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CONVENTION ON THE CONSERVATION OF EUROPEAN WILDLIFE
AND NATURAL HABITATS

Group of experts on Invasive Alien Species

6th meeting
Palma de Majorca (Spain), 9-11 June 2005

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Report

Document
prepared by
the Directorate of Culture and Cultural and Natural Heritage

The Standing Committee is invited to:

- Take note of the report of the Group of Experts;
- Take note in particular of the good progress in many states in Invasive Alien Species issues and on the good use that is being done of the European Strategy on Invasive Alien Species;
- Thank the Balear Regional Conservation authorities for the excellent hosting of the meeting;
- Take note of the proposals for actions for the next years on this topic (which will be discussed at the adoption of a programme of activities for 2006);
- Examine and, if appropriate, adopt a draft recommendation on the control of the Grey squirrel (*Sciurus carolinensis*) and other exotic squirrels.

1. Opening of the meeting

The Chair, Mr. Patrick De Wolf, welcomed participants (List of participants - Appendix 1) and thanked the Regional Environmental Authority of the Balearic Islands, Conselleria de Medi ambient des Illes Balears, for hosting the meeting and its important involvement in the organisation of this event.

2. Adoption of the Draft Agenda

The agenda was adopted (Appendix 2 – Agenda).

3. Introduction by the Secretariat : progress of work on Invasive Alien Species under the Convention

The Secretariat informed the Group on the progress made since the last meeting held in Strasbourg in June 2003 (report in document T-PVS (2003) 6) and the adoption of the European Strategy of Invasive Alien Species by the Standing Committee to the Bern Convention in December 2003 (document T-PVS/Inf (2004) 1).

At this occasion the Secretariat reminded the delegates on the number of recommendations adopted by the Standing Committee in the past in order to help countries to interpret and implement at national level Article 11, paragraph 2.*b*, of the Convention requiring Contracting Parties "*to strictly control the introduction of native species*", as well as Recommendation No. R(84)14 of the Committee of Ministers concerning the introduction of non-native species.

At its very beginning, the Group of experts, created in 1992 and which met for the first time in March 1993, was mostly focussing on the legal aspects on introduction and re-introduction of wildlife species, aiming at the harmonisation of national regulations on introduced species.

Four years ago Invasive Alien Species became to be a politically relevant issue in the framework of the Convention on Biological Diversity (CBD), resulting in the adoption in 2002 at the 6th Conference of the Parties of the CBD of the *Guiding Principles on Alien Species that Threaten Ecosystems, Habitats or Species*. Aiming at implementing this guideline at European level, the convention jointly with the IUCN-Specialist Group on IAS decided to draft a European Strategy taking into account the CBD Guiding Principles. Finally the Strategy was adopted by the Standing Committee to the Convention in 2003 through Recommendation No. 99 (2003) which requested Parties to draw up and implement national strategies on IAS.

Once the Strategy was adopted, the Group was, among other goals, to follow up the implementation by States of the European guidelines. For that purpose the Secretariat requested the Parties to send a brief report of the activities carried out on the field of IAS, even if a national strategy or action plan as such was still to be drafted.

The Secretariat detailed progress on this process and recalled that 2004 was the year to launch the Strategy and present it in the different fora tackling this issue, such as the PlantaEuropa meeting held in September 2004, the 3rd International Conference on Biological Invasions NEOBIOTA in 2004, the International Workshop on Invasive Plants in the Mediterranean Type Regions of the World in May 2005 and the EPPO meetings.

4. Presentation of the conclusions of the Regional Scientific Seminar on Invasive Alien Species: problems and solutions (Chisinau, Moldova, 16-17 October 2003) by Stela Drucioc (Ministry of Ecology and Natural Resources, Moldova) *[Document T-PVS/Inf (2003) 22]*

The representative of Moldova, Mrs Stela Drucioc, presented to the Group the main conclusions and results of the regional meeting held in 2003 within the framework of the Bern Convention. The conclusions were mainly focused on the relevance of a regional approach for this global problem. The need was underlined to: elaborate comprehensive lists of IAS, monitor its distribution, give priority to prevention and mitigation and the improvement of the legal and administrative framework through the

elaboration of a National Strategy on IAS. As a result of the meeting, the Republic of Moldova had received a GEF Grant "Ecological Network Development in Middle Prut River" and the eradication of *Acer negundo* would be carried out as the basis for the case study on IAS in the natural ecosystems of the Scientific Reserve "King Forest".

5. Implementation by States of the European Strategy on IAS

5.1 National reports

Many national reports were received, which are found in appendix 3 to this report. A few were chosen for presentation as a sample of problems encountered and actions taken. Thus the delegates from Spain, Sweden, Croatia, the United Kingdom and Malta were invited to present reports on the implementation of the European Strategy. The goal of this exercise was to review action plans and assess what had actually been achieved for the application of this commitment, how effective it was and of course what had to be done for the future.

It was encouraging to see that plans and action on invasive alien species have increased much in the last two years. Many national strategies are being drafted and implemented following the guidelines presented in the Convention's European Strategy on IAS.

Most of the speakers oted that the European Strategy on IAS had been a very valuable instrument in the preparation of national actions plans and in the fixing of priorities.

The Chair congratulated the Group for the practical success of the Strategy, through which the input of the Group of experts had been fundamental.

5.2 Follow-up of the implementation of IAS by Bernardo Zilletti and Laura Capdevila-Argüelles (G.E.I. Grupo Especies Invasoras)

The consultants explained to the Group the method used to prepare the report concerning the follow-up, which was first launched in 2004 through a questionnaire sent to the countries aimed at monitoring the implementation of the Strategy through national policies and other administrative measures on IAS. The first progress report was presented at the last Standing Committee in December 2004.

It had to be pointed out that for the present meeting, as mentioned above, countries were requested to send a report on IAS, used as a vital element for the elaboration of the present progress report on the state of the art of the European strategy concerning mostly its implementation. The report had been drawn up according to the contents of the European Strategy, responding to the following aspects: Building awareness and support; Collecting, managing and sharing information; Strengthening national policy, legal and institutional framework; Regional co-operation and responsibility; Prevention; Early detention and rapid response, and Mitigation of impacts. The following countries had sent contributions to the Secretariat: Belgium, Bulgaria, Burkina Faso, Croatia, Czech Republic, Denmark, Estonia, Germany, Hungary, Italy, Liechtenstein, Luxembourg, Malta, Moldova, Norway, Poland, Portugal, Slovakia, Spain, Sweden and United Kingdom. The consultants stressed the importance of these national reports and concluded that, due to a lack of information from some countries, the assessment concerning the situation in Europe related to national activities on IAS could be understimated. Nevertheless a positive trend was to be observed since the last evaluation.

The delegate from Portugal thanked the consultants for this first approach of the Strategy's application and stressed that despite the fact that indicators were relevant in this assessment process the Group should not focus just on figures.

The consultants of the G.E.I. explained at this point the difficulty found when compiling from questionnaires or national reports and proposed for the future to ask countries to report on concrete issues considered as key elements of the European Strategy, such as legislation and public awareness and support. Therefore the follow-up could be composed of two different reports focusing on these subjects.

The delegate from the United Kingdom recognised the outstanding relevance of building awareness and support as a key element in the prevention of non-native species invading and

overwhelming native species and mentioned as example "The Horticultural Code of Practices" as the first of a series of Codes of Practice to be developed for each of the sectors, providing advice on non-native species in UK.

The Swedish delegate stressed first the need for a better and more effective transectorial co-operation between the different agencies concerned by the problem of IAS, for example fisheries, agriculture and environment. The need was stressed for the creation of national and European "black" lists showing the worst invaders in the region, trends and costs associated with them, and the establishment of a screening system based on risk analysis as a key measure for the prevention of intentional introductions. NOBANIS, the Nordic/Baltic Network on Invasive Alien Species, was cited as a good example of regional co-operation sharing databases.

The representative of Burkina Faso expressed the importance for her country of this kind of meeting as a forum where information and experiences could be shared. The need for more technical support was also stressed.

The Tunisian delegate drew attention to the fact that since the ratification of the convention by his country on 1995, they have tried to take part in this policy making process and asked the consultants for an explanation about the differences between "black" and "grey" lists.

Mr. Piero Genovesi, Chair of the European Section of the IUCN SCC Invasive Species Specialist Group and co-author of the European Strategy, replied that identification of IAS through the elaboration of lists and the previous assessment of risks needed for drafting such lists were a critical point because of its importance recognised by the CBD. It was also to be noted that the elaboration by European institutions of a regional list was a difficult and lengthy task that must be nevertheless achieved.

To conclude the discussions concerning this point of the agenda the Chair encouraged the Group to continue providing the Secretariat with reports on the implementation of the European Strategy on Invasive Alien Species and expressed its good impression on the effectiveness of the European policy showing that as a general trend most of the countries were really engaged with the Stategy and were taking the responsibility of translating it into national policies.

6. Presentation of the report drawn up by the United Kingdom: "Non-Native Invasive Species –the Grey Squirrel *Sciurus carolinensis*. A particular example of the threat posed to European biodiversity". The case of the Grey Squirrel and the need for cross-regional co-operation: to be presented by Linda Smith (DEFRA, UK) in collaboration with Piero Genovesi (INFS, Italy) *[document T-PVS (2004) 15]*

Mrs Linda Smith from DEFRA, in collaboration with Mrs Brenda Mayle, Project Leader Squirrel Population Management and Deer Population Ecology, informed the Group on the severe impacts of the expansion of the American grey squirrel (*Sciurus carolinensis*) on the native biological diversity in the UK and Mr Piero Genovesi, representing the National Wildlife Institute of Italy, explained the situation in Italy. In both regions, the grey squirrel has extensively replaced the native red squirrel (*S. vulgaris*).

One critical point in the Italian case was the need for an effective geographical containment of the grey squirrel population of Italy for which an effective regional co-operation was needed in order to prevent the spread to neighbouring countries and, in the long term, to the rest of Eurasia. The consultants reported mainly on the legal and administrative limitations found in each affected country for the effective control of the species, the problem of the public acceptance related to these measures and the means of overcoming these obstacles.

The Group discussed the methods of control for the species, with the possibility of using hunting as a possible solution to its spread.

The Secretariat supported the idea of strengthening the implementation of Recommendation No. 78 (1999) on the conservation of the red squirrel in Italy and affirmed that grey squirrel was considered as a regional threat for biodiversity in Europe.

The Group agreed to present to the Standing Committee a draft recommendation concerning this species (see appendix 5).

7. Presentation of the conclusions of the International Workshop on Invasive Plants in the Mediterranean Type Regions of the World (Mèze, France, 25-27 May 2005) by Sarah Brunel (Conservatoire Botanique National Méditerranéen de Porquerolles)

Mrs Sarah Brunel presented the conclusions of the seminar held in May related to invasive plants in the Mediterranean region, where a declaration and a number of recommendations were adopted concerning, amongst others, data collection of invasive plants, awareness-raising, the horticultural and landscape sector, trade, prevention of introductions, and management of IAS in the Mediterranean islands. A co-ordination committee was also constituted in order to give a follow-up to this pioneer initiative and to continue to stimulate and encourage the exchange of information and experience on invasive plants between researchers and professionals (land managers, horticulture and landscape professionals).

The Mèze Declaration is included for information as appendix 4 to this report.

8. Preparation of the Symposium 2006 on IAS. Presentation by Piero Genovesi (Chair of the European Section, IUCN SCC Invasive Species Specialist Group)

Mr Piero Genovesi informed the Group that 2006 would be too early to hold such meeting in Italy and whether other states were ready to host such vent.

Mr Solarz from Poland reported on the conclusions of the meeting of the "Ad Hoc Technical Expert Group on Gaps and Inconsistencies in the International Regulatory Frameworks on Invasive Alien Specieson", held in May this year in New Zealand and organised by the CBD, aimed at identifying gaps, inconsistencies of the legal frame of IAS and the way to address these problems.

Mr Tor-Björn Larsson from the EEA informed the Group on the project called "Streamlining European Biodiversity Indicators for 2010" managed by the European Commission, the European Environment Agency (EEA), UNEP's Regional Office and the Council of Europe assisted by the European Centre for Nature Conservation (ECNC). They have joined forces to develop a European set of indicators to match the global set while also showing the European situation.

The representative from the EEA also focused on the fact that the European Commission was currently discussing the next LIFE projects and proposed that IAS could be a good target to take into consideration in these projects. He also drew the attention to the EU Forest Monitoring project aimed at monitoring pollution damage and suggested taking into account consideration the IAS issue in this forest programme considering it as a threat to forest biodiversity.

The Secretariat responded to comments made by some delegates concerning the complexity of the global and regional instruments dealing with biodiversity issues, stating that all these initiatives were interconnected, did not overlap and were integrated in the framework of the CBD.

The delegate from Spain stated that the project on indicators was of great relevance for the commitment of 2010 to halt the loss of biodiversity and the fact that IAS could be included in this project demonstrated effectively this problem was being faced. Two approaches were to be considered: one related to the prevention of IAS in the field of agriculture and trade giving attention on the control of borders with systems such as CITES, and other related to the threat of the existing IAS in European countries through an effective systems of eradication and control.

9. Proposals to the Standing Committee to the Bern Convention

As the project to hold a seminar in Italy did not seem to materialise, the Group decided that it was important to propose a number of activities connected to the implementation of the European Strategy on IAS.

Mr Piero Genovesi agreed to provide advise to the States on the implementation process of the Strategy and to maintain the three existing levels: policy-making, information and the scientific aspects but with key concrete actions on each level and demonstration "flagship" projects as successful examples. One of the reasons for the impossibility to hold the political meeting in Italy next

year was the number of scientific meetings planned for 2006. One proposal could be to hold practical workshops with “flagship” examples like the Carpobrotus case.

Mr Alan Saunders from the Cooperation Islands Initiative added that more focus on action plans on the ground should be made.

The Group agreed that it would be important to continue the assessment of the implementation of the Strategy (such as that presented workunder point 5.2 of the agenda).

The Secretariat thought that the Group could propose similar actions to the one carried out in Moldova and presented under point 4 of the agenda. The workshop was aimed to help governments draft and implement national strategies on IAS.

The representative from Ukraine supported the idea of the Secretariat concerning the need to give a more clear political message and focus as well on the regional dimension of the threat posed by the invasions. The promotion of pilot projects at regional and national level could be a concrete measure to bear in mind for the future.

The delegate of Croatia offered her state for a possible workshop.

10. Election of the Chair

The Chair, Mr. Patrick De Wolf, thanked the Group for the honour of holding in this position over the past years.

In the name of all participants, the Secretariat expressed its gratitude to Mr De Wolf for his excellent work and asked the Contracting Parties for nominations.

The representatives from Denmark and Iceland proposed Mr Joan Mayol from Spain as Chair for the future years. The new Chair was warmly welcomed by all the Parties.

No other business was raised.

