



19 November 2007

**Ministry of the Environment**

*Division for Natural Resources*

*Departementssekreterare*

*Lars Berg*

*Telephone +46 8 405 17 93*

*Fax +46 8 21 91 70*

*E-mail Lars.Berg@environment.ministry.se*

**Submission of views and experiences for the in-depth review of work on invasive species**

The basis for this review has been produced by the Swedish Environmental Protection Agency.

**1. General comments**

The various CBD decisions regarding IAS have provided an excellent guidance for work with invasive alien species. Particularly Decision VI/23, *Guiding Principles for the prevention, introduction and mitigation of impacts of alien species that threaten ecosystems, habitats or species* has been very valuable in raising awareness among national and regional authorities and organizations, and as guidance in prioritizing and planning work with invasive alien species on the national and regional level. The Guiding Principles have been the basis for significant work in the Nordic and Baltic Region and has directly stimulated the regional cooperation which has led to the development of the NOBANIS portal and network. A difficulty with the Guiding Principles and other CBD decisions is that they are non-binding recommendations. This has a practical consequence as it can be difficult to find resources for developing more expensive measures, such as environmental monitoring programs for invasive alien species, on the basis of a recommendation.

Although the decisions are excellent in covering the broad spectrum of fields, pathways and organism groups that are involved in work with invasive alien species, this multitude of issues to be addressed is somewhat overwhelming for environmental authorities with limited resources. The CBD could perhaps assist by specifying clearer priorities in future work with invasive alien species.

Suggested Priorities for CBD future work with invasive alien species

- Development of a guidance on terminology and a glossary of terms. The current definition of particularly *invasive*, has caused a number of major problems in cooperative work.
- Development of global indicators for measuring loss of biodiversity due to invasive alien species.
- Further develop methods for assessing the risks of invasive alien species. These risk assessment protocols or methods must be sufficiently robust to meet international standards in order to be used in regulation of trade with invasive alien species.
- Further work with gaps and inconsistencies in legislation and regulations. A more detailed analysis of the gaps and inconsistencies needs to be done after consultation with those who actively work in managing invasive alien species in the various fields. Experiences should be gathered from a broader group that actively work within the various fields and conventions dealing with invasive alien species.
- Improved guidance on possibilities to regulate trade with invasive alien species.
- Guidance on implementing the Precautionary Principle in ecosystem approach to preventing the introduction of invasive alien species.

## **2. Legislative measures and national policies**

The CBD decisions on invasive alien species were the basis for work with an review of Swedish legislation and regulations pertaining to invasive alien species and government administrative routines when managing invasive alien species. A direct result of this review and the adoption of the Bern Convention's *European Strategy on Invasive Alien Species*, that is based on the CBD's Decision VI/23, is that the Swedish Ministries of the Environment and Agriculture initiated a government remit project for developing a national strategy and action plan on invasive alien species in 2006. The strategy and action plan will be delivered to the government on 1 July, 2008. This relatively long project period was granted to enable the sector authorities for environment, fisheries, agriculture, customs, maritime safety and forestry to develop the strategy and action plan in close cooperation, and in consultation with other competent authorities, organizations, researchers, business sectors and relevant stakeholders. The national strategy and action is planned to follow the structure of the CBD's Guiding Principles and take into consideration recommendations given by the CBD and European Strategy on Invasive Alien Species.

Various sector authorities, such as the Swedish Environmental Protection Agency and the Swedish Board of Fisheries have sectoral policies on the spread of invasive alien species, which are the direct result of CBD recommendations.

Swedish environmental policies and management are based on 16 environmental objectives that state the ideal environmental status and specify what measures are necessary to achieve this status, for example the objective *A rich and varied plant and animal life* for biodiversity, *Living lakes and rivers* for the freshwater ecosystem and a *Sea in balance and no eutrophication* for the marine environment. The goal “*Alien species that threaten biodiversity are not introduced to the environment*” is stated in the environmental objectives for freshwater, wetlands, the mountains, the agricultural landscape, and for the cross-cutting objective on biological diversity. The environmental objectives are the pillar for planning and carrying out work to improve the environment in Sweden.

CBD Decisions on invasive alien species have also stimulated work on the government remits on for example:

- *Ecological impacts of invasive alien species in freshwater environments* delivered by the Swedish Environmental Protection Agency and the Swedish Board of Fisheries in 2004
- *Ecological impacts of use of invasive alien species in marine environments* by the Swedish Board of Fisheries in 2004
- *Implementation of the ballast water convention and management of ballast water* by the Swedish Maritime Safety Inspectorate in 2004 and 1 January 2008.

### **3. Management**

The recognition that regional cooperation will enhance efficient use of resources in work with preventing introductions of invasive alien species and eradication and control, resulted in the development of the North European and Baltic Network on Invasive Alien Species (NOBANIS). NOBANIS project aims to provide information on alien species in 11 countries (Sweden, Denmark, Norway, Iceland, Finland, Estonia, Latvia, Lithuania, Poland, Germany and Russia) and management of invasive alien species to environmental authorities, researchers and the general public. NOBANIS is coordinated by the Danish Forest and Nature Agency and the Swedish Environmental Protection Agency and funded by the Nordic Council of Ministers. Information on best management practices are found on the NOBANIS portal ([www.nobanis.org](http://www.nobanis.org)) for 58 of the most invasive species in the region. Other information provided on the portal: alien species present in the 11 countries, their impacts, pathways of introduction, origins, date of introduction and references. Information from the NOBANIS portal has been used in the Global Biodiversity Outlook 2 and in developing the indicator Trends in invasive aliens species for European Environment

Agency's project *Streamlining Environmental Biodiversity Indicator 2010* (SEBI2010).

