸⁴ Ibid. P. 465.

⁸⁵ For more details see: Vylegzhanin A.N. Op. cit. P. 258–264.

⁸⁶ For example, a Danish lawyer asserts that it is not accurate to consider the United Nations Convention on the Law of the Sea of 1982 as “a basis of regulation” of state relations in connection with their activity in the Arctic. He notes that the legal regimes provided under the Convention of 1982 (regime of the territorial sea; regime of straits used for international navigation; regime of states-archipelagoes; regime of the exclusive economic zone; regime of the continental shelf; regime of the high sea) “do not provide for express references to such specific issue as ice, and this creates a problem for qualification of this Convention as a basis of legal regulation in the Arctic”. See: Kaare Bangert, *The Arctic Challenge: UNCLOS and a new climate generated Arctic regime?*

each of the five Arctic states is carried out according to international law, as well as according to the applicable provisions of the Convention of 1982, and within the limits of references to the Convention under the legislation of an Arctic coastal state. The Arctic Ocean is the smallest ocean in terms of area and depth and is surrounded by the coasts of the above five Arctic states. Existing regional multilateral international conventions and institutional mechanisms established under those conventions can be applied in this region with their consent.

They include, for instance, *the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR) of 1992*. According to the Convention, marine environment protection measures are applicable to the entire Convention area. This area is divided into some sub-areas, including sub-area 1 – the Arctic Ocean. Actually, the name of this sub-area mismatches its designated co-ordinates: it is a question of only *a part of this Ocean* located to the north of the Atlantic Ocean. This Convention contains a number of annexes:

- Annex I. On the prevention and elimination of pollution from land-based sources;
- Annex II. On the prevention and elimination of pollution by dumping or incineration;
- Annex III. On the prevention and elimination of pollution from offshore sources;
- Annex IV. On the assessment of the quality of the marine environment.⁸⁷

According to the *Convention for the International Council for the Exploration of the Sea*, the Council has been functioning for over 100 years now as a successful international scientific organization co-coordinating national marine fisheries and ecosystem research *in the Northern Atlantic*. There is no ban on using this mechanism in the Arctic Ocean and its contiguous seas, but there are no arguments proving that those mechanisms are optimal for the Arctic either.⁸⁸

According to *the Convention on Future Multilateral Cooperation in North-East Atlantic Fisheries (NEAFC)*, the parties regulate the relations connected with the preservation and exploitation of marine bioresources in the waters of the Atlantic and Arctic Oceans and their contiguous seas that lie north of 36° north latitude and between 42° west longitude and 51° east longitude. The Convention came into force in 1982.

There is a question concerning the applicability to the Arctic waters of the *Convention for the Conservation of Salmon in the North Atlantic Ocean* (it came into force in 1983, ratified by the USSR in 1984; hereinafter the NASCO Convention): if, due to warming of such waters and subsequent

⁸⁷ URL: <http://www.ospar.org>

⁸⁸ On the decisive role of FAO in preservation of marine fish resources in the high sea see: Bekyashev K.A. FAO and legal issues of protection of living resources of the high sea. Moscow, 1976. P. 184 (in Russian). As a whole, on legal bases of management of marine living resources see: Vylegzhanin A.N., Zilanov V.K. International legal bases of management of marine living resources. Theory and documents. Moscow, 2000. P. 598 (in Russian).

stocks migration, the area of habitat of these stocks moves northward. The parties to the Convention – Russia, Canada, Denmark (in relation to Faeroes and Greenland), EU, Iceland and the USA – are all, except EU, members of the Arctic Council. The NASCO Convention is applied to the stocks of salmon migrating beyond the areas of fisheries jurisdiction of the Atlantic coastal states to the north of 36° north along all the way of their migration. It is noted that in the Northeast Atlantic a perfect mechanism of stable commercial exploitation of marine living resources has been operating throughout many decades.⁸⁹

The Practice of Bilateral Cooperation of the Arctic States in Marine Living Resources Preservation

The cooperation in the designated area *between Russia and USA* is based on the *Agreement between the Government of the USSR and the Government of the United States of America on mutual fisheries relations of May 31, 1988*. This Agreement created the legal basis for bilateral relations of the two states in the field of scientific research, use and conservation of fish stocks in the Arctic and Pacific Oceans, for co-operating with international fisheries organizations, *etc.* Though the *Agreement between the USSR and the USA on the maritime boundary in the Bering Sea of June 1, 1990* has not been ratified by and has not come into force for Russia, it has been honored both parties on “a provisional basis” for over 20 years now⁹⁰ – in the Arctic as well.