Appendices

1. List of participants
2. Agenda
3. National reports
4. Mèze Declaration
5. Draft recommendation on the control of the Grey squirrel

Appendix 1

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Appendix 2

Bern Convention Group of Experts on Invasive Alien Species

6th meeting
Palma de Majorca (Spain), 9-11 June 2005

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AGENDA

1. Opening of the meeting by the Chair

2. Adoption of the Draft Agenda

3. Introduction by the Secretariat : progress of work on Invasive Alien Species under the Convention
   [documents T-PVS (2003)6; T-PVS/Inf (2004)1; T-PVS/Inf (2004)6]

4. Presentation of the conclusions of the Regional Scientific Seminar on Invasive Alien Species: problems and solutions (Chisinau, Moldova, 16-17 October 2003) by Stela Drucioc (Ministry of Ecology and Natural Resources, Moldova)
   [document T-PVS/Inf (2003)22]

5. Implementation by States of the European Strategy on IAS **(*)**
   a. National reports (a few cases will be subject to presentation)
   b. Follow-up of the implementation of IAS by Bernardo Zilletti and Laura Capdevila-Argüelles (G.E.I. Grupo Especies Invasoras)

6. Presentation of the report drawn up by the United Kingdom: **"**Non-Native Invasive Species –the Grey Squirrel *Sciurus carolinensis***.** A particular example of the threat posed to European biodiversity". The case of the Grey Squirrel and the need for cross-regional co-operation: to be presented by Linda Smith (DEFRA, UK) in collaboration with Piero Genovesi (INFS, Italy)
   [document T-PVS (2004) 15]

7. Presentation of the conclusions of the International Workshop on Invasive Plants in the Mediterranean Type Regions of the World (Mèze, France, 25-27 May 2005) by Sarah Brunel (Conservatoire Botanique National Méditerranéen de Porquerolles)

8. Preparation of the Symposium 2006 on IAS. Presentation by Piero Genovesi (Chair of the European Section, IUCN SCC Invasive Species Specialist Group)

9. Proposals to the Standing Committee to the Bern Convention

10. Election of the Chair

Appendix 3

Implementation of recommendations on the Invasive Alien Species

-- National reports --

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CONTENTS / SOMMAIRE

1. BELGIUM / BELGIQUE

Actions taken in Belgium in response to the threats of Invasive alien species

Population control measures

- Population control of musk rats *(Ondatra zibethicus L.)* :

There is active eradication for the muskrat (*Ondatra zibethicus*) in the three regions of Belgium because this species is known to provoke serious harm to waterways.

There is an interreg III project « Lutanuis » for cooperation between France, Flanders and Wallonia (2000-2006) on :

- how to control the muskrat,
- to define infestation norms
- to put the results on the internet to enhance exchange of information with other countries who encounter problems with the Ondatra.

http://mrw.wallonie.be/dgrne/de/dcenn/lutanuis/index.htm

- There is active eradication of the Black cherry (*Prunus serotina*) in some parts of Flanders, leading to good results *i.a.* in the Kempen.
- In Flanders, there is a program to control the presence of Floating Pennywort *(Hydrocotyle ranunculoides)* in waterways.
- There are punctual eradication of *Fallopia japonica* and *Heracleum mantegaziannum* in Nature reserves and some public green spaces in Brussels.

Communication, Education and Public awareness

2.1. Belgian Forum on Invasive Alien Species BFIS (http://www.biodiversity.be/bbpf/) :

This scientific forum acts as the Belgian node of the IUCN Invasive Species Specialist Group (ISSG). It aims to provide and gather scientific knowledge about invasive alien species in order to reduce threats to natural ecosystems and to build action plans for preventing or controlling these organisms.

This forum works in close relation with the expert contact groups on alien species depending from the CCIEP nature and biodiversity steering committees, in order to ensure a scientific background to political decisions and to provide an adequate feedback from the international decision-making scene to the scientific community. The steering committees focus on administrative and political aspects in order to prepare Belgian positions for international meetings, to write thematic reports and elaborate programs related to Belgian international obligations.

On the website, we can find :

- The discussion list : Messages about scientific aspects related to invasive alien species are regularly exchanged on the discussion list of the forum.
- Hot topics about invasive alien species : Priority topics related to the management of invasive alien species in Belgium and abroad are discussed within the forum. In addition to exciting idea exchange, the forum produces synthesis documents that can be downloaded from this website.
- Members : The forum is open to any people interested by scientific aspects linked to invasive alien species. It gathers 59 people, mainly from Belgian universities and research centers.
- Activities : In addition to the debates animated on the discussion list, workshops will be organized by the forum at regular time intervals. These aims at improving the Belgian expertise in specific

fields through scientific communications and roundtable discussions gathering the different stakeholders concerned by biological invasions.

- Species : A table lists invasive alien species that are known to live in Belgium, are in strong geographical and/or can produce a detrimental impact on environment sensu lato. This list is not exhaustive and will be progressively completed. Species profiles including description, habitat preferences, detrimental impact and management information are currently in development. This table includes: Species name, its origin, its arrival date in the country, its habitat, its range, its progression and its Impact type. The species groups are: Mosses and ferns, Higher plants, Annelid, Mollusks, Crustaceans, Insects, Fishes, Amphibians and reptiles, Birds, Mammals

For each species, the objective is to develop a information sheet including taxonomy, description, the origin and distribution, the ecology and life history traits, the detrimental impacts, the population control and some references and internet links (the information sheet on *Heracleum mantegazzianum* is in appendix).

2.2. Publications

- The Nature department of the Walloon Region published a brochure « Les Plantes Exotiques Invasives »: This publication focuses on 4 invasive alien plants *Fallopia japonica, Heracleum mantegazzianum, Impatiens glandulifera* and *Senecio inaequidens*; For these species, description, the origin and distribution in Europe (and a distribution map for Wallonia), ways to identify the plant, the biology and life history traits, the detrimental impacts, the population control measures considered. This publication also include many pictures illustrating the plants.
- A brochure on Japanese knotweed (*Fallopia japonica*) was published by the Brussels Capital Region.
- The Flemish Region published a brochure directed to the general public on *Prunus serotina*, *Eutamias sibiricus*, *Rana catasbeiana*, *Trachemys scripta elegans*, *Hydrocotyle ranunculoides*, and rhododendrons at the end of 2000.
- The Flemish Region has published a brochure about the control of 3 species of rodents, namely the Black Rat, the Brown Rat and the Musk rat. The brochure is called “Ratten in de val”, and was published by the Water Division of the Ministry of the Flemish Community, in November 2002.
- For the Flemish Region, a report was published on the status and management of non-native species of waterfowl. This report, called “Beheer van verwilderde watervogels in Vlaanderen” was published in 2002, by the Institute of Nature Conservation, a scientific institute of the Flemish Community.
- For the Flemish Region, a chapter on exotic species, among which IAS, was included in the Nature Report 2003 and 2005, published by the Institute for Nature Conservation (a scientitic institute of the Flemish Community). Natuurrapport 2003 and Natuurrapport 2005: “Toestand van de natuur in Vlaanderen : cijfers voor het beleid. Mededeling van het Instituut voor Natuurbehoud nr. 21, Brussel”.
- Articles inter alia on alien amphibian species were published in periodicals of nature organisations.
- The Brussels Region published a brochure on animals in the city, focused on presence of exotic species and their problems "Vivre avec eux en ville". This brochure is destinated to the large public
- « Belgian Fauna and Alien Species » : Proceedings of the symposium held in Brussels in 2001. Bulletin of the Royal Belgian Institute of Natural Sciences, Biology, vol. 72, suppl. Royal Belgian Institute of Natural Sciences, Brussels, 297 pp.
- “Apparition et développement d’espèces animales en Europe occidentale: causes et conséquences sur les équilibres écologiques existants”, Proceedings of the symposium held in Saint Hubert in 2002.

2.3. Workshops

- " Status and trends of the Belgian fauna with a particular emphasis on alien species", Brussels, 2002 (Proceedings of the symposium held in Brussels available).
- " Apparition et développement d'espèces animales en Europe occidentale: causes et conséquences sur les équilibres écologiques existants", Saint Hubert, 2002 (Proceedings of the symposium available).
- Workshop on Ladybirds and biological control in Belgium, with a special focus on Harmonia axyridis (Brussels, Instituut voor Natuurbehoud, 2003); This workshop was dedicated to the use of native and exotic ladybird beetles in biological control of aphid populations. Potential problems raised by biological introductions were discussed as well as the need to develop a regulation framework and a risk assessment procedure before intentional release of exotic predators and parasitoids. *Harmonia axyridis* was used as a case study.

Research

3.1. Inplanbel Project " Invasive plants in Belgium: patterns, processes and monitoring"

(Project website: http://www.fsagx.ac.be/ec/inplanbel/)**:**

The project provides a multifunctional and multi-scale analysis of alien plant invasion in Belgium. The general aim is to give a framework for the evaluation of the threat, for the development of policies and management strategy and for the elaboration of further research programs.

This project is the first multidisciplinary approach dealing with invasive plants topic in Belgium (*Fallopia japonica,Heracleum mantegazzianum, Impatiens glandulifera*, *Impatiens parviflora, Prunus serotina*, *Rosa rugosa*, *Senecio inaequidens*, *Solidago gigantea*).

The specific aims are :

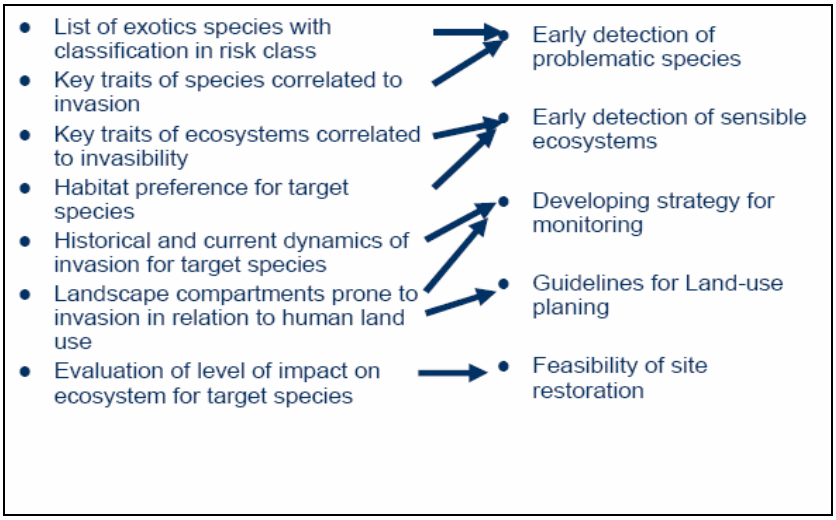
(1) to provide a synthesis on plant invasion in Belgium in the form of a structured list of exotic species ;

(2) identify universally valid principles of biological invasion through a combined analysis of ecophysiological species and community traits ;

(3) provide a detailed analysis of the spreading of a set of invasive species at the landscape level linked to their dispersal capacities ;

(4) analyze the consequences of a set of invasive species on ecosystems.

Expected results and valorization:



3.2. Other ongoing research programs:

- Alien crustacean and mollusks species in Belgium, ongoing, Royal Belgian Institute Natural Science 1996- (RBINS)
- Freshwater macrozoobenthos biodiversity and assessment of the biological quality of watercourses in Wallonia, 1990-, Nature, Forest and Woods Research Center (CRNFB)
- The Nature, Forest and Woods Research Center is currently monitoring invasive species in the Walloon watercourses.
- Alien species are identified through inventories of species for some groups (e.g. mosses and liverworts, vascular plants, crustaceans, birds, mammals) in Wallonia.
- The Asiatic ground squirrel (*Eutamias sibiricus*) and the coypu (*Myocastor coypus*) are studied in Flanders to investigate the necessity of monitoring.
- There is a program in which rare, colonial and introduced breeding bird species are being monitored in Flanders. Among them, alien breeding bird species as the white fronted goose (*Anser erythropus*), the Canada goose (*Branta canadensis*), the barnacle goose (*Branta leucopsis*), the Nile (Egyptian) goose (*Alopochen aegyptiacus*), the mandarin duck (*Aix galericulata*), the ring-necked parakeet (*Psittacula krameri*) and the monk parakeet (*Myiopsitta monachus*) are being monitored. This program is called the 'Bijzondere Broedvogels Vlaanderen Project' (Flemish Special Breeding Bird Project).
- In Flanders, counts of wintering waterfowl are conducted 6 times every winter ; during these counts, non-native waterfowl species, including IAS, are also counted. These counts are organized by the Institute for Nature Conservation. The international coordination of these counts is in the hands of Wetlands International.
- In Flanders, the Institute of Nature Conservation conducts a research project on the distribution and numbers of Canada geese. This includes holding counts of wintering birds and catching a number of birds to mark them in order to be able to track their movements.
- Through the monitoring and inventory of fish occurring in the Flemish inland waters, alien fish species are also being monitored.
- Invasive bryophytes, their spread in Belgium and impact on the indigenous bryophytes , 1990-2010, National Botanical Garden of Belgium.
- Gathering of data on the current introduction and spread of alien species (e.g. C4-grasses (e.g. *Setaria macrocarpa, S. verticilliformis, Panicum dichotomiflorum*)), especially in and along maize fields in the area between Ghent and Bruges is being done by the National Botanical Garden of Belgium.
- Marine invertebrate fauna of W-Europe, especially Cirripedia and Mollusks; alien species, 1973, RBINS-MUMM
- The alien species issue (invasion mechanism understanding, impact assessment methods, etc.) is part of the research priorities of the Second Plan for a Sustainable Research Programme (2000-2004) of the Federal Office for Scientific, Technical and Cultural Affairs, both on terrestrial ecosystems (one project: 'invasion and biodiversity in grasslands and field borders'; 2000-2005, University of Antwerp) and on marine and freshwater ecosystems. URL: www.belspo.be
- Phylogeography, population and eco-genetics of European marine and terrestrial mollusks, ongoing, University of Antwerp
- Taxonomy and ecology of weeds, especially *Polygonum aviculare* (Polygonaceae), 1987, University of Brussels
- Dispersion of several IAS populations encountered in Brussels is monitored in the framework of a study on the Brussels biodiversity.

- In Brussels Capital Region, special attention is given to exotich species in the monitoring program on flora and fauna. Particular interest is given and several detailed studies have been made on some exotic birds (*alopochen aegyptiacus*, *Branta canadensis, Psittacula krameri, Myiopsitta monachus*), exotic herpetofauna species (*rana ridibunda*), some mammals (*Eutamias sibericus*). Also the extension of exotic plant species is particullarly followed.

Legislation

Federal :

Measures related to importation, exportation and transit of non indigenous wild bird species are taken (excepted if the birds were bred in captivity) (26/10/2001. - Arrêté royal portant des mesures relatives à l'importation, à l'exportation et au transit de certaines espèces d'oiseaux sauvages non indigènes. : Art. 3. § 1).

North sea:

The deliberate introduction of alien species in the marine environment is forbidden (Royal Decree on the protection of species in the marine waters under Belgian jurisdiction, 2001).

The Belgian law of 20 January 1999 on the protection of the marine environment in marine areas under Belgian jurisdiction (MMM law) forbids the intentional introduction of non indigenous species in the marine environment without special license (Art. 11, §1). This provision mirrors those included in international instruments like the CBD.

The unintentional introduction of non indigenous species via ballast water of ships can be prohibited by royal decree (Art. 11, §2). Due to the specific and international character of the issue of non indigenous species in ballast water of ships, however the new Belgian framework law did not specifically touch this issue, and this activity is to be regulated by an implementation decree. For the protection of the marine biota, measures can be taken (by royal decree and after scientific consultation) for the extermination of non indigenous nuisance species (Art. 11, §3).

