

Appendix 1

Agenda Statement for the Conservation of the Amur-Okhotsk Ecosystem¹

1. The Sea of Okhotsk is not only an important source for rich marine resources as the exclusive economic zones for Russia and Japan, but also for neighboring Asian countries such as China and Mongolia that do not share direct boundaries with the Sea. Moreover, since the Sea lies in the southern boundary of the seasonal sea ice in the northern hemisphere and affected by the warm and cold currents, it is home to a distinct ecosystem and has evolved into a rich biodiversity.

2. With the progress in scientific research in recent years, it has been revealed that the primary production and the biodiversity that characterize the Sea of Okhotsk and the neighboring Oyashio region are greatly affected by and mutually dependent on not only the sea waters but also terrestrial materials. Amongst these, a great amount of iron is transported into the sea region by atmospheric precipitation and river water. As the largest river flowing into the Sea of Okhotsk, the Amur River supplies a great amount of dissolved iron to both the Sea of Okhotsk and the Oyashio sea waters, which contributes to the high primary production of these sea waters. This discovery has been made by our research efforts that identified the physical and biological linkage between the land-surface environment on a continental scale and the open seas. In other words, the Sea of Okhotsk and the neighboring Oyashio region as well as the Amur River form an enormous ecosystem that transcends the boundaries between sea and land. It is a special and great concern for countries of the Amur River basin and for the countries surrounding the Sea of Okhotsk to identify the unique mechanism of the ecosystem and to consider the future of the natural environment of the Amur-Okhotsk ecosystem.

3. In recent years, there are concerns that human activities in the Northeast Asian region have an impact on the natural environment of the Sea of Okhotsk and Oyashio region. We will pay significant attention to evaluate how such human activities will affect the nature of the Sea of Okhotsk in the future. Moreover, we have reached a common understanding that we must deepen our academic knowledge on the nature, conservation and the rational and sustainable uses of the ecosystem of the concerned region in order to ensure the sustainable development of this region.

4. For the moment, the proposal of a substantial content and structure of a new framework for the conservation of the Amur-Okhotsk ecosystem is premature. However, we have to point out major elements that need to be considered for such a framework from the point of our scientific research.

5. Objective

The objective of this agenda is to illustrate what is necessary to the future possible strategy for the conservation of the ecosystem of the Sea of Okhotsk and the Amur River basin. For this purpose, we will identify the role of the Amur River in primary productivity in the Sea of Okhotsk and Oyashio

¹ This document is the revised edition of the draft agenda statement which was showed at the Closing Symposium on the Amur-Okhotsk Project 2005-2009 (Jan. 19-20 2010).

region and then evaluate possible human impacts such as land surface disturbances in the Amur River basin on the ecosystem of the ocean. Furthermore, we will design a comprehensive regional framework for the future conservation of this ecosystem.

6. Guiding Principles

6.1 “Giant” Fish-breeding Forest (GFBF)

“Giant” Fish-breeding Forest (GFBF) is a new environmental concept extended from the traditional Japanese idea of Uotsuki-Rin (fish-breeding forest). It relates the upstream forest with the coastal ecosystem not only conceptually, but also physically through an ecological linkage between the continent and open sea. Therefore, the concept of GFBF should be recognized as a guiding principle that promotes the understanding on the linkage of the huge land-ocean ecosystem and the establishment of a comprehensive framework for the coordination of existing international and domestic laws and policies for the conservation of this system.

6.2 Other relevant principles

a. International cooperation

The GFBF system expands across borders between China, Russia, Mongolia and Japan, including parts of the territories of Mongolia, China and Russia as well as the Russian and Japanese exclusive economic zones (EEZ). These countries do not share the same benefits or costs concerning the conservation of this system. Therefore, international mutual cooperation among four countries is indispensable for the conservation of the whole system of the GFBF, which cannot be adequately addressed by individual countries acting alone.

b. precautionary principle

Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation (*Rio Declaration*, Principle 15). This principle will promote much more conservation efforts and further scientific research.

c. ecosystem approach

There is no single internationally agreed definition of “ecosystem approach”, which is interpreted differently in different contexts. The common denominator is that it refers to a comprehensive, science-based approach to the conservation and management of natural resources. Helsinki Commission defined the ecosystem approach as “the comprehensive integrated management of human activities based on the best available scientific knowledge about the ecosystem and its dynamics, in order to identify and take action on influences which are critical to the health of marine ecosystems, thereby achieving sustainable use of ecosystem goods and services and maintenance of ecosystem integrity”. This approach promotes an understanding of an ecological linkage between the continent and open sea, and helps establish a comprehensive framework for such a linkage.