The cooperation between Russia and Canada on fisheries is based on the intergovernmental *Agreement between the Government of the Union of the Soviet Socialist Republics and the Government of Canada on mutual fisheries relations of May 1, 1984* (the Russian Federation and Canada have confirmed the validity of this Agreement).

Mutual fisheries relations between Russia and Norway are based on numerous agreements, i.e. *the Agreement between the Government of the Kingdom of Norway and the Government of the Union of Soviet Socialist Republics on co-operation in the fishing industry of 11 April 1975* and *the Agreement between the Government of the Kingdom of Norway and the Government of the Union of Soviet Socialist Republics concerning mutual relations in the field of fisheries of 15 October 1976*, and also *the Treaty between Russia and Norway on maritime delimitation and cooperation in the Barents Sea and the Arctic Ocean* signed in 2010. According to Annex 1 to the Treaty of 2010, the above Agreements “shall continue to stay in force for fifteen years after the entry into force of the present Treaty. After the expiry of this term each of these Agreements shall remain in force for

⁸⁹ For more details see: Glubokov A.I., Glubokovsky M.K. International legal regulation of fisheries in the Arctic seas // *Arctic: a zone of peace and cooperation* / Eds. A.V. Zagorskii. Moscow: IMEMO RAS, 2011. P. 103–119 (in Russian).

⁹⁰ The MGIMO-University Bulletin. 2010. No. 1.

successive six year terms, unless at least six months before the expiry of the six year term one Party notifies the other Party about its termination.”

The Norwegian—Russian Joint Fisheries Commission shall continue to consider improved monitoring and control measures with respect to jointly managed fish stocks in accordance with the Agreements referred to in Article 1 of that Annex. The parties have agreed long ago that bioresources of the Barents and Norwegian Seas are joint stocks of Russia and Norway.

The Russian—Danish—Greenland fisheries cooperation is effected in the framework of the intergovernmental Agreement between the government of the Russian Federation, on the one hand, and the government of the Kingdom of Denmark and the local government of Greenland, on the other hand, on mutual relations in the field of fishery between the Russian Federation and Greenland of 1992. To achieve its goals, the Agreement provides for bilateral consultations to discuss the implementation of the parties’ commitments under the Agreement.

None of the five Arctic states can single-handedly mount legal opposition to unregulated fishing by non-Arctic countries beyond their 200-mile exclusive economic zones in the Arctic. Such unregulated fishing can not only damage the Arctic coastal countries economically, but also undermine the newly forming bioresources in those areas. *Regional arrangements between the five Arctic states* on the fish stocks conservation in *the Central Arctic* are needed.

The five Arctic states are objectively interested in cooperation aimed at the prevention of illegal, unreported and unregulated fishing in the Arctic Ocean, including in the area beyond their 200-mile zones, at fisheries regulation therein under their control, at ensuring respect for their environment protection legislation. Unregulated fishing in that area would cause damage to the bioresources within their 200-mile economic zones as well. Accordingly, a *regional arrangement* providing that in *the Central Arctic* – which is formally a high sea “enclave” though its *considerable part is covered with ice* – *there is no unregulated fishing*. Probably the five Arctic states will consider the experience of establishing a regional mechanism of fish stocks conservation in the high sea enclave in the center of the Bering Sea. In this case, most likely, the first draft of a future multilateral Convention on fish stocks conservation is to be developed by experts from Russia, USA and Canada.

The marine areas under the national jurisdiction of the coastal Arctic countries, extending up to 200 nautical miles from their base lines, “encircle” from all directions *the Central Arctic area* where a considerable part is still covered by ice all-the-year-round. Today, the majority of lawyers consider that the area has the high sea status, though international law doctrines of Canada and USSR have failed to recognize it for a long time. At the same time, sea vessels of both Arctic non-Arctic countries cannot reach the Central Arctic area without crossing the exclusive economic zone of any of the five Arctic coastal states. At present, that situation caused by geographical and geopolitical characteristic of the Arctic has no practical significance: the Central Arctic area is mostly solid ice. But, from the viewpoint of natural sciences, the situation can change as a result of its

melting.⁹¹ The legal regime of marine living resources in the area, as well as in any other area of the high sea, is undoubtedly prescribed, first of all, by pertinent provisions of the Convention of 1982. Thus, part VII section 2 of the Convention of 1982 regulates the relations of the states related to conservation and management of the living resources of the high seas and cooperation of states interested in their fishing. The Convention of 1982 prescribes legal norms concerning conservation and use of living resources in marine areas, as well as norms establishing the rights and commitments of states relating to management of individual species of marine living resources.⁹²