The new law also prohibits the intentional introduction of genetically modified organisms into marine areas (Art. 11, §4).

Flanders:

In both public forests and forest preserves, it is prohibited to introduce animals and plants without a permit. (13/06/1990. - Bosdecreet.(modified by 1999-05-18/65) : Art. 20. […] in de openbare bossen verboden […] 4. dieren en planten te introduceren zonder machtiging; Art. 30. […] is het in de bosreservaten verboden […] 4. dieren en planten te introduceren zonder machtiging.)

A decision prohibits the introduction of non-native animal species in Flanders, and is also the legal base for measures to control and eradicate these animal species. (24/04/93. – Besluit van de Vlaamse Regering betreffende de introductie in de natuur van niet-inheemse soorten).

The Flemish government can take measures control or prohibit the introduction of animal and plant species or other organisms, as far as these are a threat to nature, the natural environment. Measures can also be taken to control or prohibit the transport of animal species and their carcasses. (21/10/1997. - Decreet betreffende het natuurbehoud en het natuurlijk milieu.: Art.51.3.).

A decision describes what species of fish can be used as bait fish ; only native fish species are allowed to be used. (17/10/2003. - Besluit van de Vlaamse Regering tot wijziging van het besluit van de Vlaamse regering van 20 mei 1992 tot uitvoering van de wet van 1 juli 1954 op de riviervisserij.)

Brussels:

It is forbidden to introduce non indigenous species of birds into the wild. (25/10/1990. - Arrêté de l'Exécutif de la Région de Bruxelles-Capitale relatif à la protection des oiseaux. : Art. 6.).

The intentional introduction of non indigenous species is reglemenatée in order to insure that no damage is caused to natural habitats and indigenous flora and fauna, otherwise the introduction is forbidden. (26/10/2000. - Arrêté du Gouvernement de la Région de Bruxelles-Capitale relatif à la conservation des habitats naturels ainsi que de la faune et de la flore sauvages, Art. 14.)

Wallonia:

The introduction of non indigenous species or indigenous species of non indigenous origin in nature is forbidden excepted for species used for agriculture and forestry (Décret relatif à la conservation des sites Natura 2000 ainsi que de la faune et de la flore sauvage (publié le 22 janvier 2002)).

Planned Actions

- The Nature Department of the Walloon Region will send a letter to nursery gardens in order to inform them on the potential damage plants like … and animals like the lake frog (*Rana ridibunda*). It will also inform them on the current legislation.
- The Flemish Region plans to work out a project to actively control the Ruddy Duck (*Oxyura jamaicensis)*.

Web sites:

http://www.mumm.ac.be/FR/Management/Nature/ExoticSpecies/index.php

http://mrw.wallonie.be/dgrne/sibw/especes/exotiques/oiseaux.html

http://www.biodiversity.be/bbpf/forum/invasion/invforum.html

http://www.ibgebim.be/francais/contenu/content.asp?ref=882

2. BULGARIA / BULGARIE

Application on the Recommendation n° 99 (2003) on the Bern Convention in Bulgaria

Bulgaria belongs to the countries with the biggest biodiversity in Europe. The fauna includes 29 000 animal species as follows: 94 mammals, 405 births, 36 reptiles, 16 amphibians, 207 freshwater and marine fishes and more than 27 000 insects and other invertebrate species. The plant diversity is evaluated of about 3700 vascular plants and of more than 6500 species of non-vascular plants and fungi. The endemism at plants and invertebrate animals figures out about 5%. Approximately 700 species of vascular plants and 500 animal species are estimated as rare and endangered. The most frequent reason for it is considered the habitat destruction and ecological conditions change.

During the last years an additional threat from Invasive Alien Species competing the native species has occurred as well. Recognizing this threat, Ministry of Environment and Water in collaboration with the phyto-sanitary and veterinary authorities and scientists have undertaken actions for systematizing of the existing information and for determining of the most suitable strategies for alien species restriction. In this regard legislative, administrative and practical measures are undertaken, especially toward the invasive species.

The national legislation is harmonized with the requirements of the international conventions and their resolutions in regard to the Alien Species. According the Biological Diversity Act (2002) a special procedure including scientific and public control is envisaged when introducing in the nature of Alien Species and reintroducing of extinct native species. Phyto-sanitary and veterinary authorities carry out a border supervision at the import of plants and plant parts as well as animals. It is forbidden the introduction of alien species in the protected areas – national and nature parks, reserves, managed reserves and protected sites.

In regard with the elaboration of National Strategy for Invasive Alien Species, an investigation of the existing information sources is carried out concerning the distribution of Alien Species and their impact on the native species and communities. The information is specified regarding:

- Taxonomy and distribution of the species
- Biology and ecology of the species
- Ways of penetration and introduction time
- Extent and status of the populations
- Impact on other species
- Risk analysis
- Possibilities for distribution in neighbour countries

The potentially Invasive Alien Species are determined, which could penetrate with most probability. Simultaneously, field investigations for evaluation of the populations and data acquisition are carried out. Species lists and data bases for the alien and invasive plants, fungi and animals will be elaborated after relevant analysis according to their threat degree.

The conclusions, analyses, evaluations and recommendations in regard to the invasive alien species along with proposals for measures and actions for limitation and prevention of their impact on the native flora and fauna should provide the corresponding scientific background of the National Strategy for Invasive Alien Species in pursuance of the Convention of biodiversity and the Bern Convention requirements.

The acquired information will be popularized among the public by publications, posters, booklets, folders and other proper means. Workshops between the stakeholders – administration, experts, scientists and NGO-s for the Alien species management are foreseen in the course of elaboration of the National Strategy.

May, 2005
Rayna Hardalova
Ministry of Environment and Water

3. BURKINA FASO / BURKINA FASO

ESPECES EXOTIQUES ENVAHISSANTES :
ETAT DES LIEUX AU BURKINA FASO

INTRODUCTION

Historiquement la partie continentale de l'Afrique de l'Ouest connaissait de fréquentes invasions par les criquets pèlerins qui étaient à l'origine de nombreuses catastrophes sur le plan des productions végétales provoquant ainsi de fréquentes famines dans cette partie de l'Afrique. En dehors de ces cas isolés, les invasions biologiques étaient exceptionnelles.

Aujourd'hui les invasions des espèces exotiques semblent constituer une des principales menaces aux écosystèmes naturels, à la biodiversité, aux activités humaines et parfois à l'intégrité physique des hommes.

Les invasions les plus spectaculaires observées ces dernières années sont celles provoquées par *Eichhornia crassipes* ou jacinthe d'eau, *Pistia stratiotes* ou salade d'eau, *Salvinia molesta* ou fougère d'eau, *Typha australis, Phragmites australis*.etc.

I- SITUATION DES ESPECES ENVAHISSANTES AU BURKINA FASO

I.1. Aperçu de la situation des plantes envahissantes au Burkina Faso

Un screening a été opéré sur l'ensemble du territoire et sur un échantillon de cent quinze (115) plans et cours d'eau disséminés à travers tout le pays en 1995. Depuis, ces prospections ont été réactualisées et présentent les informations suivantes.

1.1.1 Espèces envahissantes aquatiques

L'analyse des relevés des plans d'eau échantillonnés permet de faire une classification de ces derniers en deux groupes, du point de vue de leur colonisation par la macro-phytocenose :

1) les plans d'eau exempts de végétation macrophyte ou très faiblement colonisés ;

2) les plans d'eau fortement colonisés par la végétation. Ces derniers peuvent être subdivisés en trois sous-groupes :

- Une colonisation par des espèces graminéennes à caractère fourrager, des Cypéracée, des Légumineuses et des Nymphaeaceae diverses ;
- Une colonisation par des espèces prolifiques, notamment : *Ceratophyllum demersum, Trapa natans, Potamogeton octandrus, Najas sp, Oxycaryum cubense, Leersia hexandra, Pycreus mundtii, Pistia stratiotes, Azolla africana, Typha australis*, *Polygonum* spp, etc *;*
- La colonisation par *Eichhornia crassipes, Typha australis, Azolla africana*, intéresse des plans et cours d'eau prospectés dans une proportion de 7 %.

Le développement et l'évolution de ces espèces ont favorisé la mise en place d' une prairie aquatique flottante qui restreint progressivement la superficie des plans d'eau.

Cas spécifique de *Eichhornia crassipes, Azolla africana, Typha australis*

De l'ensemble des plans d'eau prospectés, huit, soit 7 % de l'échantillon présentent des problèmes d'infestation par les espèces dont les principales sont *Pistia stratiotes et Eichhornia crassipes, Typha australis, Azolla africana.* Ces espèces touchent les plans d'eau suivants : Nagbangré, Koubri 1, Koubri 2, Boulbi, Barrage Ouaga 2, Ouaga3 et FCBO, le Son (Moû) affluent de la Bougouriba qui est un affluent du Mouhoun (ex. Volta Noire).

D'importants peuplements couvrent annuellement les eaux eutrophes de la zone de Ouagadougou. Les surfaces couvertes étaient estimées à 14 hectares correspondant aux zones de maraîchage. Depuis une intense activité de contrôle a permis de réduire quelque peu cette superficie au 2/3.

Dans l'ensemble, on estime la biomasse fraîche de la jacinthe d'eau accumulée comprise entre 17 000 et 21 000 tonnes. Les enquêtes ethnobotaniques chiffrent les pertes au niveau de la pêche,

l'arboriculture et les cultures maraîchères à plus de 20 millions de francs CFA par an, soit 35 000 à 40 000 $ US environ.

Actuellement l'invasion de la jacinthe d'eau menace les trois plus grandes réserves d'eau du Burkina Faso, il s'agit de la Kompienga (20 000 ha) située dans le bassin du Niger et Bagré (25 000 ha) et la Bougouriba qui appartiennent au bassin de la Volta.

1.1.2 Espèces végétales terrestres à tendance prolifique

Des inventaires assez récents signalent la présence d'un certain nombre d'espèces prolifiques telles que *Hyptis suaveolens, Cassia obtusifolia, Cassia occidentalis, Ipomoea asarifolia, Sida acuta.* Cependant les investigations approfondies sont nécessaires pour permettre une confirmation.

1.1.3 Espèces animales envahissantes

Au niveau du monde animal, les espèces reconnues comme prolifiques et envahissantes sont peu nombreuses. Les plus couramment citées sont les criquets pèlerins très actifs ces dernières années dans la sous Région Ouest Africaine, les sautériaux. A ces insectes arthropodes, il faudrait ajouter *Quelea quelea*, présent ces dernières années en population remarquable. La prolifération de cette espèce est souvent liée au développement de *Typha australis* qui constitue pour elle un support idéal de protection et pour la reproduction.

III - PROGRAMMES ET STRATEGIE DE CONTROLE AU NIVEAU NATIONAL

Une stratégie de contrôle des plantes envahissantes a été élaborée, comprenant la lutte physique et des tests pour toutes les autres formes de lutte existantes, notamment la lutte biologique et chimique.

Un Comité National de Lutte Contre les Végétaux Aquatiques Envahissants (CNLCVAE) a été créé sous le parrainage du Ministère de l'Environnement. Ce comité regroupe les principaux services impliqués dans l'utilisation et la gestion des plans d'eau, notamment la Recherche scientifique (INERA), la Société Nationale Burkinabè d'Electricité (SONABEL), l'Office National de l'Eau et de l'Assainissement (ONEA), l'Association des Pêcheurs, l'Association des Pépiniéristes (Horticulteurs), Green-Cross, Global Village, la Mairie de Ouagadougou, le Ministère de l'Agriculture, le Ministère de la Défense nationale par le Génie Militaire, le Ministère de l'Administration Territoriale.

CONCLUSION

L'étude des espèces envahissantes du Burkina Faso et plus particulièrement celle sur la jacinthe d'eau a revelé de nouvelles contraintes qui méritent une attention et une prise en charge particulière dans la mise au point et le choix de la méthode de lutte. La lutte biologique qui semble être la mieux approuvée au regard de ses performances, a malheureusement des limites dont les plus en vue sont :

- L'impact des températures très élevées qui limite le développement des insectes prédateurs ;
- L'adaptation de la plante aux dits facteurs par sa transformation en Hémi-cryptophytie xérophile ;
- La reproduction massive de graines viables qui font d'elle une plante Thérophyte qui survit grâce aux graines produite annuellement. Ces éléments de notre point de vue doivent être pris en compte dans les nouvelles stratégies et méthodes de contrôle de la plante dans les pays sahéliens en général et au Burkina Faso en particulier.

Ainsi des investigations approfondies sont nécessaires en direction de nouveaux prédateurs biologiques pour le renforcement de la lutte biologique et au principe de lutte intégrée.

4. CROATIA / CROATIE

REPORT
on the activities related to the implementation of the Recommendations No. 57 (1997) and No. 77 (1999) of the Bern Convention

Prepared by
State Institute for Nature Protection, Zagreb, May 2005

State

Like other European countries, Croatia has many problems with invasive alien species (IAS). As late as the 1910, 11 specimens of small Indian mongoose *Herpestes javanicus auropunctatus* were introduced on the island of Mljet, for biological control of poisonous snakes. During 20 years, the introduced animals eliminated all the snakes on the island and started attacking other small wild animals, including migratory birds, as well as domestic animals. Although approx. 100 mongooses are eliminated every year, and some attempts for total eradication were made in the past, these animals still inhabit the island and have a negative impact both on wild and domestic fauna.

At present, the IAS that have the largest negative effect on biological diversity in Croatia are (1) tropical green algae Caulerpa taxifolia *and* Caulerpa racemosa *in Adriatic sea coastal benthic habitats (2) all allochthonous species of fish (16 of them) introduced during the last century into rivers of the Danube and Adriatic catchment areas (in particularly goldfish* Carassius auratus gibelio, *false rasbora* Pseudorazbora parva*, rainbow trout* Oncorchynchus mikiss*, charr* Salvenilus alpinus*, freshwater honting* Coregonus laveratus*, pumpkin-seed sunfish* Lepomis gibbosus*, largemouth black bass* Micropterus salmoides*, Mediterranean toothcarp* Gambusia affinis ssp. holbrooki*, silver carp* Hypophthaclmichthys molitrix *and grass carp* Ctenopharyngodon idella*). The Adriatic catchment area, rich in endemic fish species, is extremely threatened in this regard. (3) ragweed* Amorpha fruticosa *and several other alien plant species (*Asclepias syriaca, Eleusine indica *etc.) on riverine and forest edge-habitats in Pannonian lowland (4) common ragweed* Ambrosia artemisifolia *has spread on ruderal habitats throughout Croatia. It is known as the greatest allergen in Europe (5) clam* Dreissenia polymorpha*, known as pest in water regulation and hydroelectric power stations, poses a great threat to autochthonous freshwater mussel populations (Unionidae) and other benthic organisms (6) the Mediterranean form of black rat* Rattus rattus *and Italian lizard* Podarcis (sicula) campestris *with high negative impact on native island fauna (7) invasive allochthonous spinycheek crayfish* Orconectes limosus, *crayfish plague carrier, was found in Kopački rit Nature park and is spreading rapidly along the Danube river. Chinese mittencrab* Eriocheir sinensis *was found in the Danube river in Vojvodina (Serbia and Montenegro). Although not found in Croatia yet, it poses a threat.*

Allochthonous game species, introduced deliberately into the hunting grounds, both on islands and mainland, represent a further problem. Fallow deer *Dama dama* and spotted deer *Axis axis* are competitors to local populations of *Cervidae*, but also potential carriers of non-native parasites. For example, uncontrolled introduction of *Cervus canadensis* into former Czechoslovakia resulted with introduction of non-native parasite *Fasciola gigantica* that was afterwards spread into Hungary and Croatia. Game species like wild-boar *Sus scrofa* and rabbits also pose a threat to local fauna on some islands.

