



Way of Creating a New Marine Site of Nature Reserve Fund of Ukraine - "Small Phyllophora Field"

Eduard Kostylev^{1*}, Feodor Tkachenko¹, Irina Tretiak¹

¹ Ukrainian Scientific Centre for the Ecology of Sea, 89, Frantsuzky Blvd., Odessa 65009, Ukraine.

* Corresponding Author: Tel.: +380.482 636622; Fax: +380.482 636873;
E-mail: kostylev@te.net.ua

Received 15 March 2012
Accepted 02 July 2012

Abstract

There are two Phyllophora fields in the north-western part of Black Sea – the Large (in the center of this region) and the Small (in Karkinitzky Bay). These unique ecosystems are characterized by agarophyte red algae of genus Phyllophora (Phyllophora). All necessary work for establishing of the second Black Sea marine protected area by declaring the Small Phyllophora field in Karkinitzky Bay a "Site of nature reserve fund of Ukraine" is currently being carried. In this article we discuss the required legislation and management steps for the creation of this marine protected area.

Keywords: Black Sea, Karkinitzky Bay, Small Phyllophora field, red algae, marine protected area, site of nature reserve fund of Ukraine.

Introduction

Aggregations of red agarophyte algae of genus Phyllophora found in the North-Western part of the Black Sea (known as the Large and Small Phyllophora fields) are unique marine biocenoses. The area of the Small Phyllophora field is unique because of high diversity of flora and fauna. There are large aggregations of ribbed Phyllophora (*Phyllophora crispa*) here. Both Small and Large Phyllophora fields are places of birth and development of many species of aquatic organisms. Dozens of fish and invertebrate species and other aquatic organisms live and reproduce here. Most of these fish and invertebrate species enrich fauna of other areas of the Black Sea via dispersion. The biggest of these sites – the Large Phyllophora field (or "Zernov's Phyllophora field") - was declared by President of Ukraine the object of nature reserve fund of Ukraine in November 2008. This is the first offshore, fully marine MPA in the Black Sea (Presidential order, 1064/2008; Kostylev *et al.*, 2010).

After relatively healthy environmental condition during 1960's, on the eve of the 1980's the ecosystems of the north-western Black Sea shelf have deteriorated. This has caused significant degradation of phytobenthos in the region of Small Phyllophora field dominated by the red agarophyte algae of genus Phyllophora). The structure of phytocenoses has

changed, some species of algae had disappeared and others appeared. Reduction in the number of species in this period was mainly observed in the most sensitive to pollution group of brown algae (Zaitsev *et al.*, 2006; Belyaev, 1993).

In recent years, due to a decrease of anthropogenic loading on Karkinitzky Bay, the improvement state of phytobiocenosis of Small Phyllophora field was observed. This resulted in the increase of the number of species of brown and red algae and appearance of new for this region algal species.

Approval Process for the "Small Phyllophora field"

According to the Law of Ukraine titled "The State Program of Creation of the National Ecological Network of Ukraine for the years 2000-2015" (Law, 1989-III, 2000) a site of nature reserve fund of Ukraine "Small Phyllophora field" should be created in the Karkinitzky Bay of the Black Sea. International organizations also pay attention to this unique natural phenomenon. In September 2008, field studies of the state of Phyllophora biocenosis and boundaries of its distribution in the Small field were carried by scientists of the Odessa branch of the Institute of Biology of Southern Seas (IBSS). This "Pilot Project for declaration of a Marine Protected Area at the

Small Phyllophora field in Karkinitzky Bay", was carried within the framework of EU project "Environmental collaboration for the Black Sea (ECBSea), Europe Aid/120117/C/SV/Multi Contract N 111779) (Anonymous, 2009). The results of these studies and our research in this area have enabled us to prepare the Petition to president for establishing the botanical reserve of national importance in Karkinitzky Bay. In accordance with the Law of Ukraine "On Nature Reserve Fund of Ukraine" (Law, 2456-XII, 1992) this Petition is the first step towards creating a national nature park. The approval process of the Petition was the following:

- The Petition was considered and approved by the Ministry of Environmental Protection (MEP) of Ukraine.