Ice Melting in the Central Part of the Arctic Basin and Related Scientific and Legal Recommendations

Forecasts concerning fast melting thawing of the Arctic ice are combined with forecasts of the subsequent cold spell in the region. However, if such melting thawing lasts only a few decades, it already testifies to the expediency to specify the bioresources legal regime in the central part of the Arctic Ocean or, as it is called in English language publications, in “the Arctic loophole”. In particular, it is an issue of creating a mechanism to prevent negative consequences for the coastal Arctic states caused by the activity of fishing expeditions from non-Arctic countries in that area. Indeed, unregulated fishing would lead to still greater negative impact on the ecosystem of the Central Arctic. In the absence of necessary scientific data and monitoring, even small-scale commercial fishing can result in destruction of the Arctic Ocean environmental integrity which, in turn, will lead to negative consequences for the Arctic population, its indigenous nations.

A special regional mechanism to conserve fishing resources in the central part of the Arctic Ocean is already called for because of ice melting and influx of non-Arctic states vessels to the Arctic high sea areas freed from ice. To be efficient, any new regional organization should consider the experience gained by existing organizations. Each and every inter-governmental regional organization dealing with the management of fish resources operates in rather a unique political and legal environment. Nevertheless, a number of publications note that the factors influencing the results of such regional organizations have much in common (for example, dependence on the marine environment status, fish stocks, the efficiency of management thereof; adopting the policy of the precautionary and ecosystem approaches to the management of fishing resources; maximization of cooperation capability at the interstate and private levels, transparency

⁹¹ For details see, for example: Arctic: a zone of peace and cooperation / Ed. A.V. Zagorskiy. – Moscow: IMEMO RAS, 2011. P. 103–119 (in Russian).

⁹² For details see: Vylegzhanin A.N. Marine natural resources (international legal regime). Moscow: SOPS, 2001. P. 188–219 (in Russian).

of resource management, *etc.*). It is important that a new intergovernmental regional fishery organization created *by the five Arctic coastal states* could become the most effective mechanism to promote the precautionary approach and ecosystem management of bioresources in the Arctic area. The most important objective of such a mechanism is to prevent illegal, unreported and unregulated fishing in the Arctic Ocean. Taking into account its specificity, it appears that the priority task is to ensure that regulated fishing be carried out exclusively in the 200-mile exclusive economic zones of the five Arctic coastal states where its monitoring can be accomplished much easier technically and economically.

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Bilateral Treaties of the Russian Federation on the Arctic Environment Protection

One of the most essential conditions of an effective environment protection is the international cooperation of states in this area, including cooperation at the regional and bilateral levels.

Large-scale environmental problems, if they are non-global, are best resolved through regional international legal regulation.⁹³

The international legal doctrine distinguishes regional and local (particular) norms,⁹⁴ adopted in the framework of an individual region.

The present work is devoted to the investigation of locally adopted environment protection international law norms operating between the Russian Federation and Arctic states whose coasts are washed by the seas of the Arctic Ocean – USA, Canada, Norway and Denmark.

The dictionary of the international law of the sea defines the Arctic as a northern polar area, including the Arctic Ocean with its seas and lands beyond the Arctic Circle (66°33' north). The regime of the Arctic based on the legislation of the Arctic coastal states and norms of the contemporary international law has some specificity owing to its environment and climate features, historically developed special rights and interests of the Arctic coastal states. Vulnerability of the Arctic environment has led to the recognition of the coastal states' right to take special measures concerning the Arctic nature protection.⁹⁵

The aspiration of the Arctic states to cooperate is quite explainable, as "the states of a certain geographical area united by common historic, economic, cultural ties, have their specific interests that which can be the easier secured on the basis of cooperation between the states of that area".⁹⁶

Thus, the Arctic environment protection requires a special approach because of unique ecosystems that are of a great importance for global climate formation and owing to a special international legal regime of the Arctic areas.

The initial forms of the Arctic states' environment protection co-operation were bilateral. Currently, the Arctic regional interaction is actively developing through such forums as the Arctic Council, Barents/Euro-Arctic Council created for the purpose. Legal department head of the Swedish Ministry of Foreign Affairs notes that it is only the Arctic states, "having their population in the Arctic exercise sovereignty and jurisdiction over extensive spaces of this region and bear special responsibility for its sustain-

⁹³ Timoshenko A.S. Formation and development of international environmental law / Ed. O.S. Kolbasov. Moscow: Nauka. P. 144–145 (in Russian).

⁹⁴ Course of international law. Moscow, 1967. V. 1. P. 25 (in Russian).