Legal framework

The provisions regulating introduction of non-native species into nature are incorporated into different regulations that govern protection and use of biological and landscape diversity in the Republic of Croatia.

In October 2003 a new ***Nature Protection Law*** has been enacted. It is harmonized with the European nature protection legislation. This Law defines nature as an overall biological and landscape diversity protected on the whole territory of the Republic of Croatia, both in the areas of the conserved and «wild» nature and in the built-up and economically used areas.

In carrying out the provisions of relevant international agreements connected to IAS, this Law prohibits introduction of non-native species in the state territory. It also prohibits introduction of wildlife species in ecosystems for which these species are not native or islands. It is also prohibited to introduce non-native fish species into fresh waters and wetlands. The approval for introduction can be obtained by the Ministry of Culture – Nature Protection Directorate, only based on the results of a risk assessment study, preceded by the opinion of the Ministry of Agriculture, Forestry and Water Management. The same provisions are valid for reintroduction of wildlife species.

In order to prevent inadvertent introduction of non-native species ("stowaways"), the Law foresees adoption of certain preventive measures, particularly regarding water used as ballast in tankers.

The ***Law on Hunting*** (1994) permits introduction of new wildlife species into hunting grounds upon approval of the Ministry of Agriculture, Forestry and Water Management, preceded by the opinion of the Ministry competent for nature protection.

The ***Law on Islands*** (1999) prohibits introduction and breeding of non native game species on islands, except in controlled hunting grounds, permitted and approved by the above mentioned ministries.

The ***Law on Animal Welfare*** (1999) prohibits setting free of pets and introduction of non-native species into nature.

The ***Law on Marine Fishery*** (1997) prohibits farming of non-native fish and other marine organisms, unless permitted and approved by the above mentioned ministries and preceded by the opinion of authorized scientific institutions for marine research.

The ***Law on Freshwater Fishery*** (2001) also prohibits farming and introduction of non-native freshwater fish, as well as import and trade of living specimen of these species, unless permitted and approved by competent ministries, based on studies of environment impact assessment.

Activities

Although the problem of IAS is regulated in accordance with the above mentioned laws and also recognized in the *National Strategy and Action Plan for the Protection of Landscape and Biological Diversity – NSAP* (1999), no systematic monitoring and control programme was established yet. Only some sporadic actions exist, like in case of agricultural pests and *Caulerpa taxifolia*.

According to the recommendations of *Heraclion Workshop on invasive Caulerpa species in the Mediterranean*, organized by UNEP/MAP in 1998, cooperation was established between oceanographic institutes, NGOs and governmental bodies in the country, as well as with corresponding institutions in other Mediterranean countries. The problem was presented in many seminars and a brochure was published in 2000, calling sea users to indicate the presence of *Caulerpa* and take necessary precautionary measures to avoid its spreading. Surveys, monitoring and cleaning of *Caulerpa taxifolia* colonies are being conducted almost every year on determined geographical locations.

Ministry of Culture continues to finance these efforts, and this year, the focus is on *Caulerpa* occurrence monitoring in four marine protected areas (Brijuni, Kornati, Telašćica and Mljet), as well as cleaning of *Caulerpa taxifolia* colonies and control of its expansion in Mljet National Park lakes.

However, there is a need to organize prevention of unwanted introductions of alien species on the country level, to recognize and valorise the level of their impacts on native biological diversity, and to define and implement actions to reduce these threats. The identification and implementation of these actions require cooperation between different governmental bodies, scientific institutions, NGOs and general public both at the national and international level.

State Institute for Nature Protection prepared a project proposal for PHARE programme funding in 2006. In the framework of the proposed "Implementation of NATURA 2000 in Croatia" project, assessment on the state of invasive alien species in Croatia is foreseen, as well as eradication programme for two most problematic invasive species.

5. CZECH REPUBLIC / REPUBLIQUE TCHEQUE

Short written contribution on IAS work in Czech Republic

By Mrs Jarmila Loncakova, Agency for Nature Conservancy
and Landscape Protection of the Czech Republic

1) Czech Republic adopted National Biodiversity Strategy. It was adopted by Government of Czech republic as a resolution just on Wednesday 25/05/2005. One part of this strategy includes IAS. This strategy implemented some principles on IAS from CBD and also from European Strategy on IAS. National Biodiversity Strategy document is available on www.chm.nature.cz.

2) Examples of co-operation with other countries:

Ministry of the Environment of the Czech Republic

■ Czech Republic participates on project with neighbouring countries on monitoring and controling American mink (*Lutreola vison*), including survey of associated legislation in each country. Soon Ministry of the Environment will propose informations and official request to neighbouring countries for co-operation.

Institute of Botany, Academy of Science of the Czech Republic. Research projects.

■ **Giant Alien** - Giant Hogweed (*Heracleum mantegazzianum*) a pernicious invasive weed: Developing a sustainable strategy for alien invasive plant management in Europe; (2002-2005)

Alien invasive plants such as *Heracleum mantegazzianum* are having a severe impact on biodiversity in Europe but no sustainable solutions are available to stop their spread and prevent future invasions. The overall objective of the project is therefore to develop an integrated management strategy that comprises effective, practicable and sustainable means of controlling an alien non-agricultural weed (*H. mantegazzianum*). This will provide a generic control strategy to safeguard the biodiversity of Europe from the increasingly serious threat of other alien invasives. In addition to the effective control of this species, a concept would be produced which could serve as a template by which other exotic species could be controlled or prevented from reaching the invasive phase. The overall objective will be achieved through the following objectives:

1) creating a knowledge base for *H. mantegazzianum* including genetics, taxonomy, biology and ecology

2) modelling the invasion of the species at the local and continental scale

3) searching for, and assessing potential biological control agents in the area of origin of *H. mantegazzianum* for potential future use in Europe, including a risk-benefit analysis, an evaluation of existing European guidelines for the importation of exotic organisms, and an implementation plan

4) investigating presently applied mechanical and chemical control methods together with possible measures to reduce and prevent further dispersal of *H. mantegazzianum* and other alien invasive weeds.

5) integrating the resultant knowledge and experience to produce best practice guidelines and an integrated control strategy

6) disseminating this knowledge to practitioners across Europe to implement effective and economic sound control measures.

Project was supported within the 5th framework programme of EU

official project web page: http://www.flec.kvl.dk/giant-alien

Other research projects for example (Institute of Botany):

■ **ALARM** - **A**ssessing **LA**rge scale environmental **R**isks for biodiversity with tested **M**ethods; (2004-2009)

■ **DAISIE** - **D**elivering **A**lien **I**nvasive **S**pecies **I**nventories for **E**urope; (2004-2007)

■ **Comparative Ecology of Generative Reproduction of Alien Plants**; (2005-2008)

3) Detailed report on IAS work in Czech republic will be send till 30/06/2005 (Mr. Jan Plesník, Agency for Nature Conservancy a Landscape Protection and Ministry of the Environment of the Czech Republic).

6. ESTONIA / ESTONIE

Estonia and alien species 2004-2005

17.05.2005.

Laws and regulations

Nature conservation act (21 April 2004, Official Journal RT I 2004, 38, 258; 53, 373; 2005, 15, 87; 22, 152).

According to this act introduction to alien species into the environment is prohibited.

English translation
http://www.legaltext.ee/et/andmebaas/ava.asp?tyyp=SITE_ALL&ptyyp=I&m=000&query=looduskaitse

§ 57. Non-native species

(1) It is prohibited to introduce live specimens of non-native species in the wild, and to plant or sow non-native plants in the wild.

(2) The Minister of the Environment shall establish, by a regulation, a list of non-native species likely to disrupt natural balance, live specimens of which shall not be brought into Estonia for the purposes of rearing or keeping.

(3) Controlling the abundance of a non-native species accidentally released in the wild shall be organised by the relevant environmental authority.

(4) Specimens of non-native species kept in artificial conditions may be relocated for keeping in artificial conditions in another location with the permission of the environmental authority of the location from where the animals are relocated, and the environmental authority of the location where the animals are to be introduced.

(5) It is prohibited to rear specimens of non-native species, which are likely to disrupt natural balance in artificial conditions, except in cases which can be justified from a scientific point of view with the permission of the Minister of the Environment.

§49. Action plan for protection and control of species. If the results of a scientific monitoring show negative impacts caused by a certain species, an action plan will be composed and followed in order to avoid environmental hazard and/or threats to human health.

§58. Introduction to and removal from wild of native species. Unauthorized release of individuals of a native species of different geographical origin is prohibited.

Regulation

Invasive Alien species regulation by the Minister of Environment was accepted in 7 October 2004. (Official Journal RTL, 19.10.2004, 134, 2076). Available at https://www.riigiteataja.ee/ert/act.jsp?id=807276 .

It consists of most dangerous species that can not be brought into Estonia even for keeping in captivity. It consists of 2 plant and 19 animal species.

Plants:

1) Heracleum mantegazzianum
2) Heracleum sosnkowskyi

Animals (vertabrates):

1) Castor canadensis;
2) Cervus nippon;
3) Dama dama;
4) Lutra canadensis;

5) Mustela vison;
6) Nyctereutes procyonoides;
7) Odocoileus virginianus;
8) Ondatra zibethicus;
9) Oryctolagus cuniculus;
10) Ovis ammon;
11) Sciurus carolinensis;
12) Oxyura jamaicensis

Invertabrates:

1) Astacus leptodactylus;
2) Orconectes limosus;
3) Pacifascatus leniusculus;
4) Globodera rostochiensis (Wollenweber) Behrens;
5) Bursaphelenchus xylopilus (Steiner ja Buhrer);
6) Hyphantria cunea Drury;
7) Megachile rotundata (Fabricius) (syn. Apis pacifica Panzer).

The exception will be made to *Mustela vison* and *Nyctereutes procyonoides* whose specimens can be brought into Estonia only for gene pool refreshment. Minister of environment will set the conditions and gives the licence for fur farming.

Fisheries Law 1995
§22 Introducing and stocking of non-native fish species or species of other aquatic organisms will be allowed only by a written permission from the Minister of Environment.

The Environmental Surveillance Law 6 June 2004

§2 In cases of activities that include organisms potentially hazardous to living environment or/and human health, an environmental surveillance will be conducted. If any negative effect will be registered, the activities will be terminated.

National Strategy to elliminate poisonous hogweeds *Heracleum mantegazzianum*

Heracleum sosnkowskyi from 2005-2010.

2003 - mapping the hogweeds, 2004 - databases and maps, 2005 - works for rooting out hogweed (*ca* 130 000 EUR). The real need for every year until 2010 is 320 000 EUR.

Estonia has issued brochures and a videofilm about poisonous hogweeds. Ministry of Environment will publish a book in that introduces alien species in Estonia.

Alien species database on the KKM web page is being made operational, at the moment it is only in pdf format. Available also in English.

http://www.envir.ee/looduskaitse/voorliigid_baas.html

Estonia takes also part in NOBANIS project (Nordic-Baltic Network on Invasive species) that will develop a distributed but integrated network of common databases encompassing national and regional specialist databases in the Nordic/Baltic countries. A common portal will facilitate access to the IAS-related data, information and knowledge in the region.

Estonia takes also part in the Baltic Sea Alien Species Database:
http://www.ku.lt/nemo/mainnemo.html

The contact for alien species thematics in the ministry:

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7. GERMANY / ALLEMAGNE

Invasive Alien Species in Germany:
Report on Situation and Activities

compiled for the 6th meeting of the
Group of Experts on Invasive Alien Species of the Bern Convention

Palma de Mallorca, Spain, 9-11 June 2005

Relevance

Compared to other regions of the world invasive alien species (IAS) are considered to be a lower threat factor for biodiversity in Germany. As for plants, only 43 of all 851 red listed species are threatened by IAS (Korneck et al. 1998), being 1.4% of all reasons of threat.

Nevertheless, considerable efforts have been made on the national level to address the challenge of IAS in Germany.

Scientific basis and knowledge

Annotated checklists of alien plant and animal species have been conduced. The results show that 1.149 alien animal species are known, 264 of them established, 443 reported only in the past and 442 with unknown status (GEITER et al. 2002). 1.233 alien species of higher plants are recorded from Germany, 228 have been introduced with traditional land use practises before 1492 (Archaeophytes), of which ¼ are endangered nowadays. From the 1.007 neophytes (introduced after 1492) 383 are established (~ 11% of all 3.383 established species) and 624 are locally established, occur casually or rarely. (WISSKIRCHEN & HAEUPLER 1998, LIPPE & KOWARIK unpublished).

At about 20 neophytes cause economic damage (pest for agriculture or forestry, maintenance of traffic routes etc.) or pose a threat to human health. A national survey consulting all regional and local conservation agencies shows that at about 30 plant species are invasive (= threatening biological diversity), but only four species/groups present over 50% of all records (*Heracleum mategazzianum*, *Impatiens glandulifera*, *Fallopia* spec., *Solidago gigantea* & *S. canadensis*). Six other species (*Robinia pseudoacacia*, *Prunus serotina, Elodea canadensis* & *E. nuttallii, Impatiens parviflora, Helianthus tuberosus, Lupinus polyphyllus*) cover 80% of the records and an other 11 species have been mentioned more than ten times. In 39% of all cases control measures are taken, whereof only 23% are „successful". The coasts for these conservation measures are at least 1.5 Mio. €/a (SCHEPKER 2004).

Information Management and Networking

To improve the effectiveness of measures, the internet handbook "NeoFlora" has been developed, containing general information on the ecology, effect and legislation of IAS and fact sheets of species 32 (www.neophyten.de, KOWARIK & STARFINGER 2004). Discussion forums enable users to chair experiences e.g. on successful control measures. Links to FloraWeb (www.floraweb.de) offer distribution maps, photos and up to 50 further facts on theses species. Up to date information can be distributed to scientist, voluntary floristic experts, governmental authorities and other interest groups by an mailing list comprising more than 1.000 entries. In future, both instruments should be enhance to an early warning system.

A national list of experts from this groups has been developed within the Nordic-Baltic Network on Invasive Species (NOBANIS: www.sns.dk/nobanis). Available data on alien plant and animal species will be included there as well as in the DAISY project funded by the EU.

The conclusive booklet with management related information on *Heracleum* species of the EU founded project "giant alien" (www.flec.kvl.dk/giant-alien) will be printed and send out to relevant organisations and governmental agencies.

The next conference of the European IAS expert group NEOBIOTA will be organised together with the Austrian Environmental Agency from 28-29 September 2006 in Vienna.