- After MEP approval the Petition was agreed upon with local authorities, local government and with interested bodies of executive power by the Republican Committee of the Autonomous Republic of Crimea (ARC) on Environmental Protection (Reskomprirody Crimea). This was done due to the fact that the proposed botanical reserve "Small Phyllophora field" will be located in the coastal waters of Crimea - in Karkinitzky Bay.

- The next step was the development of the Project of Creation of the botanical reserve of national importance "Small Phyllophora field" in Karkinitzky Bay. This project has been prepared by us (UkrCES) together with Reskomprirody Crimea.

- The prepared Project was presented by Reskomprirody Crimea to the Supreme Council of ARC for approval and submission to the Ministry of Environmental Protection (MEP) for declaring the Small Phyllophora field a site of natural reserve fund of Ukraine of national importance.

- Then MEP had prepared draft of the Presidential Decree and had coordinated this draft with concerned ministries and committees.

- In accordance to temporary regulations of the Cabinet of Ministers of Ukraine, MEP had transferred this approved draft of the Presidential Decree and the Project of creation of the botanical reserve of national importance "Small Phyllophora field" in Karkinitzky Bay to the Cabinet of Ministers.

- After review and approval by the Governmental Committee of the Cabinet of Ministers, these documents (the draft of Presidential Decree together with Project of creation of the botanical reserve of national importance "Small Phyllophora field" in Karkinitzky Bay) will be transferred to the

Administration of the President of Ukraine.

- Final decision on creation of the object of nature reserve fund of national importance will be made by the President of Ukraine and will be published in print in the form of a corresponding the Presidential Decree.

Creating sites of nature reserve fund of Ukraine - " Zernov's Phyllophora field " and "Small Phyllophora field" - are important steps in the development of nature reserve fund of Ukraine. But it is also an important step toward forming European network of marine protected areas - European coastal and marine ecological network (General guidelines, 2000).

Saving the Small Phyllophora field represents a unique opportunity for the recovery of the north-western Black Sea ecosystem to its healthy state in the near future. Establishing the "Small Phyllophora field" as a botanical reserve of national importance will create suitable conditions for preservation and restoration of the unique alga - *Phyllophora*, as well as the entire biocenosis of Small Phyllophora field.

References

- Anonymous, 2009. Environmental collaboration for the Black Sea. Project profile. http://81.8.63.74/ecbsea/files_/content/ECBSea_Project_Profile.pdf
- Belyaev, B.N. 1993. The illumination of the water column in the northwestern Black Sea shelf in the regions of Karkinitzky bay and Zernov's Phyllophora field. *Ecology of Sea*, 43: 75-90. [in Russian].
- General guidelines for the development of the Pan-European Ecological Network. 2000. Nature and environment, 107. Council of Europe Publishing, Strasbourg, 67 pp.
- Kostylev, E.F., Tkachenko, F.P. and Tretiak, I.P. 2010. Establishment of «Zernov's Phyllophora field» marine reserve: protection and restoration of a unique ecosystem. *Ocean and Coastal Management*, 53(5-6): 203-208.
- Law of Ukraine 1989-III of 21.09.2000 on the State Programme of creation of a national ecological network for the years 2000-2015. [in Ukrainian].
- Law of Ukraine 1992. 2456-XII of 16.06.1992 on Nature Reserve Fund of Ukraine. [in Ukrainian].
- Presidential order 1064/2008. On declaring an area of natural waters of the Black Sea a botanical preserve of state-wide importance "Zernov's Phyllophora Field"; 21 November 2008.
- Zaitsev, Yu., Alexandrov, B. and Minicheva, G. 2006. Northwest part of the Black Sea: biology and ecology. *Naukova Dumka, Kiev*, 701 pp. [in Russian].