⁹⁵ Dictionary of international maritime law / Ed. Yu.G. Barsegov. Moscow: International Relations, 1985. P. 13 (in Russian).

⁹⁶ Course of international law. Moscow, 1967. V. 1. P. 24 (in Russian).

able development and management, which is proved by the Arctic Council activity".⁹⁷ The region states are also actively developing bilateral cooperation. Such cooperation allows these states to concentrate their attention on resolving any common problem that does not involve other regional states.

Cooperation between Russia and the USA

The preparation of the USSR and USA for the UN Conference on Environment significantly promoted cooperation of the two countries in environment protection. Representatives of the countries held various high level seminars investigating problems that could be related to environment protection and proposals for their solution. The purpose of the seminars was the exchange of experts' opinions on a global problem that was new at the time. Later on, the USSR did not take part in the Stockholm conference of 1972. However, the parties – the Soviet Union and the United States of America – realized that interaction in environment protection was outside sharp contradictions caused by the difference between political systems of the two powers. Thus, the experience gained from the meetings laid down a basis for their bilateral cooperation in that sphere.⁹⁸ As a result, on May 23, 1972, in Moscow the parties signed the Agreement on cooperation in the field of environmental protection.

The important role of the Agreement consists in the fact that the USSR and the USA as the largest world powers recognized the necessity to cooperate in the sphere of environmental protection. Its conclusion was essential for the progressive development of the international environment protection law. At that moment, the Agreement of 1972 represented the most comprehensive, in terms of its content, bilateral international treaty concerning environmental protection. Being "an example of successful international cooperation at the bilateral level", that treaty was subsequently taken as a basis of other similar bilateral agreements between states.⁹⁹ The activities in the framework of the Agreement also promoted an active interaction of the parties on international platforms when developing universal nature protection conventions (such as the Convention on Long-range Transboundary Air Pollution of 1979, the Convention for the Protection of the Ozone Layer of 1985). A meaningful result of interaction under that treaty was also the USSR and the USA agreement on the Convention on Conservation of Migratory Birds and their Environment which was signed on November 19, 1976.¹⁰⁰ Besides, the discussion of a bilateral agreement on combating pollution in the Bering and Chukchi Seas was initiated.

⁹⁷ Cit. after Vylegzhanin A.N. Op. cit. P. 274 (in Russian).

⁹⁸ Robinson N.A. The U.S. – U.S.S.R. Agreement to Protect the Environment: 15 Years of Cooperation. Pace Law Faculty Publications. Paper 384. 1988. P. 408–410.

⁹⁹ Ibid. P. 408. As an example, N. Robinson quotes the Agreement between USA and Poland on cooperation in the field of environment protection of 1987 for which the Agreement of 1972 served as a precedent and, therefore, provisions of those two agreements should be identical.

¹⁰⁰ For more details on the Convention see: Ryumina R.B. Legal regulation of cooperation between the USSR and the USA in the field of migrant birds // Legal environment protection. Moscow: Publishing House of the Institute of State and Law of USSR RAS, 1985. P. 110–119 (in Russian).

Following the disintegration of the Soviet Union the parties, wishing to continue joint work and also “taking into account mutual interests and experience obtained from implementation of the Agreement of 1972”,¹⁰¹ prepared an updated version of the existing one - the Agreement between the Government of the Russian Federation and the Government of the United States of America on Cooperation in the Field of Protection of the Environment and Natural Resources, which was signed on June 23, 1994 in Washington. Not only did the new Agreement of 1994 expand the sphere of interaction of the USA and the Russian Federation in that field, but also reflected the results of the international environment protection law development for the last twenty years.

The Joint Russian—American commission on cooperation in the field of protection of the environment and natural resources approves the cooperation arrangements and programs, coordinates the activities of persons involved, and other issues related to the implementation of the Agreement of 1994. Each party appoints its representative as a co-chairperson of the Commission.

During more than twenty years of cooperation from the moment of signing the first Agreement and until the preparation of the second agreement the parties built a solid institutional network providing implementation of the agreement. When preparing the second treaty, the parties ensured further functioning of that structure without any reorganization, by mutual consent only (Article 7).