7. Strategy

7.1 Promotion of further research, information exchange and dissemination

7.1.1 Amur-Okhotsk Project has clarified the ecological linkage between the Amur River basin and the Sea of Okhotsk, and the possible anthropogenic impacts such as land surface disturbances in the Amur River basin on the ecosystem of the ocean. However, more data and information are needed, in particular, concerning to what extent land surface disturbances such as land-use change from wetland to farmland, forest fire and loggings could adversely affect the primary production in the Sea of Okhotsk and Oyashio region directly or indirectly. Without such information, precautionary international cooperation for the fair distribution of the costs and profits is difficult.

7.1.2 The region of the Sea of Okhotsk and the natural environment of the Amur River basin shares borders with the four countries of China, Japan, Mongolia and Russia, therefore, the cooperation among these countries is significantly important for the conservation of this region. Up until now, at the governmental level, various bilateral frameworks for environmental cooperation among China, Japan, Mongolia and Russia have been implemented, including the formal joint-monitoring program between China and Russia after the Songhua River pollution accident involving a petrochemical company in Jilin province of China occurred in 2005, and the Russo-Japanese cooperative program on the research, conservation and sustainable use of the ecosystems in the Sea of Okhotsk, signed in 2009. However, no multilateral governmental framework has existed concerning the GFBF system. Hereby, even at the researchers' level there are no sufficient sharing of information and no enough opportunities to reach a common recognition of what the problems are.

7.1.3 At this stage, first of all, efforts toward putting into practice joint-monitoring, data exchange and mutual communication at the academic level are necessary as a starting point for the protection of the GFBF system. For this purpose, we have established the "*Amur Okhotsk Consortium*" as a multinational academic network to discuss the conservation and the sustainable use of the GFBF. Researchers that share a common understanding will voluntarily participate in discussions of the problems taking into consideration the range and scope of the bilateral frameworks and the rights and obligations in international law, while paying full respect to the domestic legal obligations of each country. We have also come to a common recognition that it is necessary to cooperate in terms of research and actions and discuss the possibilities and effectiveness of common use of information, while sharing and exchanging information and opinion on a regular basis concerning what is necessary and what should be done for the conservation of the Amur-Okhotsk ecosystem.

7.1.4 This network can be thought of as comprising "epistemic communities", that is proposed by Peter Haas as networks of knowledge-based experts which play the role in helping states identify their interests, framing the issues for collective debate, proposing specific policies, and identifying salient points for negotiations. And also, this attempt is motivated by the history of the environmental protection of the Baltic Sea from marine pollution for over thirty years.

7.1.5 In this research consortium, we will try:

- a. To promote the sharing of information to the degree that can be disclosed by researchers of each country;
- b. To make efforts toward a cooperative environmental joint monitoring concerning not only the water quality, but also the impacts of land use changes in the Amur River basin on the sustainability of the marine ecosystem in the Sea of Okhotsk and Oyashio region;
- c. To discuss issues grounded on scientific knowledge for the purpose of sharing a common recognition through the exchange of opinion on the natural environment of the Sea of Okhotsk and the Amur River basin;
- d. To facilitate the robust discussions that transcends borders toward an environmental conservation and sustainable use of the resources within the Amur River basin, the Sea of Okhotsk and Oyashio region;
- e. To discuss environment-friendly ways to utilize the knowledge and common recognition obtained through the *Consortium* for the environmental conservation of the Amur-Okhotsk ecosystem.

7.1.6 In this way, we will have further commitments to promoting research and information exchange for environmental protection and sustainable use of the GFBF ecosystem.

7.2 Coordination of the existing framework

7.2.1 We have analyzed existing international and domestic laws and policies that seem to be applicable for the conservation of the GFBF system. A future conservation framework would incorporate them as useful components. The results show that while environmental factors in GFBF have already been partially regulated by international and national laws and policies, these management regimes have been established and implemented independently; therefore, they are not adequate for the conservation of the whole GFBF system. We conclude that it is important to coordinate and strengthen existing laws and policies in an integrated manner to manage this system consistently and effectively.

7.2.2 At the multilateral level, the GFBF system can be regulated by the law of the international watercourses, law of the conservation of nature, species and biodiversity, and law of the marine living resources and diversity.