Implementation, Policy and Legislation

A study has been financed indicating that only 20 alien plant and animal species cause 156 Mio. €/a in Germany (REINHARDT et al. 2003), the species most costly is Ambrosia artemisiifolia with at least 20 Mio. € pro rata costs of all asthmatic disease in Germany.

To address the cross cutting character of the IAS issue, fundamentals for a national strategy on IAS have been worked out (HUBO et al. in print) analysing the national and international legal situation and administrative responsibilities. Suggestions on the an administrative and legal framework will serve as a basis for the development of a national strategy including all sector involved in the introduction and management of IAS.

Since the focus of legislation within the conservation sector is on intended introductions (half of the established alien plant species) measures have to focus on the prevention of introduction. Especially for ornamentals (25% of all introductions; KLOTZ et al. 2002) ongoing secondary releases are the main reason for their spread and not their natural spread from already inhabited areas (KOWARIK 2003). Therefore, measures have to focus on the prevention of introduction and secondary spread. A risk assessment scheme for release permissions has been elaborated (KOWARIK et al. 2002).

Both projects will be presented at a second national implementation oriented conference on IAS for conservationists taking place on June 23rd to 24th in Göttingen (results of a first smaller meeting see SZYSKA 2004).

Invasions on the gene level

Invasions of alien genes by crossing, hybridisation or introgression is less noticeable and its impact has often been underestimated or neglected. It not only occurs between native and alien species (e.g. native White Head-oar Duck (*Oxyura leucocephala*) and North American Bull's-eye Head-oar Duck (*O. jamaicensis*), cultivated varieties of fruit like apple or pear crossing into the wild plants/species or cultured garden forms of the native European Columbine (*Aquilegia vulgaris*)), but even more between native species of alien provenance. This is especially the case in the current practise of landscaping where seeds and plants of native species but from alien origins are planted in a huge scale, endangering genetic diversity leading to the loss of specialised adaptations and characteristics of local populations (see RIEDL 2003). Therefore, the current negotiations on the EU directive "… for the certification and marketing of seed and seed mixtures in the interest of conserving plant genetic resources" are discussed and the basis for a national certification system for native plants of local provenances is to be developed.

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8. LIECHTENSTEIN / LIECHTENSTEIN

Fürstentum Liechtenstein

Amt für Wald, Natur und Landschaft

The work on Invasive Alien Species in the Principality of Liechtenstein

Report June 2005

In the Principality of Liechtenstein the problem of Invasive Alien Species (IAS) is well known. It is planned to make an inventary of neophytes and neozooes on the surface of the whole country. The work begins in summer 2005 and will be finished in the end of 2006. The results of the inventary and necessary measures will be published in a booklet in 2007 the latest.

Office for Fôrests, Natur and Landscape
Lic.phil.nat. FASEL Michael

9. MALTA / MALTE

Short Written Contribution on IAS work in Malta

Measures taken by the Nature Protection Unit of the Malta Environment and Planning Authority with regards to Introduced Invasive Alien Species

1.0 Legal Framework

1.1 National legislation for addressing alien species and related issues, has been drafted and published:

a) **Primary legislation** – the Environment Protection Act (Chapter 435, Act XX of 2001) **Regulation 9.2 k (iii)** states that: *any species known to be invasive should be declared and rules should be established for its control*. Through this provision, the Minister responsible for the Environment, can published secondary regulations with regards to invasive alien species.

(The text of the Environment Protection Act may be accessed on the following link:

www.mepa.org.mt//environment/legislation/chapt435_2001_E.pdf)

b) **Subsidiary legislation** on this subject are:

i) **Trees and Woodland Protection Regulations [L.N. 12 of 2001]. Article 10** of these regulations prohibits the propagation, sowing, importation and sale of plant species listed in **Schedule V attached to the regulations**, which includes *Acacia saligna, Acacia karroo, Ailanthus altissima, Albizzia lebbek, Ricinus communis and Schinus terebinthifolius.* The Competent Authority [which is Malta Environment and Planning Authority] may also initiate measures to order the uprooting of any of these trees. **Article 14** of these regulations also prohibits the importation of trees, which may be deemed to likely endanger native biodiversity. (**Trees and Woodland Protection Regulations [L.N. 12 of 2001]** can be accessed on the following link:

www.mepa.org.mt//environment/legislation/LN_12_2001_E.pdf)

ii) **Flora, Fauna and Natural Habitats Protection Regulations, 2003 [L.N. 257 of 2003]. Article 22(1)** of these regulations empowers the Competent Authority to prohibit the importation of any species of flora and fauna that in its opinion may potentially endanger native biodiversity. Article **22(2)** also states that the *Competent Authority shall take all necessary measures to prevent, control, and monitor the introduction of organisms belonging to alien species with the potential to establish populations into the environment*. **Article 22(3)** requires that in order to implement sub-regulations (1) & (2) a detailed **list of alien species** which affect or that might affect local biodiversity shall be compiled and published by the Competent Authority. In this regard, two studies have been commissioned by the Competent Authority as detailed below in point 2.1 of this report. As further stated by **Article 22(4) of L.N. 257 of 2003**, the Competent Authority shall also develop eradication or control plans to address alien species. **Article 26** on '*In-situ* Conservation', further requires the Competent Authority to as far as possible, *prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or species* [Article 26c].

(**Flora, Fauna and Natural Habitats Protection Regulations, 2003 [L.N. 257 of 2003]** can be accessed the following link:

www.mepa.org.mt//environment/legislation/LN_257_2003_E.pdf)

iii) **Trade in Fauna and Flora Regulations, 2004 [L.N. 236 of 2004]** – These Regulations implements and enforces Council Regulation (EC) No 338/97 on the protection of species of wild fauna and flora by regulating trade therein. (EC) No 338/97 implements the provisions of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). **Article 6(1)** of L.N. 236 of 2004 prohibits the importation, exportation, re-exportation and possession of any species of fauna and flora, if in the opinion of the **CITES**

Scientific Authority and **CITES Management Authority** such transactions or possession would endanger the biological identity or any ecosystem or any species of fauna and flora in Malta. Furthermore, it is the responsibility of the person who is seeking to import or be in possession of any live specimen, to obtain the necessary information from the CITES Management Authority, in order to establish whether such specimen is of any threat to the biological identity, ecosystems or other species in Malta (**Article 6(2)**).

(**Trade in Fauna and Flora Regulations, 2004 [L.N. 236 of 2004]** can be accessed on the following link:

www.mepa.org.mt//environment/legislation/LN_236_2004_E.pdf)

2.0 Collecting, Managing & Sharing Information

2.1 Measures have been initiated to increase the knowledge base of alien species already introduced into the Maltese Islands through **commissioned studies for setting up lists of alien flora and fauna**. The purpose of these studies is to identify the alien flora and fauna of the Maltese islands respectively, their invasiveness and extent, the threats they pose on local biodiversity, their present exploitation and other uses, and suggest ways how to control or eradicate them, as well as the implications resulting from such measures. Information obtained from data submitted will contribute to establishing a **national inventory on alien species** and will serve to prioritise those aliens that are to be eradicated, controlled or contained accordingly (as based on a modified **Quentin, Cronk and Fuller Invasive Taxa Categories**).

2.2 Local experts also carry out **research on aliens** such as documenting new introductions and further liase with experts from other countries in projects on aliens such as the CIESM PORTAL Project, which deals with marine alien species in the Mediterranean (further information may be attained by accessing the following link: http://www.ciesm.org/marine/programs/portal.htm).

2.3 As part of **bilateral cooperation** a UK/Malta Action Plan co-funded project has been successfully completed in December 2004/January 2005. This project consisted of a traineeship on issues related to invasive alien species, hosted by the Environment and Heritage Service (EHS) within the Department of Environment in Northern Ireland.

2.4 As a form of **sub-regional cooperation**, feedback has been given to queries posed by other Mediterranean countries on requested information regarding alien species in Malta.

3.0 Strategy & Action Plans

3.1 A draft **strategy on alien species** is being developed. This supplementary guidance policy document shall address issues of alien species in the Maltese Islands with respect to nature conservation and the provisions of local legislation as well as international and regional treaties to which Malta is a contracting party.

3.2 **Eradication action plans** for *Rattus* spp. and *Gambusia* spp. have also been drafted.

3.3 **Promotion of the use of native plant species in landscaping** has been achieved with the publication of MEPA's Guidelines on Trees, Shrubs and Plants for Planting & Landscaping in the Maltese Islands issued in January 2002

(These guidelines are available for online viewing by accessing the following link: www.mepa.org.mt//Planning/factbk/policies/Guide_Trees_Plants.pdf)

4.0 Public Awareness

4.1 Awareness on issues related to alien species in the past has been promoted through a number of seminars, which targeted groups of stakeholders. The **Seminar on the Introduction of Alien Species of Flora and Fauna** held on the 5th March 1996 delved into the introduction and the regulation of alien species, and the need to conserve native biodiversity from the threats caused by such alien species. The proceedings of this seminar were published. Two other seminars followed; one focused on native as well as alien trees present in the Maltese Islands held on 24th November 1998, in which case proceedings were also published, while the more recent consisted of a Public Information day with the theme Flora, Fauna and Natural Habitats Protection - A National

Seminar on the Habitats Directive, Natura 2000 & Local Regulations. This was held on 26 May 2004 to disseminate knowledge on the provisions of L.N. 257 of 2003 including those regulations addressing alien species.

5.0 Prevention

5.1 A control system is in place for **controlling importation from third countries** (non-EU countries). The importation of plant species at present does not require an import licence. Nonetheless, importation must be done in conformity with national legislation. On the other hand, the importation of animals from third countries requires the prior grant of an import licence, issued by the Trade Services Directorate (in accordance with L.N. 242 of 2004 on Importation Control Regulations, 2004). The application for this licence has to be endorsed by MEPA and the Food and Veterinary Services Division before the actual licence is issued (including other departments as appropriate).

5.2 Introduction into the Community is addressed by Article 4 of **Council Regulation (EC) No 338/97** on the protection of species of wild fauna and flora by regulating trade therein**.** Article 4 (6) of **Council Regulation (EC) No 338/97** provides that the Commission may establish restrictions to the introduction of certain species into the Community in accordance with conditions laid down in points (a) to (d) of the same Article. One of the conditions (Article 4 (6d)) refers to live specimens of species (irrespective if listed in the Annexes or not) for which it has been established that the introduction into the natural environment of the Community presents an ecological threat to wild species of fauna and flora indigenous to the Community. The import, export and re-export of animal specimens that are listed in any of the Annexes of the Council Regulation (EC) No 338/97 as amended, is regulated by a system of permits and certificates which can be issued if certain conditions are met and that have to be presented before the specimens are allowed to enter or leave the country.

5.3 License/permit requirements on import, export and re-export are available on the **national CITES website**:

www.mepa.org.mt/environment/index.htm?CITES/mainpage.htm&1

5.4 **Penalties** are in place consistent with the provisions of domestic legislation tackling alien species.

5.5 Whenever faced with scientific uncertainty when assessing whether a species proposed for importation may turn out to be invasive, the **precautionary principle** is followed.

6.0 Action to combat the adverse effects of alien species

6.1 Past eradication/control efforts include two invasive alien plan species: *Ricinus communis* and *Carpobrotus edulis*.

6.2 An attempt coordinated by an *ad-hoc* committee was started in 1996 to control the spread of the invasive ***Ricinus communis*** in certain locations in Malta. Although uprooting activities had commenced in public roads and public areas, these however were discontinued due to the lack of human resources, and lack of the desired results.

6.3 Eradication efforts to manage the invasive ***Carpobrotus edulis*** have taken place in two locations in the Maltese Islands, Ramla tat-Torri (l/o Mellieħa, N Malta) [circa 1997/99] and, to a lesser extent, Ramla l-Ħamra (l/o Nadur, N Gozo) [2001]. Both areas are sandy beaches with dune ecosystems. In the latter locality, invasion was minimal and at an initial stage; while, at Ramla tat-Torri, it was partly extensive but not serious. Both eradication measures were carried out by the former Environment Protection Department.

10. MOLDOVA / MOLDOVA

REPUBLIC OF MOLDOVA

THEMATIC REPORT ON ALIEN SPECIES

Contracting Party	**The Republic of Moldova**
National Focal Point	
Full name of the institution:	*Department of Environment and Natural Resources under the Ministry of Ecology, Construction and Territorial Development of the Republic of Moldova*
Name of National Focal Points of CBD and Convention on the Conservation of European Wildlife and Natural Habitats:	*Adam BEGU, Director of the National Ecological Institute of the Ministry of Ecology and Natural Resources* *Stela Drucioc, scientific collaborator of the National Ecological Institute of the Ministry of Ecology and Natural Resources* *Carbon Finance Unit Project Manager*
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Contact officer for national report (if different)	
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Name and title of contact officer:	*Alexandru Teleuta, Manager of the Biodiversity Office*
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Submission	
Signature of officer responsible for submitting national report:	*Alexandru Teleuta, Manager of the Biodiversity Office* 
Date of submission:	*November 20, 2002*

The thematic report on alien species has been prepared basing on the available information from the current assessment of the First National Report on Biological Diversity, National Strategy and Action Plan on Biological Diversity Conservation and the Second National Report on Biodiversity in the Republic of Moldova. Also, the information from monographs, collections of scientific works, reports submitted to the relevant conferences was used to compile this thematic report. The collaborators of the State University of Moldova brought an important contribution to the elaboration of this report. The databases held by the scientific and educational institutions (National Herbarium of the Institute of Botany and collections of the Institute of Zoology under the Academy of Sciences of Moldova and State University of Moldova) served as source of information for the elaboration of the thematic report, which shows the real state of the adventitious species and their impact on spontaneous flora and fauna of the Republic of Moldova and undertaken measures to reduce the impact of alien species in Moldova. Close contacts have been established with various state organizations and NGOs in the process of preparing this report. The following are the state bodies which participated in the elaboration of this thematic report: Institute of Botany under the Academy of Sciences of Moldova (ASM), Institute of Zoology set up under ASM, State University of Moldova and State Agrarian University. The Society of Zoologists of Moldova, the Society of Botanists of Moldova, NGO "Biodiversity Protection" and "Ecospectru" represent the group of non-governmental organizations which took part in the elaboration of the report. A cooperation has been established with the scientists from academic institutions, National Scientific Council for Biodiversity Conservation and experts from the General Division on Protected Areas and Biodiversity of the Ministry of Ecology, Construction and Territorial Development.