As was already mentioned, bilateral cooperation on the environmental issues launched the discussion of joint efforts on emergency pollution response. It resulted in the Agreement between the USSR and the USA concerning cooperation in combating pollution in the Bering and Chukchi Seas in emergency situations signed in Moscow on May 11, 1989. The parties to the Agreement assist in combating pollution incidents¹⁰² that which may affect the areas of responsibility of the Parties. “Area of responsibility of a Party” means the Bering and Chukchi Seas areas included in the internal waters or territorial sea of a Party, as well as “the sea area beyond the territorial sea, in which that Party exercises its sovereign rights and jurisdiction in accordance with international law” (Art. 2). In order to implement the Agreement, the designated competent authorities of the Parties develop and approve the Joint Contingency Plan against pollution. The necessity and practical importance of such a plan was confirmed during the operations to eliminate the oil spill off the Alaska coast following a major accident involving the “Exxon Valdez” tanker in April, 1989. At the request of the American side, the Soviet Union sent to

¹⁰¹ The preamble of the Agreement between the Government of the Russian Federation and the Government of the United States of America on cooperation in the field of protection of the environment and natural resources of 1994.

¹⁰² According to the considered agreement a “pollution incident” means a discharge or an imminent threat of discharge of oil or other hazardous substance from any source whose character demands immediate response action for prevention of such discharge or restriction of its distribution, gathering or removal of this substance to eliminate threat or to reduce to a minimum harmful impact on living resources, marine flora and fauna, health and well-being of the population.

the accident site the “Vaydagubsky” oil spill recovery vessel and experts in oil spill liquidation.¹⁰³

One of the key spheres in the environment protection cooperation between states is the preservation of the Arctic wildlife. Traditionally, polar bears have a great importance for the life of the indigenous peoples of the region. In 1956, it was completely prohibited to hunt those animals across the territories of the Soviet, and subsequently Russian Arctic regions. That made severe living conditions of the native population still harder. Besides, the ice cover shrinking due to the climate change, and a sharp rise in illegal polar bear hunting threatened the population of the species. The eight-year negotiations resulted in the Agreement on the conservation and management of the Alaska-Chukotka polar bear population signed in Washington on October 16, 2000. The development of the Agreement involved not only state level experts, but also indigenous peoples of Chukotka and Alaska with a view of securing their right to traditional wildlife use. The bilateral agreement of 2000 is a logical extension of the five-party Agreement on conservation of polar bears of 1973¹⁰⁴ and it takes into account all its provisions.

The Shared Beringian Heritage Program¹⁰⁵ founded in 1991 is also in force between the USA and the Russian Federation. According to the scientists, millenniums ago there was an overland bridge connecting Asia with the North America in the area of the Bering Strait. That bridge allowed the then nomadic tribes to move freely from one part of the world to another. In their 2011 joint statement Presidents of the Russian Federation and the USA, recognizing the value of the shared natural and cultural heritage of Chukotka and Alaska, expressed their intention to deepen the cooperation between the two countries in the frontier Arctic region.¹⁰⁶

Cooperation between Russia and Canada

The states located within the Polar Circle co-operate on the bilateral basis being neighbors geographically. A long-term interaction of Russia and Canada who have no shared frontier territories can be an example. The center of the Polar Circle is the North Pole and adjacent territories extending up to the limits of the 200-mile economic zones of the five Arctic states are not covered by sovereignty or sovereign rights of any state. Nevertheless, both neighboring and opposite Arctic states are on the whole equally interested in the preservation of the ecosystems in those areas and in the entire Arctic, so their bilateral cooperation in that region is quite justified.

Initial forms of the Arctic cooperation between the USSR and Canada were purely scientific and technical. In 1971, Canadian representatives vis-

¹⁰³ The Oceans and the Environmental Security: Shared US and Russian Perspectives / Broadus J.M., Vartanov R.V., eds. Island Press, 1994. P. 182–183.

¹⁰⁴ For more details on this Agreement see: Kolbasov O.S. Op. cit. P. 176–177 (in Russian).

¹⁰⁵ Beringia is defined as the land and maritime area bounded on the west by the Lena River in Russia; on the east by the Mackenzie River in Canada; on the north by 72 degrees north latitude in the Chukchi Sea; and on the south by the tip of the Kamchatka Peninsula. URL: <http://www.nps.gov/akso/beringia/ru-index.cfm>

¹⁰⁶ URL: <http://www.iipdigital.usembassy.gov/st/russian/article/2011/05/20110526155335x0.5310894.html#axzz24MDX6CU7>

ited the Soviet North. That meeting launched the discussion of an agreement between Canada and the USSR about cooperation in the Arctic; however, many years passed before such an agreement was signed. At the same time, it was possible to reach agreement concerning the necessity to develop a legal basis for scientific cooperation in the Arctic. As a result, in 1972 the parties signed two memorandums of understanding. Later it so happened that relations between the two countries worsened (for reasons not connected with the Arctic) and the provisions of those memorandums were not implemented.¹⁰⁷

The negotiations on cooperation in the Arctic renewed in 1982–1983. A positive result of the negotiations was the 1984 Protocol on developing a program of scientific and technical cooperation on the Arctic and Northern problems signed between the National Scientific Research Council of Canada and the USSR State Committee for Science and Technology. The four spheres of scientific and technical interaction were: geological science and the Arctic oil; Northern and Arctic environment; construction and transport in the North; ethnography and education. The Arctic environment sphere included such fields as studying the Arctic climate, methods to control pollution resulting from oil and gas development, dynamics of wildlife population, *etc.* The work in all declared spheres was rather successful and in 1987 the parties decided to prolong the Protocol for another two years.