- a. The first group includes *UN Convention on the Law of the Non-Navigational Uses of International Watercourses* (1997) and *UNECE Convention on the Protection and Use of Transboundary Waters and Lakes* (1992). The Problem is, however, that all these instruments are exclusively concerned with allocating water supply between upstream and downstream states, or preventing pollution or damage, not relevant for the transportation of the dissolved iron, much less the conservation of this whole system.
- b. The second group includes the *Convention on Wetlands of International Importance especially as Waterfowl Habitat* (Ramsar Convention, 1971); the *Convention concerning the Protection of the World Cultural and Natural Heritage* (World Heritage Convention, 1972); the *Convention on International Trade in Endangered Species of Wild Fauna and Flora* (CITES, 1973); the

Convention on Biological Diversity (CBD, 1992), and *Non-legally Binding Authoritative Statement of Forest Principles* (Forest Principles, 1992). Particularly, 15 wetlands in the Amur River basin including a small part of Sanjiang Plain in China have already been included in the List of Wetlands of international importance under the Ramsar Convention (Ramsar list). While recently Ramsar Convention has adopted the integrated river basin management program which links wise use of wetlands with river basin management and protection of biodiversity, it is not certain whether this may expand its scope to the relationship between wetland, forest and the ocean environment. In addition, the CBD has recently taken the “ecosystem approach”, which is, by definition, “a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way”. Nevertheless, it is not yet clear whether this approach serves as a practical guide to the conservation of the huge and complex ecosystem such as the GFBF system.

- c. Lastly, the *UN Convention on the Law of the Sea* (UNCLOS, 1982) and the subsequent *UN Agreement relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks* (Straddling Stocks Agreement, 1995) regulate the management of the marine living resources in this area. These instruments only establish a general framework for the regulation of land-based sources of marine “pollution”, and, therefore, do not refer to the relationship between the conservation of the marine living resources and any land-based substances which sustain these resources rather than cause “pollution”, such as the dissolved iron.

7.2.3 At the bilateral level, a few bilateral environmental agreements between China, Russia and Mongolia have been concluded since the early 1990s. These include the agreements concerning general environmental cooperation, monitoring of transboundary waters, fisheries and forestry. Until now, these agreements have been effectively implemented by appointed official departments of each country according to designed procedure, the ways to information exchange are unblocked, and the related data also can be downloaded from the internet. While it should be said these agreements are successful, they are formulated and implemented without taking into account the ecological linkage between land and ocean in the Amur-Okhotsk ecosystem.

7.2.4 Domestic legal systems and policies also reveal the multi-dimensional governance. For example, Russian forest policy is under major reform and is considered to have significant influence on forest management and the timber industry. Policy system has been decentralized and the local government has become a key player in forest policy and management at the local level. The revision of the *Forest Code* in 2007 intends to support large scale companies which have enough ability to invest processing facilities. Together with the increase in log export tax, the concentration of timber industry companies will increase. There are strong concerns about the weakening of forest management ability at the field level. On the other hand, large wetland areas in Russia are conserved as part of the protected natural areas. Outside protected natural areas, wetland management is regulated by a number of laws. However, there is still no efficient legal system that would allow for an integrated solution of various problems arising in the field of wetland use and conservation.

7.2.5 China has recently adopted some strict wetland management programs, including *National Wetland Conservation Action Plan* (2000) which is regulated under the leadership of State Forestry Administration and implemented by many relevant departments. At provincial level, in particular in Heilongjiang Province, the conservation and management of wetlands have developed and been successful in recent years, and particularly been actively conducted in Sanjiang Plain after 1992 when China joined the Ramsar Convention and wetland protection became the mainstream. In 1998, Heilongjiang Province government issued *Decision about Strengthening the Conservation of Wetlands* which stopped all reclamation and mining in the natural wetlands. After 1998, the project of conversion of cropland to wetland in the plain had been implemented. *Regulation about Conservation of Wetland in Heilongjiang Province* was issued for enforcement in 2003. Under the regulation, the construction projects which need use wetlands should be approved by forestry department at provincial level and should pass related environmental evaluation processes. Any actions damaging wetlands are illegal and any wrongdoers are punished.

7.2.6 The purposes of various laws are different. Existing domestic laws of four countries do not take the Amur-Okhotsk region as a single ecosystem. Therefore, it is necessary to coordinate the existing laws so that they are compatible and people can use wetland and forest properly and consistently.

7.3 Future task and institutional design

7.3.1 To date, an urgent threat to the GFBB ecosystem has not yet existed, and the significance of the conservation of this ecosystem has not made much known. At the present time, it is early to think of a substantial content and structure of a concrete strategy. We will rather simply sum up proposals for promoting interest in this ecosystem of both governmental and non-governmental decision-makers, and for urging them to initiate action on immediate and effective measures, as follows. These proposals will help us promptly establish a detailed strategy when the international political situation in these areas allows in the near future.

