PAME II – 2015 Agenda item 4.8

AMSA Recommendation II(E)

AOR Final Report Recommendation 3. Aquatic Invasive Species in Arctic Marine Waters subject to Iceland´s Jurisdiction

PAME I – 2015 adopted a Record of Decision (ROD) under AMSA II (E) „inviting member governments to submit to PAME II – 2015 information on the nature, extent and impact of aquatic invasive species within Arctic marine waters subject to their jurisdiction.„

A. Nature of Aquatic Invasive Species

Invasive alien species is considered a great threat to biodiversity globally. Iceland participates in the NOBALIS network, European *network on alien invasive species*. Correct identification of alien species is a key issue for preventing the spread of these species as well as monitoring the effects on local ecosystems. Marine organisms are considered especially difficult to identify, and also, once established in a new marine region, almost impossible to get rid of. The NOBANIS has developed an identification key to marine invasive species, as a Nordic project based on expert taxonomic knowledge. It is aimed at users in management of invasive species and marine biodiversity who are not trained taxonomists, but it can be useful to anyone with an interest in marine life.

B. Extent of Aquatic Invasive Species

During recent decades fifteen introduced marine species have been recorded in Icelandic waters. Those species are six algal species, four crustaceans, two molluscs, the Sea vase tunicate and two species of fish. The majority of the species are likely to have been transported to Iceland with ships either as biofouling on the outside hull or in ballast water. Ballast stones or sand are proposed as a possible means of transport for some species. Most of the introduced marine species in Iceland are likely originated in Europe, as has been confirmed for three of the species by genetic comparisons with populations elsewhere in the North Atlantic. The Atlantic rock crab is the only species that can be said with certainty to have been introduced from the Northwest Atlantic. All the introduced species have been found in littoral or shallow water habitats. Most of the introduced species were first detected in south-western Iceland where the sea temperature is highest and the busiest harbours are located. In general only a small part of introduced species become invasive. Of the introduced marine species *H. akashivo*, the serrated wrack, Atlantic rock crab, European brown shrimp, the Sea vase tunicate and the European flounder are considered invasive or potentially invasive (*Karl Gunnarsson, Guðrún G. Þórarinsdóttir og Óskar Sindri Gíslason. Framandi sjávarlífverur við Ísland. Náttúrufræðingurinn 85. (1-2). 2015*).

C. Impact of Alien invasive species.

None currently known.

D. Issues.

Import of organisms in ballast water was not considered to be a problem in Icelandic waters until recent years. It was rare that ships came to Iceland empty and most of them were coming from neighbouring coastline countries with considerably warmer sea. With rapid globalization, increased industrial activity and rise in sea temperature, the odds of ships from distant parts of the world travelling to Iceland and unloading ballast water containing organisms that can thrive in their new

place have increased. At the same time, the risk of import of invasive species that can cause severe harm to the environment has increased. To prevent foreign invasive species from ballast water reaching the Icelandic waters and coastline, regulation to limit unloading of untreated ballast water in Icelandic waters entered into force the year 2010. The Regulation Nr. 515/2010 contains all the provisions of the Ballast Water Convention.

E. Future Direction

Information from the NOBANIS data base can be used to locate the species that are already considered invasive or likely to be. The database also gives information about how the species have been transported between countries, their circulation, what kind of habitats they live in and what kind of impact they have. The NOBANIS data base can therefore be used as a powerful warning system towards invasive foreign species.

The process of ratifying and implementing complex and extensive conventions can be a heavy burden to states with small administration. Iceland, together with other small Nordic states within the cooperation of the Nordic Council of Ministers is preparing cooperation with the aim of ratifying and implementing the Ballast Water Convention within small administrations.