CBD ***Article 8h Alien species***

1. What is the relative priority afforded to implementation of this Article and the associated decisions by your country?					
a) High		b) Medium	X	c) Low	

2. To what extent are the resources available adequate for meeting the obligations and recommendations made?							
a) Good		b) Adequate		c) Limiting	X	d) Severely limiting	

3. Has your country identified alien species introduced?	
a) no	
b) only major species of concern	X
c) a comprehensive system tracks introductions	

4. Has your country developed national policies for addressing issues related to alien invasive species?	
a) no	
b) yes – as part of a national biodiversity strategy (please give details below)	X
c) yes – as a separate strategy (please give details below)	

5. Has your country assessed the risks posed to ecosystems, habitats or species by the introduction of these alien species?	
a) no	
b) only some alien species of concern have been assessed	X
c) most alien species have been assessed	

6. Has your country undertaken measures to prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or species?	
a) no measures	
b) some measures in place	X
c) potential measures under review	
d) comprehensive measures in place	

Decision IV/1 Report and recommendations of the third meeting of SBSTTA

7. Is your country collaborating in the development of projects at national, regional, sub-regional and international levels to address the issue of alien species?	
a) little or no action	X
b) discussion on potential projects under way	
c) active development of new projects	
8. Does your national strategy and action plan address the issue of alien species?	
a) no	
b) yes – limited extent	X
c) yes – significant extent	

Case-studies

9. Has your country submitted case-studies on the prevention of introduction, control, and eradication of alien species that threaten ecosystems, habitats or species, in response to the call by the fourth meeting of SBSTTA?	
a) no – please indicate below whether this is due to a lack of available case-studies or for other reasons	X
b) yes – please give below any views you may have on the usefulness of the preparation of case-studies for developing a better biological understanding of the problem and/or better management responses.	
10. How many case-studies are available that could be used to gain a better understanding of the issues surrounding alien species in your country?	
a) none	
b) 1-2 – limited understanding	X
c) >2 – significant information available	

Transboundary issues

11. Are known alien invasive species in your country also a problem in neighbouring or biogeographically-similar countries?	
a) not known	
b) none	
c) a few – but in general alien invasive species problems are specific	
d) more than a few - in general we share common problems with other countries	X
12. Is your country collaborating in the development of policies and programmes at regional, sub-regional or international levels to harmonize measures for prevention and control of alien invasive species?	
a) little or no action	X
b) discussion on potential collaboration underway	
c) development of collaborative approaches for a limited number of species	
d) consistent approach and strategy used for all common problems	

Further comments

The visible increase of anthropic pressing upon flora species in the Republic of Moldova has provoked essential changes in the structure of the vegetal cover. The invasion of synanthropic species into degraded natural species stop the processes of restoring the natural biocenoses and affects their functioning.

The synanthropic flora consists of three main groups: ruderal, segetal and adventitious. Their species diversity consists of about 460 species, which form 43 communities from *Festuceta, Brometa, Secalineta* and *Chenopodieta* classes. The weeds with aggressive nature constitute 114 species, of which 11 quarantine species. The representatives of these species damage mostly natural ecosystems of degraded pastures and agricultural ecosystems. *Acer negundo* represents a considerable danger to forest ecosystems.

3b. The inventory of invasive adventitious species is carried out annually. The methods of reproduction, migration ways, progression and regression of species spreading areas are investigated. Once a new species appeared, it is included into a special list by pointing out the time of penetration and place of growing. When a species disappeared, it is excluded from this list.

The main adventitious species are the following:

Acer negundo, Amaranthus albus, A. blitoides, A. crispus, A. cruentus, A. deflexus, A. hybridus, A. hypohondriacus, A. lividus, A. retoflexus, A. powellii, A. spinosus, Asclepias syriaca, Ambrasia artemiisifolia, A. trifida, Artemisia annua, A. argyi, A. dracunculus, A. siewersiana, A. toutrneforiana, Aster salignus, Brachyactis ciliata, Calendula officinalis, Centaurea iberica, Chamomilla suaveolens, Cyclachaena xanthifolia, Erigeron annus, E. Canadensis, Galinsoga ciliata, G. Parviflora, Grindelia squarrora, Helianthus annus, H. Decapetatus, H. tuberosus, Rudbeckia hirta, R. Lacinita, Solidago canadensis, Xanthum albinum, X. brasilicum. X. califonicum, X. rupicola, X. spinosum, X. strumarium, Impatiens parvifflora, Armoracia rusticana, Brasica juncea, B. Napus, Cardaria draba, Diplotaxis viminea, Erucastrum armoracioides, Lepidium sativum, Sinapis alba, Cannabis ruderalis, Atriplex calotheca, A. hortensis, Chenopodium ambrosoides, Kochia scoparia, Camelina communis, Ipomaea hederacea, Ecballium elaterium, Echinocystis lobata, Sicyos angulatus, Cuscuta campestris, C. gymnocarpa, C. gronovii, Euphorbia dentata, E. humifusa, Elodea canadensis, Valisneria spiralis, Dracocephalum moldavica, Abutilon thophrasti, Malva crispa, M. moschata, Sida spinosa, Oxybaphus nyctagineus, Orobanche cumana, O. Ramosa, Peganum harmala, Phytolaca americana, Apera interrupta, Avena sterilis, Cenchrus pauciflorus, Echinochloa frumentacea, Horedeum jubatum, Lolium temulentum, Panicum capillare, P. milliaceum, Phlaris canariensis, Setaria decipiens, S. italica, S. pycnocoma, Sorghum halepense, Fagopyrum tataricum, Adonis annua, Datura stramonim, Hyoscyamus albus, H. niger, Lycium barbatum, Physalis ixocarpa, Solanum cornutum, S. luteum, Zygophyllum fabago.

The invasive species of fauna are represented by Cervus nippon, Dama dama, Nyctereutes procyonoides, Canis aureus, Ondatra zibethica, Phasianus colchicus, Ctenopharyngodon idella, Mylopharyngodon piceus, Hypophthalmichthys molitrix, Aristichthys nobilis and Ictalurus punctatus.

4b. The Biological Diversity Conservation Strategy and Action Plan were elaborated in 2001, where the current state of biodiversity is reviewed. The agricultural, urban and ruderal ecosystems are characterized. The chapter *"Alien Invasive Species"* highlights 114 plant species.

5b. Large researches on the history, biology and ways of spreading of some adventitious species, such as *Grindelia squarrosa, Amaranthus spinosus, Cenchrus pauciflorus, Euphorbia dentata etc.* have been carried out.

6b. The spreading of abusive adventitious quarantine species is determined to a certain extent by the quarantine bodies. These bodies also undertake measures on neutralizing these species concentration and their further spreading. These type of measures were undertaken lately for *Euphorbia dentata, Cenchurus pauciflorus, Acer negundo* species.

7a. Reports on alien invasive species of flora and fauna are submitted both to the local and international conferences.

9a. Thematic researches on the prevention of the introduction or regulation and annihilation of the adventitious invasive species, which threat natural ecosystems, have not been undertaken. Such researches could be carried out at the Institute of Botany, Institute of Zoology, Moldova State University and Agrarian State University.

10b. At present there is a medium-size volume of information on the adventitious invasive species.

The main scientific works are:

1. Мырза М., Кухарская Л., Гочу Д. Поширения *Grindelia squarrosa* (Pursch.) Dun. На територіі Молдавіі // Український Ботанічний журнал – 1987. – Т.44. №.6. с.42-44.
2. Мырза М., Кухарская Л. Особенности распространения некоторых адвентивных растений Молдавии // Межвузовский сборник "Вопросы биологии и охраны природы" – Кишинёв: Штиинца, 1988, с.60-68.
3. Мырза М., Кухарская Л. Новый для Молдавии адвенивный сорняк. Сельское хозяйство Молдавии, № 8, Кишинёв, 1988, с. 23.
4. Кухарская Л., Мырза М. *Conchus panciflorus* Benth. – Новое в Молдавии адвентивное растение // Флора и растительность. – Выпуск 5. - Кишинёв: Штиинца, 1988, с.112-115.
5. Мырза М., Кухарская Л. Адвенивные растения агрофитоценозов некоторых районов Молдавии. Проблема изучения адвентивной флоры СССР. Матералы Совщ. 13 февраля1989 с. 74-76.
6. Мырза М. О некоторых редких и адвентивных растениях Молдавии // Ботанических журнал – Т.76. - №.1. – 1991, с.129-134.
7. G. Dihoru, M. Mîrza Artemisio annuae – Ivaetum xanthifoliae. Ocrotirea, reproducerea şi utilizarea plantelor (Conf. Ştiinţifică a botaniştilor). Chişinău, 1994, p. 14-15.
8. M. V. Mîrza Atlas florae Europaeae (Distribution of vascular plants. Cruciferae (Sysymbrium-Aubrieta)) vol. 10 Helsinki, 1994, 224 p.
9. M. V. Mîrza Atlas florae Europaeae (Distribution of vascular plants. Cruciferae (Ricotia--Raphanus)) Helsinki, 1996, vol. 11, p. 309.
10. M. V. Mîrza Atlas florae Europaeae (Distribution of vascular plants in Europaeae (Resedaceae - Plantaginaceae) vol. 12, Helsinki, 1999, 250 p.

Т.С. Гейдеман. Определитель высших растений ССР. Кишинев, Штиинца, 1986

11d. These issues occur all over the world. An intensive synthropization of flora and fauna has happened recently. Large researches are carried out for identifying species invasion, migration ways, agents that perform the migration and inclusion of these species into vegetal and faunistic nature groups. For example, *Grindelia squarrosa* penetrated on the territory of the Ukraine in the 50s, in Moldova in the 70s and in Romania in the 90s.

The national policy on alien invasive species lacks in the Republic of Moldova. The potential risk for the natural ecosystems, habitats and autochthonous species is not assessed while introducing alien species.

Regarding the IAS problem, the Ministry of Ecology and Natural Resources has obtained the World Bank – GEF Grant: Ecological Network Development in Mid-Prut River Catchment Project.

11. NORWAY / NORVEGE

The following enclosure is the contribution from Norway's side. This information is excerpts from Norway's third National Report to the Convention on Biological Diversity relating to invasive alien species.

The excerpts from this National report are originally the following paragraphs:

- Box XII: Goal 6: Control threats from invasive alien species. Target 6.1: Pathways for major potential alien invasive species controlled
- Box XIII: Target 6.2: Management plans in place for major alien species that threaten ecosystems, habitats or species
- Box XXXIII: Target 10: Management plans in place for at least 100 major alien species that threaten plants, plant communities and associated habitats and ecosystems
- Art. 8(h) – Alien species
- Alien species and genotypes

Box XII

Goal 6	**Control threats from invasive alien species.**		
Target 6.1	**Pathways for major potential alien invasive species controlled**		
I) National target: Has a national target been established corresponding to the global target above?			
a) No			
b) Yes, the same as the global target			
c) Yes, one or more specific national targets have been established			x
Please provide details below.			
As part of the Norwegian Government's "Environmental Policy" and the "State of the Environment", national targets for conservation and sustainable use of biodiversity has been established since 1999. The relevant Norwegian target under this global target is: "The introduction of alien species through human activity shall not damage or limit ecosystem functions"			
II) National targets for specific programmes of work: If such national target(s) ha(s)(ve) been established, please indicate here, and give further details in the box(es).			
Programme of work	**Yes**	**No**	**Details**
a) Agricultural	x?	x	
b) Inland water	x		Some national targets relating to *Gyrodactylus salaris*, and national targets to avoid introductions of signal crayfish
c) Marine and coastal	X		Alaskan King Crab, cf Article 6.2
d) Dry and subhumid land		x	Not relevant in Norway, but high priority as a result of our contribution to the UNCCD and follow-up of the action plan on agriculture with respect to development cooperation
e) Forest	x		Import of timber, cf Article 8 h, question 47
f) Mountain		x	
III) Has the global or national target been incorporated into relevant plans, programmes and strategies?			
a) No			
b) Yes, into national biodiversity strategy and action plan			x
c) Yes, into sectoral strategies, plans and programmes			
Please provide details below.			
The national targets are also in the "Norwegian biodiversity policy and action plan - cross-sectoral responsibilities and coordination" Marine and coastal ; as target 6.3 below			

IV) Please provide information on current status and trends in relation to this target.
Some pathways are identified, like ballast water, import of timber, non-sterilized equipment for fishing Status of pathways of alien species are that these exist to some extent, but are increasing because of increased international trade and travel activities
V) Please provide information on indicators used in relation to this target.
Main indicator for alien species related to the national target is: "Human induced introduction of selected species and populations that effects ecosystems"
VI) Please provide information on challenges in implementation of this target.
Better cooperation and coordination between sectors. Better legislation
VII) Please provide any other relevant information.

Box XIII

Target 6.2	**Management plans in place for major alien species that threaten ecosystems, habitats or species**

I) National target: Has a national target been established corresponding to the global target above?	
a) No	
b) Yes, the same as the global target	
c) Yes, one or more specific national targets have been established	x

Please provide details below.

As part of the Norwegian Government's "Environment Policy" and the "State of the Environment", national targets for conservation and sustainable use of biodiversity has been established since 1999. The relevant Norwegian target under this global target is:
"The introduction of alien species through human activity shall not damage or limit ecosystem functions"

II) National targets for specific programmes of work: If such national target(s) ha(s)(ve) been established, please indicate here, and give further details in the box(es).

Programme of work	**Yes**	**No**	**Details**
a) Agricultural		x?	
b) Inland water	x		Targets relating the salmon parasite *Gyrodactylus salaris* and signal crayfish (and crayfish plague)
c) Marine and coastal	x		Yes, Alaskan King crab (see below)
d) Dry and subhumid land		x	Not relevant in Norway
e) Forest		x	
f) Mountain		x	

III) Has the global or national target been incorporated into relevant plans, programmes and strategies?	
a) No	
b) Yes, into national biodiversity strategy and action plan	x
c) Yes, into sectoral strategies, plans and programmes	x

Please provide details below.

The national targets are also in the "Norwegian biodiversity policy and action plan - cross-sectoral responsibilities and coordination"
b) Regular monitoring of noble crayfish will discover possible introductions of signal crayfish. Management procedures concerning the restrictions related to transfer of equipment in watercourses
c) In the early 1960s the Alaskan King crab was introduced by a Russian scientist to the Barents Sea. The crab is now subject to a management plan agreed between Norway and Russia. The objective is to control the west- and southward expansion of this alien species

IV) Please provide information on current status and trends in relation to this target.
Action and management efforts in place for some major alien species, like the salmon parasite *Gyrodactylus salaris* and signal crayfish Most species need attention and action. Increased focus on these matters in Norway
V) Please provide information on indicators used in relation to this target.
Main indicator for alien species related to the national target is: "Human induced introduction of selected species and populations that effects ecosystems"
VI) Please provide information on challenges in implementation of this target.
Increased focus and targeted policy. Better cooperation and coordination between sectors. Better legislation
VII) Please provide any other relevant information.

Box XXXIII

Target 10. Management plans in place for at least 100 major alien species that threaten plants, plant communities and associated habitats and ecosystems.	
I) Has your country established national target corresponding to the above global target?	
a) Yes	
b) No	x
Please specify	
Work with alien species will be a focus area in the years to come	
II) Has your country incorporated the above global or national target into relevant plans, programmes and strategies?	
a) Yes	
b) No	
Please specify	
III) Current status (please indicate current status related to this target)	
IV) Measures taken to achieve target (please indicate activities, legislative measures and other steps taken with a view to achieve the target)	
V) Progress made towards target (please specify indicators used to monitor progress towards the target)	
VI) Constraints to achieving progress towards the target	
VII) Any other relevant information	

Article 8(h) - Alien species

30. Has your country identified alien species introduced into its territory and established a system for tracking the introduction of alien species?	
a) No	
b) Yes, some alien species identified but a tracking system not yet established	x (FID, MD)
c) Yes, some alien species identified and tracking system in place	x (LMD)
d) Yes, alien species of major concern identified and tracking system in place	
31. Has your country assessed the risks posed to ecosystems, habitats or species by the introduction of these alien species?	
a) No	
b) Yes, but only for some alien species of concern (please provide details below)	x
c) Yes, for most alien species (please provide details below)	

Further information on the assessment of the risks posed to ecosystems, habitats or species by the introduction of these alien species.