- a. It is necessary to promote understanding and acceptance by all stakeholders in the GFBB system of the importance of the GFBB ecosystem. For that purpose, it will need to ensure that stakeholder representatives can participate in the conservation framework and play an effective role in developing conservation measures. Only when their interests are reflected in the framework in this way, understanding and acceptance can be achieved. In particular, socio-economic interests of local peoples in the sustainable use of the GFBB ecosystem should be taken into account in the conservation framework.
- b. There should be urgent implementation of monitoring and research in order to enable a full assessment of the adverse impacts from human activities in land in the light of their extent, intensity, duration and the decrease in the dissolved iron flux on the primary production in the Sea of Okhotsk and Oyashio region. They are really the urgent objectives in the near future.
- c. Management measures must be developed that will ensure the sustainable use of the

Amur-Okhotsk ecosystem, and the balance of the interests of different sectors. In particular, in domestic systems, cooperation between fisheries, agriculture, land administration, nature conservation and forest policy authorities must be achieved.

- d. While the GFBB system is a transboundary ecosystem and inevitably needs international cooperation among relevant countries, this does not mean that management measures at the regional and local level are ineffective for the conservation. Local actions and measures of both governmental and non-governmental actors can successfully accommodate conflicts of interests among various stakeholders.
- e. Based on the monitoring and scientific research, setting objectives for environmental quality in the GFBB system is needed in support both of the formulation of policy and of assessment of the ecological condition. Then, at the next stage, an action plan, time frame for the implementation of the conservation measures, and procedures for the monitoring and assessment should be determined in the future. On the other hand, the conservation measures should be implemented step by step, taking account of the economic and environmental circumstances in each country.
- f. In order to carry out these conservation measures, it is also necessary to develop an effective mechanism for economic and technical assistance from any international organizations, NGOs and relevant countries. Taking into account the fact that China and Russia have largely contributed to the transportation of the dissolved iron from the Amur River basin to the Sea of Okhotsk and Oyashio region, it may be necessary for other beneficiary states including Japan to share part of the costs for the conservation of the GFBB ecosystem. In a future conservation framework, relevant countries should discuss how to realize the beneficiary-pays-principle to ensure the conservation of the GFBB system.
- g. The tasks for scientists are the scheme-making and scenario-optimization for management measures and ecological compensation measures. We should make an effort to ensure that the results of joint research, information exchanges and recommendations should be reflected in the conservation policies at international, governmental and local administrative levels.

7.3.2 The Sea of Okhotsk and the Oyashio region are known to be one of the most productive oceanic areas in the world. Almost all of these areas are within the Russian EEZ (exclusive economic zone), and the most important fishing areas with almost 60% of the Russian national catch. Approximately 50% of the sea product of Japan is from these areas. In the Sea of Okhotsk, mainly four countries – Russia, Japan, China and South Korea – have been operating and the Russian and Japanese catches make up about 56% and 28% of the total catch, respectively. A share of the processed seafood from Russian-origin raw material finds its way back to the booming Russian market. China is one of the key suppliers of fillets of Alaska pollock to Russia with close to 15,000 tonnes of exports in 2006. Therefore, we can confirm that the national economy and food security of these countries are deeply dependent on fishing or fish products in these oceanic areas, and that these countries have economic

incentives to participate in the conservation framework of the GFBF system.

7.3.3 In order to achieve the elements mentioned above, we would like to propose a multilateral institutional framework for the conservation of the GFBF system. The aim of this framework will be to develop the common knowledge, facilitate information exchange, promote confidence-building between nations and other stakeholders and to work coherently and effectively towards a holistic approach to the conservation of the GFBF ecosystem, with special attention to;

- a. The GFBF should be recognized as a guiding principle, that promotes the coordination, integration and reinforcement of existing international and domestic laws and policies;
- b. Directed by this principle, the “Giant Fish-Breeding Forest Partnership” among four states can be built as a comprehensive flexible framework;
- c. This should be established as the multi-layered governance system composed of multilateral, bilateral, national and local level communications and conservation measures;
- d. This should respect the bilateral agreements and communiqué already concluded between relevant countries;
- e. This should encourage the public participation of the local peoples, indigenous peoples, non-governmental organizations and academic researchers such as the “*Amur Okhotsk Consortium*”;
- f. This should facilitate inter-linkage and further development of the existing international agreements that have already prescribed the basic obligations of the relevant countries for the environmental protection in these areas;
- g. In this partnership, relevant countries should conclude a new multilateral environmental agreement that requires these countries to facilitate mutual communication, negotiation and cooperation for the monitoring and assessment of the GFBF ecosystem, and prompt to take measures for the conservation;
- h. To promote consistency, other relevant measures which have been agreed or are being negotiated by some or all relevant countries in other forums should be take into account; in particular, collaboration with the agreements between China and Russia concerning the joint-monitoring of the Amur River;
- i. In order to provide a robust framework for policy formulation, financial and technical assistance from international organizations and facilities (ex. UNEP, UNDP, GEF) and other interested countries and NGOs should be provided for the effective and sustainable management of the GFBF system.