The USSR and Canada paid special attention to the pollution of the Arctic marine environment. In 1989 they signed the Memorandum of understanding and cooperation in preventing and controlling pollution of the Arctic marine environment. The Memorandum covers cases of the marine environment pollution from vessels in the ice covered areas as they are defined in Article 234 of the UN Convention on the Law of the Sea of 1982. The spheres of cooperation include exchange of information and experience, transfer of technologies, pollution incidents response, policy and legislation.

In 1993 the two countries concluded the Cooperation Agreement between the Government of the Russian Federation and the Government of Canada on the environment (framework agreement) which cancelled the 1989 agreement between the USSR and Canada. While confirming the principles of sustainable development, the parties consolidated the spheres of environment protection cooperation in the region of their mutual interest. Those spheres include protection of the marine environment and fresh waters, preservation of ecosystems including creation of protected territories, response to emergencies that can lead to negative environmental consequences, development of environment protection norms, *etc.* The joint Russian-Canadian environmental commission established under this Agreement plans and implements the cooperation program.

In 1992, in order to consolidate friendly relations with the Russian Federation as a new state on the international arena, the parties signed the

¹⁰⁷ Slipchenko W., Hannigan J. Canada's Arctic Cooperation with the Soviet Union and Russia (1965–2000). Ottawa: DIAND, 2010. P. 10–11.

Declaration on friendship and cooperation that noted the necessity of cooperation and also fixed the basic vectors of developing their relations. In particular, they recognized the global importance of environmental protection and of their cooperation under the 1993 Cooperation Agreement on the Environment. The parties to the Declaration, as major Arctic states, reaffirmed their support for the creation of an international Arctic Council to protect the Arctic, and emphasized the economic development of the Arctic regions as a priority in their economic cooperation. The same idea is reflected in the 2000 Joint Russian—Canadian statement on cooperation in the Arctic and the North.

Among the latest major projects of the parties are the “Arctic Bridge” and “Northern Air Bridge” projects that provide for the creation of cross-polar sea and air routes accordingly. The “Air Bridge” between the countries will allow reducing considerably the flying time from Europe and Asia to America. Initially, it is planned to launch cargo air traffic across the North Pole and later the passenger air traffic as well. In May 2011 the Arctic and North working group of the Russian—Canadian economic commission officially approved that project.

Cooperation between Russia and Norway

The Agreement on Measures to Regulate Sealing and to Protect Seal Stocks in the Northeastern Part of the Atlantic Ocean of 1957 was the first bilateral treaty between the USSR and Norway on environment nature protection issues. The Agreement is of great value as a source of international environmental law as it was concluded at the time of formation of main principles of international legal wildlife and biological resources management; it is still in force. The Agreement covers waters of the Northeast Atlantic to the east from Cape Farvel where citizens of both countries engage in sealing, namely: the Greenland and Norwegian Seas together with the Dutch Strait and the Jan-Mayen area, and the Barents Sea. The purpose of the Agreement is to ensure maximum allowable productivity of the seal stocks and to maintain of the highest sustainable harvesting level. The harvesting regulations establish special grounds and permitted sealing periods. The use of poisonous substances is prohibited. Such prohibition was later prescribed in the Agreement on Conservation of Polar Bears of 1973.

In 1992 the parties concluded the Agreement on Cooperation in the Field of Environmental Protection (framework agreement) which superseded a similar treaty between the USSR and Norway of 1988. The Agreements' preamble notes adherence of the parties to the Arctic Environment Protection Declaration and the Arctic Environmental Protection Strategy. The Agreement provides a broad spectrum of interaction of the two countries on the environment protection issues, including protection of air basin from pollution; protection and preservation of the marine environment; protection of waters, including the waters located in the adjacent frontier areas; protection of ecosystems and rare flora and fauna species, including animals in the territories of both countries and migrating between them;

preservation of marine living resources; sharing scientific research results; perfection of the environment protection management and legislation and also others mutually agreed activities.