The salmon parasite *Gyrodactylus salaris* causes the eradication of the wild atlantic salmon *Salmo salar*
The introduction of the European minnow *Phoxinus phoxinus* alters freshwater ecosystems
The crayfish plague introduced with the North American crayfish *Pasifastacus leniusculus* cause the extinction of our nobel crayfish *Astacus astacus*

32. Has your country undertaken measures to prevent the introduction of, control or eradicate, those alien species which threaten ecosystems, habitats or species?	
a) No	
b) No, but potential measures are under consideration	
c) Yes, some measures are in place (please provide details below)	x
d) Yes, comprehensive measures are in place (please provide details below)	

Further information on the measures to prevent the introduction of, control or eradicate those alien species that threaten ecosystems, habitats or species.

We have an action plan for eradication of the salmon parasite *Gyrodactylus salaris*
It is prohibited to import and introduce live freshwater organisms into nature without permission from the Ministry of Environment (The Act relating to Freshwater Fish and Salmonids). Also, according to the Wildlife Act, without permission from the Directorate for Nature Management, it is prohibited to introduce to Norway or to release in an area species or subspecies not previously occurring in the area
Norway has established inspection of production and sales, and a border control for import of plants and other regulated articles, according to the Norwegian Food Law and Regulations relating to plants and measures against pests. The Norwegian Food Safety Authority (NEFSA) is carrying out this control. The responsibility of NEFSA is to prevent introduction and spread of new pests according to regulations relating to plant and measures against pests, both in agricultural production and in the environment
The Norwegian Forest Research Institute, in cooperation with other Norwegian institutes, performs a sampling project on imported timber from Russia and other Baltic States. Such import may cause unintentional introductions of alien species that may represent a threat to Norwegian forest ecosystems. The project is funded by the Norwegian Ministry of Agriculture and Food. If a new pest is identified, NEFSA will take measures in order to eradicate, prevent or limit the spread of the pest
According to the Norwegian Food Law and its regulations authorization is required for introduction and use of biological control agents. Such authorization is based on the examination of potential threats to ecosystems, habitats or species

33. In dealing with the issue of invasive species, has your country developed, or involved itself in, mechanisms for international cooperation, including the exchange of best practices? (decision V/8)	
a) No	
b) Yes, bilateral cooperation	x
c) Yes, regional and/or subregional cooperation	x
d) Yes, multilateral cooperation	x

34. Is your country using the ecosystem approach and precautionary and bio-geographical approaches as appropriate in its work on alien invasive species? (decision V/8)	
a) No	
b) Yes (please provide details below)	x
Further comments on the use of the ecosystem approach and precautionary and bio-geographical approaches in work on alien invasive species.	
Cf. question 47 on legislation	
35. Has your country identified national needs and priorities for the implementation of the Guiding Principles? (decision VI/23)	
a) No	
b) No, but needs and priorities are being identified	x
c) Yes, national needs and priorities have been identified (please provide below a list of needs and priorities identified)	
Further comments on the identification of national needs and priorities for the implementation of the Guiding Principles.	
Measures included in the report "State of the Environment 2005"	
36. Has your country created mechanisms to coordinate national programmes for applying the Guiding Principles? (decision VI/23)	
a) No	
b) No, but mechanisms are under development	x
c) Yes, mechanisms are in place (please provide details below)	
Further comments on the mechanisms created to coordinate national programmes for implementing the Guiding Principles.	
37. Has your country reviewed relevant policies, legislation and institutions in the light of the Guiding Principles, and adjusted or developed policies, legislation and institutions? (decision VI/23)	
a) No	
b) No, but review under way	
c) Yes, review completed and adjustment proposed (please provide details below)	x
d) Yes, adjustment and development ongoing	
e) Yes, some adjustments and development completed (please provide details below)	
Further information on the review, adjustment or development of policies, legislation and institutions in light of the Guiding Principles.	
Proposals in the new Biodiversity Law	
38. Is your country enhancing cooperation between various sectors in order to improve prevention, early detection, eradication and/or control of invasive alien species? (decision VI/23)	
a) No	
b) No, but potential coordination mechanisms are under consideration	x
c) Yes, mechanisms are in place (please provide details below)	
Further comments on cooperation between various sectors.	
39. Is your country collaborating with trading partners and neighboring countries to address threats of invasive alien species to biodiversity in ecosystems that cross international boundaries? (decision VI/23)	
a) No	
b) Yes, relevant collaborative programmes are under development	
c) Yes, relevant programmes are in place (please specify below the measures taken for this purpose)	x

Further comments on collaboration with trading partners and neighboring countries.
Collaboration is established under the system of the International Plant Protection Convention (IPPC) that also may include threats of alien species to biodiversity in ecosystems Cf. import of timber, question 47

40. Is your country developing capacity to use risk assessment to address threats of invasive alien species to biodiversity and incorporate such methodologies in environmental impact assessment (EIA) and strategic environmental assessment (SEA)? (decision VI/23)	
a) No	
b) No, but programmes for this purpose are under development	
c) Yes, some activities for developing capacity in this field are being undertaken (please provide details below)	(x)
d) Yes, comprehensive activities are being undertaken (please provide details below)	
Further information on capacity development to address threats of invasive alien species.	

41. Has your country developed financial measures and other policies and tools to promote activities to reduce the threats of invasive species? (decision VI/23)	
a) No	
b) No, but relevant measures and policies are under development	
c) Yes, some measures, policies and tools are in place (please provide details below)	x
d) Yes, comprehensive measures and tools are in place (please provide details below)	
Further comments on the development of financial measures and other policies and tools for the promotion of activities to reduce the threats of invasive species.	
A compensation scheme for loss resulted from compulsory measures for eradication of alien species that may threaten plants, habitats or ecosystems is established Cf. question 47	

Alien Species and Genotypes

42. Has your country put in place mechanisms to control pathways of introduction of alien species in the marine and coastal environment? Please check all that apply and elaborate on types of measures in the space below.	
a) No	
b) Mechanisms to control potential invasions from ballast water have been put in place (please provide details below)	(x)
c) Mechanisms to control potential invasions from hull fouling have been put in place (please provide details below)	
d) Mechanisms to control potential invasions from aquaculture have been put in place (please provide details below)	x
e) Mechanisms to control potential invasions from accidental releases, such as aquarium releases, have been put in place (please provide details below)	
f) Not applicable	
Further comments on the current status of activities relating to prevention of introductions of alien species in the marine and coastal environment, as well as any eradication activities.	
b) An international framework through IMO has been established quite recently, and Norway is in the progress of implementation d) Several rules and regulations in force to control and prevent invasions from aquaculture	

Please elaborate below on the implementation of this programme of work and associated decisions specifically focusing on: a) outcomes and impacts of actions taken; b) contribution to the achievement of the goals of the Strategic Plan of the Convention; c) contribution to progress towards the 2010 target; d) progress in implementing national biodiversity strategies and action plans; e) contribution to the achievement of the Millennium Development Goals; f) constraints encountered in implementation.

12. POLAND / POLOGNE

Work on Invasive alien species in Poland

Report for the meeting "Bern Convention Group of Experts on Invasive Alien Species"

Palma de Majorca, Spain, 9-11 June 2005

Invasions of alien species are nowadays regarded as one of the greatest threats for biological diversity at the global scale. This problem is present also in Poland: for instance, more than 40% of plants, over 30% of all fish and about 10% of all mammals in Poland are alien species. In Poland, actions to solve the problem of alien species fall under both national and international frameworks.

At the national level, the most important document acknowledging the need of resolving the IAS is the "National Biodiversity Strategy" developed in 2003. The problem of IAS is also addressed by international conventions and treaties ratified by Poland, including Bern Convention („European Strategy on IAS and Recommendation No.99/2003) and Convention on Biological Diversity (Article 8(h), Decisions VI/23 and VII/13). Another convention important for solving the IAS problem and signed by Poland, is International Convention for the Control and Management of Ships' Ballast Water and Sediments. As this document is relatively new (adopted in 2003), actions taken in Poland in order to implement it are preliminary. Recently, there has been a significant increase in addressing IAS-related issues in the work for International Plant Protection Convention (IPPC). Although the main effort of this Convention is protection of crops and plant production against pests, increasingly more attention is paid to risks of pest alien species for biological diversity. Phytosanitary services of most countries, including Poland, have well-developed executive, legal and financial instruments. Involvement of these services in protection of biodiversity against alien species invasions would be a very effective solution. In Poland, discussion on this topic, began after the workshop „Invasive alien species and IPPC", organized by the IPPC in 2003. The meeting was attended by delegates of the Ministry of Agriculture and the Ministry of the Environment.

In the last few years, one of the most important steps in resolving the problem of IAS in Poland was development of National Biodiversity Strategy. The Strategy defines alien species invasions as one of 8 main threats for biodiversity in Poland. The Strategy identifies key objectives that should be achieved in order to reduce the impact of the alien species invasions in the country:

- development of detecting and monitoring system of alien species invasions
- assessment of pathways and vectors of alien species invasions
- assessment of IAS impact on native species and ecosystems, and social and economical effects of this impact
- implementation of the strategy to prevent new introductions
- implementation of the strategy to eradicate, control or mitigate impact of alien species already introduced to Poland

The Strategy estimates costs and identifies potential sources of funding for achieving the goals. For 2003-2006, costs associated with work on IAS in Poland were estimated at 1 700 000 PLN (ca. 425 000 €).

As indicated by international and national policies on IAS, one of the first steps in order to solve the alien species problem effectively should be the assessment of its scale in each country. Some actions towards achieving this goal have been undertaken in Poland for many decades. Studies into alien species were made in a number of academic research centers. In 1999 a program of comprehensive assessment of IAS problem in Poland started. The program was coordinated by the Ministry of the Environment and the Institute of Nature Conservation, Polish Academy of Sciences. As a result, a database „Alien Species in Poland" was developed. The first version of this database included about 250 most important alien species in Poland. Threat of each species for the biological diversity in Poland was assessed, together with the need and methods of the species control. In 2003, thanks to a grant of the US Department of State, a part of data from the original database was

translated into English and made available on the Internet (www.iop.krakow.pl/ias). IN the following years the database has been developed and it currently covers about 600 of alien species in Poland. Work on a new structure for the of the database is in progress. The new structure will follow recommendations of „European Strategy on IAS", Global Invasive Species Program (GISP) and Invasive Species Specialist Group (ISSG).

Having developed the database on IAS, Poland contributes to international exchange of information on alien species and to regional cooperation in order to solve the problem. The Polish database was included into the NOrdic-BAltic Network on Invasive Species (NOBANIS, www.sns.dk/nobanis). The main aim of this project, financed by the Nordic Council of Ministers, is the exchange of information on IAS in the Nordic-Baltic region. In future, the Polish database will also be integrated with the Global Invasive Species Information Network (GISIN, www.gisinetwork.org).

Another very important step towards a comprehensive assessment of IAS threat in Poland, is a grant funded by the Polish Scientific Committee „Invasive alien species in Poland and conservation of biological diversity". The project is coordinated (2004-2006) by the Institute of Nature Conservation, PAS and the Institute of Botany, PAS. A number of leading institutions studying IAS in Poland take part in the project.

In future, information about alien species in Poland will be used to develop a national strategy on IAS. The first step towards this strategy is currently being made at the Institute of Nature Conservation, PAS. The project, funded by the Ministry of Environment will develop a code of conduct for alien species already introduced to Poland. The main aims of the project are:

- drawing a list of alien species expanding in Poland;
- estimation of spatial scale and the rate of alien species expansion and changes in population numbers;
- drawing a list of invasive alien species, that is species posing a threat for native fauna and flora; assessment type and scale of the impact by each species.
- suggesting methods to control alien species, including possibilities for the economical usage of alien species
- drawing a list of alien species not yet recorded in Poland but expanding in neighboring countries and likely to invade Poland in the close future; assessing potential risk of these species for the native biodiversity and possibilities of its limitation.

The project will end in July 2005.

A very important element of the future comprehensive strategy on IAS is development of an effective legislature in order to prevent new introductions and to reduce effects of the presence of species already introduced. In Poland, the problem of alien species is regulated in a number of acts and decrees. During the last few last years, most of these documents were modified and recent versions address the IAS-related issues in a more comprehensive way.

The most important act regulating alien species problems in Poland are Nature Conservation Act of 16 April 2004, Sea Fisheries Act of February 2004 and Inland Fisheries Act of 18 of April 1985. According to regulations of the Nature Conservation Act, it is forbidden to import to Poland alien species (including eggs, seeds, different developmental life stages etc.) that, in case of introduction into the wild, could pose a threat to native biodiversity. Exemptions are made only after approval is obtained from the Minister of Environment. Similarly, any introduction of an alien species into the wild, or any relocation of an alien species within Poland, requires approval from the Minister of Environment.

The above regulations do not apply for alien plant species introduced for establishing and maintaining parks and other green areas, and used in sustainable forestry and agriculture. Also introductions of alien fish species are not regulated by Nature Conservation Act. Instead, in case of freshwater fishes, Inland Fisheries Act is applied, while for sea fishes – Sea Fisheries Act. In both cases, introduction of an alien fish can only be made after permission is obtained from the Minister of

Agriculture. The decision of the Minister is made after the assessment of the risk to native biodiversity that can be caused by the introduction.

Regulations on species already introduced to Poland are restricted to 2 decrees. Hunting Law, of 10 April 2001, amended on 19 of April 2004, regulates control of some alien mammals and birds. A Decree of the Minister of Agriculture of 17 January 2003, on fisheries and conditions of breeding, culture and catching of other water organisms regulates control of 2 species of alien crayfish and 3 species of alien fish.

Poland has a well-developed organizational and regulatory systems for phytosanitary and veterinary protection (coordinated by the Ministry of Agriculture), as well as for forest protection (coordinated by the Ministry of Environment). As many pests of plant, animal and forest production are alien species, work of these agencies partially contributes to minimizing the negative impact of IAS on native biodiversity in Poland.

13. PORTUGAL / PORTUGAL

National instrument to the implementation of the European Strategy on Invasive Alien Species

The National Strategy for Nature Conservation and Biodiversity, officially adopted in 2001, is considered the national instrument to the implementation of the European Strategy on Invasive Alien Species. It supports a broader set of measures concerning invasive alien species in the fields of integrated policy, scientific research, management, education and public awareness. However, in the last few years, constraints in financial and human resources delay the full application of these measures. For that it contributes also some political and institutional instability (*e.g.* 4 Secretaries of State in the last 3 years!).

Specific legislation on invasion alien species

Along the last five years (after the adoption of the specific legislation – Dec. 565/99), the ICN (Institute for National Conservation) and DGF (Forestry authority) received 3 requests to intentional introduction:

1) Piracuru, *Arapaima gigas*, a freshwater fish from Brazil, for aquaculture proposes; The request was denied;
2) *Ctenopharyngodon idella*, a freshwater fish from China, for biological control of aquatic vegetation in small streams and dams; The request was denied;
3) *Paulownia fortunei x elongata*, a tree species for forestry proposes; it was allowed to proceed to controlled essays;

Currently, the two national authorities above mentioned agree in the urgent need to review some of the regulations concerning detention procedures (*e.g.* crayfish *Procambarus clarckii*) and update the appendices of the diploma (which function as white and black lists) with new introduced and invasive species (mainly because only mainland introduced species were included).