Considerable effort has been made to update and improve the national lists of alien species present in Sweden and their impacts on biological diversity. This effort is the direct result of the CBD Guiding Principles. Work is in progress to from a scientifically based risk assessment to develop lists of invasive alien species that pose a high risk for biological diversity (black lists) and those that pose little or no risk (white lists).

Various county administrative boards have programs to control a number of especially invasive species in their districts, such as mink (*Mustela vison*), Giant hogweed (*Heracleum mantegazzianum*), Japanese knotweed (*Fallopia japonica*), and the Japanese rose (*Rosa rugosa*). These projects are funded by the local county administrative boards, local and national organizations and the EU LIFE project. No nationally coordinated eradication or control programs are in place. Better coordination between local, regional and national authorities of eradication and control programs is a priority in the draft action plan on invasive alien species.

Management of populations of signal crayfish in watersheds crossing the Norwegian border are carried out in a joint Swedish/Norwegian control program.

The CBD decisions on invasive alien species have also been instrumental in the work with controlling ballast water introductions. The CBD ecosystem approach has been used in the national work with the International Maritime Organization's Ballast Water Convention.

#### **4. Assessment**

The Swedish Environmental Protection Agency initiated and funded the *AquAliens* Research Program (2002-2007) *How and why alien species threaten biological diversity in the aquatic environment* after realizing that there were significant gaps in knowledge on effects of invasive alien species and how to assess their risks for biological diversity, human health and socio-economic values. Within *AquAliens*, research groups from six Swedish universities and institutes have studied the effects of invasive alien species in the aquatic environment and developed methods for assessing their risks and costs and benefits for society.

Realizing that knowledge of the effects of spread of alien populations on native biodiversity at the gene level is needed, the Swedish Environmental Agency has initiated a project to study this. Studies of the spread of alien

populations, the extent and their effects on biological diversity have also been presented in three reports (Laikre & Palmé 2005, Laikre & Palmé 2006, Laikre in press). A workshop which brought together researchers and environmental authorities working with or affected by introductions and spread of alien populations of fish, wildlife and forest trees was also organized.

Sweden has also actively participated in the European Environment Agency's SEBI2010 process for developing indicators for measuring changes in biodiversity due to invasive alien species. It is apparent from experiences gained in the SEBI2010 project that much work is needed in developing the global indicator, so that regional and national work on indicators will not develop independently in a manner that is not compatible with the global indicator.

#### **5. Economic instruments**

No economic instruments have been developed for dealing with the threat from invasive alien species, although discussions are underway about how to incorporate the Polluter Pays Principle in measures to prevent damage to biological diversity, human health and socio-economic values.

#### **6. Provision of resources**

An increase in national funding for work with invasive alien species has increased somewhat as a result of the CBD decisions and highlighting of biological diversity.

#### **7 Communication, education and public awareness**

CBD decisions have lead directly to the development of a Swedish Clearing House Mechanism on biological diversity in 2002. A section with information on Invasive Alien Species is included ([www.biodiv.se](http://www.biodiv.se)).

The Swedish County Administrative Boards' Marine Information Centrals have in cooperation with the Swedish Environmental Protection Agency and the AquAliens Research Program developed the Internet portal "*Alien species in Swedish waters*" ([www.frammandearter.se](http://www.frammandearter.se)) which has generated much interest from school children, journalists, the general public and local authorities. Information on alien species in the marine and to some extent, the freshwater environment are presented in Swedish, with some pages translated to English. Notices of latest developments, such as the invasion of the comb jelly *Mnemiopsis leidyi* in the Baltic Sea during 2007 are also

posted, which is invaluable for environmental authorities, researchers and journalist.

These web sites have stimulated frequent contacts with the Swedish press, both newspapers and television.

A project for developing a Internet based reporting system for invasive aliens species is being planned in cooperation between the Swedish Threatened Species Information Unit and the Swedish Environmental Protection Agency. Such a system for the general public, researcher and authorities to report their findings of native birds, vascular plants, fish, fungi and marine organisms is already in operation at [www.artportalen.se](http://www.artportalen.se). It is planned to expand the site to include invasive alien species.

## **8. Cooperation**

The CBD decisions on invasive alien species, particularly the Guiding Principles have been particularly successful in stimulating regional cooperation. The NOBANIS project (see Section 3) on management, has its origins in the work with developing the Guiding Principles. The NOBANIS project has been very successful in developing a regional cooperation between 11 countries and may be joined by more countries within the near future. The CBD process has been successful in inspiring organizations such as the Nordic Council of Ministers to support a number of regional projects dealing with invasive alien species, which have increased cooperation on this issue between the Nordic and Baltic countries.

Sweden has also participated in the European Union research Program Delivering Alien Invasive Species Inventories for Europe (DAISIE) ([www.europe-aliens.org](http://www.europe-aliens.org)) which is inspired by and the direct result of the CBD's Guiding Principles and the *European Strategy on Invasive Alien Species*.

In all of the cooperation projects NOBANIS, SEBI2010, DAISIE a major problem has been the lack of a commonly accepted terminology regarding invasiveness. This has lead to differences in how the different countries have determined which species are considered invasive, which affects the quality and usefulness of data in the regional databases. It would be very valuable for the CBD to develop an interpretative guidance to terminology and a glossary of terms. This is particularly important to avoid confusion in cooperative work with people whose work with invasive alien species is based on other conventions than the CBD, such as the International Plant Protection Convention (IPPC) and the Animal Health Convention (OIE).

**References**

Laikre, L. & Palmé, A. 2006. The spread of alien populations in Sweden. Swedish Environmental Protection Agency Report

Laikre, L. & Palmé, A. 2007. The spread of alien populations in Sweden. Report from a Workshop. Swedish Environmental Protection Agency Report