The countries paid special attention to the protection of the marine environment of the Barents Sea as any more or less considerable pollution in this area would inevitably lead to adverse environmental consequences for both countries. In this respect mutually agreed measures are of a prime importance. The first joint oil pollution prevention and response exercises of the two countries in the Barents Sea took place in 1991. Following the exercises, a joint emergency pollution response plan was developed. Later on such work resulted in the 1994 Agreement between Russia and Norway on co-operation in combating oil pollution in the Barents Sea. The Agreement covers only one form of marine environment pollution, i.e. oil pollution from any source. Under the Agreement, the parties adopted a joint pollution emergency response plan. A universal basis of this local treaty is the 1990 International Convention on Oil Pollution Preparedness, Response and Co-operation.

Russian-Norwegian bilateral relations also cover cooperation in emergency search and rescue operations. In 1995 the parties signed the Agreement on Cooperation in the Search for Missing Persons and Rescue of People in Distress in the Barents Sea. Later, in 2000, the two countries signed the Memorandum of Understanding Between the Government of the Russian Federation and the Government of the Kingdom of Norway about Cooperation in Search and Rescue and Prevention of Serious Incidents, in which, proceeding from intent and purposes objectives of current bilateral treaties, the parties reaffirmed their commitment to notify each other immediately and directly in case of any water or land incident in the Barents, Norwegian and Northern Seas areas. At that, the Memorandum neither changes the existing legal commitments and nor creates new ones for the Russian—Norwegian interaction.

The 2010 joint statement by President of the Russian Federation and Prime minister of the Kingdom of Norway reaffirms special responsibility of the Arctic states for preservation of the Arctic. Moreover, referring to the Ilulissat Declaration of 2008,¹⁰⁸ they proceed from the fact that *existing international legal instruments represent a sufficient basis* for ensuring possibilities and addressing issues that can arise in the Arctic, and form a solid basis for the development of interaction between the states *located in this region and beyond its limits*.¹⁰⁹

Cooperation between Russia and Denmark

Cooperation between Russia and Denmark concerning the Arctic en-

¹⁰⁸ The Ilulissat Declaration dated May 28, 2008, adopted by the five Arctic countries (Russia, Canada, the USA, Norway, and Denmark) provides that the states “do not need to develop a new comprehensive international legal regime to govern the Arctic Ocean”. URL: http://www.oceanlaw.org/downloads/arctic/Ilulissat_Declaration.pdf

¹⁰⁹ Joint Statement of the President of the Russian Federation and the Prime Minister of Kingdom Norway of 27.04.2010. URL: http://news.kremlin.ru/ref_notes/534

vironment protection is basically implemented at the regional level in the framework of the Arctic Council and the Barents/Euro-Arctic Region Council. At the bilateral level, the countries are parties to the 1993 Agreement on environment protection. The preamble to the Agreement, like the preamble to the Russian—Norwegian Agreement, notes the adherence of the parties to the Arctic environmental protection declaration and the Arctic environmental protection strategy. The Agreement consolidates a broad spectrum of interaction of the two countries, which includes air basin protection from pollution, environment protection issues of energy production, marine environment protection, monitoring, environment impact assessment and others activities.

The international law doctrine notes that cooperation between states in the field of the marine environment protection imposes on them a number of obligations, including the coordination of the public policy in the sphere of the marine environment protection and ensuring more effective coordination of the national legislation with the international norms and standards; joint efforts against maritime environment pollution; establishment of special organs and institutions; scientific and technical support international programs.¹¹⁰ As a matter of fact, these provisions can be applicable to the protection of the maritime environment as a whole. Moreover, absence of any of the above obligations would essentially undermine the efficiency of such cooperation.

The analysis of international legal basis for the environment protection cooperation between the Arctic states has shown that years-long interaction in the Arctic has formed *lex specialis* that reflects the realization by the states of the natural uniqueness and great geopolitical importance of that region.¹¹¹

¹¹⁰ The World Ocean and international law: protection and preservation of the marine environment. Moscow: Nauka, 1990. P. 46 (in Russian).

¹¹¹ For more details see: Vylegzhanin A.N. The regional level of legal regulation of relations between states in the Arctic (commentary) // Moscow International Law journal. 2012. No. 1(85) P. 270–297 (in Russian).

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International Cooperation in the Arctic Environment Monitoring

Environment monitoring as a system of assessing and forecasting environmental changes is a major element of the Arctic region development. As of today, the Russian environment monitoring system is not developed either as a whole, or in its separate components. For example, in the territory of Russia where a major amount of biomass is concentrated there are only a few stations for collecting data on the trends in the Arctic biodiversity changes (the so-called “wildlife index”). On the whole, in the recent years the situation changes to the better, but a long and persistent work on the organization of environment monitoring in Russia is still ahead. According to the Federal Law “On the Environment Protection” (2002), environment monitoring is an integrated system of supervising the environment, assessing and forecasting environment changes under the influence of natural and anthropogenous factors.

If the Arctic states, with the assistance of the transnational corporations, wish to develop hydrocarbons in the Arctic Ocean, they have to develop such deposits with the account of environmental standards, allowable pressure on the ecosystem and reliable information about the status of the environment. Creating an integrated network of environment monitoring centers across the Arctic will be a significant step towards rational wildlife use. Such an international network will cover the entire region and will include national environment monitoring networks, basically of five states – USA, Canada, Norway, Denmark and Russia. This mechanism will ensure a comprehensive approach to environmental assessment and create favorable atmosphere for international cooperation in other areas.

The need of a dedicated system to collect, analyze and organize the Arctic environment information is becoming more obvious in connection with an increasing interest to natural wealth of that region. In a very short term Russia must organize environment monitoring, but there are a number of problems, first of all the problem of financing the project and availability of necessary material resources.

The creation of an environment monitoring centers network could be based on a meteorological stations network. In practice, it will look as all-purpose centers whose employees would make weather and environment observations. The environment monitoring system centers would accumulate and analyze information on the reasons of changes in ecosystems, on the latter’s general condition, maximum pressure on the environment, and also receive and organize information on the flora and fauna status.

The creation of such a system should be preceded by a project stage, which implies teamwork of Russian scientists and their foreign colleagues. Such cooperation will allow organizing a rational system having a suffi-

cient potential for the subsequent integration into the global Arctic environment monitoring system. Besides, the experience of foreign experts will be useful in such a difficult undertaking. For example, the Canadian environment monitoring system provides active involvement of the Canadian North indigenous peoples' representatives in the observation and supervision of the environment conditions. Similar experience of involving small-numbered indigenous peoples can be used in the Russian Arctic zone which is a small native land to dozens of peoples who are adapted to severe climate conditions and have excellent terrain orientation capabilities that are valuable qualities for an environment monitoring system. Russia has the means and material resources necessary for training experts from among small-numbered indigenous peoples. Thus, in the framework of the A.I. Herzen State Pedagogical University of Russia there is the Institute of the Peoples of the North that has been training specialists for the North regions for more than 80 years now.

The analysis of the current situation concerning the organization of an environment monitoring network at the national level reveals serious, but solvable problems. Russia has everything to create a network of integrated centers in a short-term perspective. It will allow our country to become an initiator in creating an international environment monitoring centers network, thereby raising its prestige and importance in the Arctic region.

Moderators of the International Symposium "International Cooperation in Environment Protection, Preservation and Rational Management of Biological Resources in the Arctic Ocean"

Concluding remarks

The Symposium was held under the auspices of the **Russian International Affairs Council, the Russian International Maritime Law Association, and the Pew Environment Group** in Moscow, Russia on September 4, 2012.

The experts from Russia, the United States, Canada, the United Kingdom, and elsewhere were called together to consider the potential for better access to biological resources in the Arctic Ocean due to climate change, and discuss the scientific, legal, and policy challenges facing coastal states and the world community in ensuring conservation and rational management of these resources.

There was general understanding that ice melting in the Arctic would cause increased economic activities, that those activities would have both advantages and disadvantages, and that governance should be founded on reliable scientific data, sound policies, and strong management institutions.

The participants reviewed the applicable international law and the potential threats related to beginning unregulated fisheries in the high seas of the Central Arctic Ocean. It was noted that existing scientific information and institutional mechanisms are not sufficient to ensure proper conservation and management of fish stocks in the high seas area of the Central Arctic Ocean.

It was acknowledged that the international waters immediately adjacent to the Exclusive Economic Zones of Russia and the United States, just north of the Chukchi Sea over the Chukchi Plateau, are the area most likely to have commercial fisheries develop in the foreseeable future. The participants considered different national case studies that could highlight the way to resolve that problem.

Participants from Russia and the United States emphasized their shared experience in resolving the problem of unregulated fisheries in the international waters of the Bering Sea.

The participants generally agreed that it was desirable to avoid similar situations in the Central Arctic region, and that it would be preferable to have reliable scientific information and a well-tuned management system in place prior to fisheries commencing in the international waters of the Central Arctic Ocean. The participants agreed that an initial step to achieving those goals would be for the five Arctic coastal states to convene a meeting of senior officials to consider those matters further, and that Russia and the United States should consider hosting such a meeting on a rotation basis.

Russian International Affairs Council