In which concern plant species, Marchante *et al* (*in press* 1) supports that at least 140 species must be added to the appendix I (list of species introduced in Portugal) (Figure 1). From a total of 550 alien species, 81 are considered as invasive.

Furthermore, education and awareness is also wanted for the adequate understanding and application of this legislation.

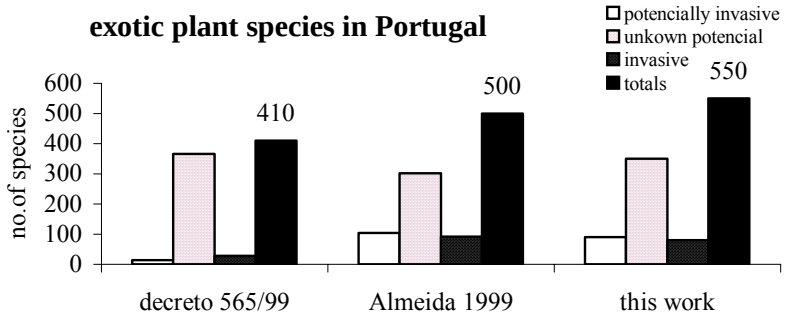

Figure 1 – According to Marchante *et al* (*in press* 1), exotic Plant species categorized according to its invasiveness in Portugal, following different bibliographic sources: the legislation (dec.565/99), Almeida (1999), and a brief update prepared by them.

Research and control projects

1. Mainland

In the context of the research project INVADER (www.uc.pt/invasoras), experimental areas in a Natural Reserve are being used to evaluate efficiency of control methodologies (mechanical and biological control) and to assess recovery potential at soil, seed and vegetation level. First results show that *Acacia longifolia,* despite not resprouting in some situations, can sprout vigorously after cutting. High re-invasion potential, due to both resprouting and germination, associated to elevated costs, demand other kinds of control to be taken into account. Biological control is being tested in quarantine conditions, and if proven safe will permit a more sustainable control. *Trichilogaster acaciaelongifoliae* Froggatt (Hymenoptera: Pteromalidae) is a gall forming wasp original from Australia, and was previously released as a biocontrol agent in South Africa where it was introduced in 1982 being referenced as an extremely successful weed biological control programme (Donnelly & Hoffmann 2004). The biocontrol agent considered is monospecific, feeds on *A. longifolia* floral buds, preventing seed formation, and to a less extent on foliar buds. The studies at soil, seeds and vegetation level are making available an important set of data to the evaluation of the recovery potential in this system, which will be essential for the proposal of a coherent post-control restoration plan (Marchante *et al*, *in press* 2).

Erradication of *Acacia longifolia* is also in course in Parque Nacional da Peneda-Gerês, following a project co-finaced by LIFE Nature.

2. Azores

In October 2003 it started the LIFE Project "Restoration of the Azores bullfinch habitat in "Pico da Vara / Ribeira do Guilherme" SPA whose main objective is to control the expansion of flora invasive species (*Clethra arborea*, *Hedychium gardnerarum*, *Pittosporum undulatum*, *Gunnera tinctoria*) in the area where the Azores bullfinch occurs (an endemic passerine with a globally threaten population of 250 birds) and plant native trees and fruit orchards to provide food for the species. This LIFE project is co-ordinated by SPEA (BirdLife Portugal), in partnership with regional government departments (Direcção Regional do Ambiente, Direcção Regional dos Recursos Florestais), local farmers, municipality of Nordeste, Azores University, IMAR -Coimbra University and RSPB (BirdLife UK), and it will run until 2008.

The Azores Regional Government has published a Regional Plan for the Eradication and Control of Flora Invasive Species in Sensitive Areas (Resolution nº 110/2004, 29th July) that will be implemented until 2009. The plan foresees the eradication and control of 16 species of flora invasive species in sensitive areas in every islands of the Azores archipelago (*Pittosporum undulatum*, *Hedychium gardnerarum*, *Hydrangea macrophylla*, *Arundo donax*, *Gunnera tinctoria*, *Clethra arborea*, *Carpobrothus edulis*, *Lantana camara*, *Ailanthus altíssima*, *Polygonum capitatum*, *Drosanthemum floribundum*, *Acacia melenoxylon*, *Ulex europaeus*, *Ipomoea indica*, *Rubus ulmifolius*, *Pteridium aquilinum*).

3. Madeira

During 2004 and 2005, regional authorities follow the implementation of the control and eradication projects for (1) the conservation of the endemic Zino's Petrel *Pterodroma madeira* , (2) the recovery of the terrestrial habitat of Selvagens Islands and (3) the control of the invasive plant species in the laurel forest of Madeira .

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14. SPAIN / ESPAGNE

Group of Experts on Invasive Alien Species
6th meeting
Palma de Mallorca, Spain (9 – 11 June 2005)

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Report from Spain

Legal framework

The main lines defining the legal framework of IAS in Spain have already been presented in former meetings. The main gap is still the absence of a legal support focusing specifically on the IAS problem. A legal framework could be an essential tool to unify the current legislation on animal and plant health, trade with animals and plants, customs and nature preservation. A European Directive on IAS should be a great support to implement the European Strategy and a baseline to develop national legislations.

There are references to IAS in the Spanish basic environmental legislation (Law 4/89) and in the region's legislations, as well as in rules on agriculture and trade. In general there is a great dispersion on the topic and there is not a single legal instrument to address the problem of IAS.

In January 18th 2005 Spain, with Brazil, was the first country signing the **International Convention for the Control and Management of Ships' Ballast Water and Sediments**, prepared by the IMO. This agreement will enter into force when 30 states representing at least 35% of the world gross tonnage become signatory.

Organisation

The Spanish Ministry of Environment, through the General Direction for Biodiversity (DGB) has promoted the writing of an **Action Plan on Invasive Alien Species** at national level. The writing of this action plan begun in autumn 2003 and will be finished by autumn 2005. The action plan includes the analysis of the current situation of IAS in Spain. One of the outputs will be an updated list of IAS. The most dangerous invaders are to be identified and control measures will be proposed. A black list of species whose importation should not be allowed is included as well as the guidelines allowing the implementation of risk analysis models for different groups. Prevention measures are also being proposed. A directory of specialists is being compiled to allow further communication among researchers and managers. The action plan also deals with entry pathways and the most important vectors, and proposes, on the basis of the precautionary approach, measures to minimise the risk of new introductions.. At the same time, a **strategy** including the main points of the action plan in a simpler format will be delivered. The action plan could also be a model for the future design of subnational strategies and to encourage the cooperation between regional governments and other institutions.

Several regional governments are preparing their own strategies on IAS. For instance, Andalusian government started in 2004 a regional Plan for the control of IAS, including the identification and control of the most dangerous IAS.

Research

Research on IAS has increased during the last years, overall in protected areas. For instance, among 400 research projects were accomplished in Doñana National Park between 1973 and 2004. Until 1989 none of them dealt specifically with IAS. Since then, there have been 15 research projects dealing with IAS in this National Park. Five that started between 1989 and 2000 targeted only two species while the projects that begun between 2000 and 2004 where ten and targeted five species.

During 2003 five research projects dealing with invasive species where funded by the Ministry of Environment through the National Parks' autonomous body (OAPN), representing 25% of the studies financed that year.

More recently, another project dealing with invasive plants has been funded by the Ministry of Science and Technology on the "Biological determinants of plant invasion risk". Spanish institutions had also participated in the international project EPIDEMIE (*Exotic plant invasions: deletereous effects in Mediterranean island ecosystems*).

Many universities and other research centres have a growing concern in the study of IAS. In view of the interest aroused from the first conference on IAS (see below) and the contributions, it becomes evident that there is an increasing number of research teams focusing on invasive alien species. Although the subjects of research are quite diverse, there are some gaps in the less known taxonomic groups, as some invertebrates or fungi.

Information exchange and diffusion

This is one of the fields in which much activity has been noted at both national and international levels. During the last years, especially since the last meeting of the group of experts on IAS, many events have taken place in order to exchange information among different institutions dealing with the IAS issue.

For instance, in November 2002, the Spanish Entomological Association and the Spanish Committee of IUCN conducted the first seminar on invasive and alien species in Santiago de Compostela.

"**EEI 2003**", the First National Conference on Invasive Alien Species, took place between 4th and 7th of June of 2003, in Leon (Spain), organised by G.E.I. *Grupo Especies Invasoras* under the patronage of Council of Europe, GISP (Global Invasive Species Programme), IUCN (World Conservation Union) and ISSG (Invasive Species Specialist Group).

The tackled topics can be summed up as follows: 1) Ecological consequences of the IAS on ecosystems, habitats and species; 2) Economic impact of the IAS; 3) IAS as indicators of pathogenic agents; 4) IAS ecology and behaviour 5) Management of IAS & 6) Institutional and legal frameworks related to IAS.

There were 160 participants (46% university & research centres; 17% public administration; 17% university students; 12% private sector company; 5% NGOs; 3% others) attending to 77 communications (29 talks & 48 posters) and 9 lectures presented by international experts on biological invasions.

Three simultaneous workshops were carried out on the following areas: 1)Prioritisation of actions to be taken in order to build up a management strategy for the IAS between Spain and neighbouring countries; 2)Prioritisation of actions to be taken to control IAS in the Spanish islands; 3)Criteria to evaluate the impact of IAS.

The main outputs of the conference where: 1) Book of extended abstracts 2) Book of General Conclusions and Workshops & 3) Issues in Bioinvasion Science (Proceedings of the Conference published in Biological Invasions, Vol.7 (1) 2005).

The favourable reception of "EEI 2003" generated the need to repeat the event. It was agreed that the conference would be held at two-year periods. The GEI is currently organising "**EEI 2005**", the Second National Conference on Invasive Alien Species that will be held at the end of the November of the present year.

Some species merited a special attention. Some meetings have been organised on the general situation on *Dresissena polymorpha* (Zebra mussel) in Ebro River. The first took place in Zaragoza in February 2003. Different stakeholders participated: Ebro Hydrological Confederation, local governments, electricity supplier companies and local NGOs. Since then, some other meetings followed in Catalonia and Aragon both to update the advances achieved by the different stakeholders as to define future strategies. In May and July 2003 two other meetings were organised in Tarragona, with the participation of the Catalonia Water Agency and the Institute for de Development of Ebro Districts. Other meetings were held in Zaragoza in September 2003, June and July 2004 and March and April 2005. In the last meeting, a working group on Zebra mussel was constituted, under the coordination of the Ministry of Environment (Ebro Hydrological Confederation and General Direction for Biodiversity).

In the framework of the strategy on IAS of the Andalusian government, several meetings have been done to discuss the local problematic and establish future actions. The aim is to celebrate one of these encounters in each province to discuss the problems at the closer level as possible.

The project on "Control of invasive vertebrates on Spanish and Portuguese islands" (see below) included three activities related to the exchange of information. The first was the organisation of a symposium on the methods used to control vertebrate alien species on islands in Spain and Portugal. This was held in February 2003 in Tenerife. A second step was the establishment of a network of experts on IAS. Finally, a handbook on methods to control alien vertebrates on islands was supported and written up. This manual is available online (www.gobiernodecanarias.org/medioambiente/biodiversidad/ceplam/vidasilvestre/life14/archivos/accion4/manual_invasorasL.PDF).

In addition, GEIB leads a virtual forum to exchange information, announce events and solve doubts and problems. GEIB also has a web page aiming to share information among specialists (www.invasionesbiologicas.org).

In November 2004, during the 1st workshop on management and conservation of crayfish in Andalusia, there was a special working group on exotic invasive species.

In February 2005, a Seminar on Invasive Exotic Plants was held in Asturias in order to share experiences with the neighbouring regions and to look forward options for their management.

Databases

Several institutions have adopted different approaches to establish databases on IAS. One of the first initiatives was launched by the Canary Islands Government with a database available online (www.gobiernodecanarias.org/medioambiente/biodiversidad/introducidas/).

The Ministry of Environment, in partnership with different scientific organisations, funded the achievement of Distribution Atlas for several taxonomic groups. Within these studies, IAS has been included in different ways, depending on the group. Thus, while exotic plants have merited a specific Atlas, exotic terrestrial vertebrates have been included in the respective publications for each taxonomic group. In the case of birds and amphibians and reptiles separate chapters treat the issue of IAS.

Apart from this, SEO/BirdLife through its Group of Alien Birds (GAE) is continuously updating a database on every sighting of alien species of birds and classifying them into different categories of naturalisation.

Another project on establishing a database of IAS has been launched by Girona's University. "**InvasIBER**" is an online interactive database funded by the Ministry of Science and Technology (http://hidra.udg.es/invasiber).

As said above, the Action Plan that is currently being written up will have as an output a database of invasive species. At present, the list includes about 700 species that have been considered as invasive in the literature.

International cooperation

In the field of international partnership and cooperation, apart from the cooperation with different international treaties, it's important to point out the collaboration among the local governments of the archipelagos of Canary islands, Balearic islands, Madeira and Açores during the implementation of the project "Control of invasive vertebrates on Spanish and Portuguese islands". This was financed by LIFE2002NAT/CP/E/000014 funds and included activities on public awareness, environmental education and exchange of information.

An action plan has been developed with the Kingdom of Morocco to collaborate in the control of *Oxyura jamaicensis* (Ruddy duck) in this last country, because the individuals detected in the wetlands of Morocco could threat the Iberian population of *Oxyura leucocephala* (White-headed duck). The action plan includes workshops on the methods used to identify and control effectively alien species.

Public awareness and environmental education.

Many organisations have approached the spreading of the problem of IAS in Spain. The above-mentioned project on "Control of invasive vertebrates on Spanish and Portuguese islands" included the design of a strategy on environmental education activities focussing IAS (www.gobiernodecanarias.org/medioambiente/biodiversidad/ceplam/vidasilvestre/life14/archivos/accion3/EA%20Invasoras.pdf). Another output of this project was the production and distribution of a videotape on invasive vertebrates on islands.

Some NGOs have undertaken their own initiatives to aware the public on the importance of IAS. GEI has contributed to the diffusion of this problem through exhibitions, leaflets, conferences and its web page. WWF/ADENA carried out volunteering campaigns including some training on the control of IAS.

In the framework of the prevention of the spread of Zebra mussel, the local governments of Aragon, Catalonia and Alava have produced some printed material on good practices to avoid the dissemination of this invasive species. The same occurred to aware fishermen and sailors on the effects of *Caulerpa taxifolia* in Valencia.

Other local authorities have also produced leaflets on different aspects of invasive species. So, Andalusian government target pet shops as points to alert the public on the danger of releasing domestic animals, as also did Canary and Balearic governments in cooperation with environmental foundations. Other authorities, as the Asturias government, published fliers on the description and threats posed by invasive plants used in gardens.

Prevention and Control

The activities of prompt detection and control or eradication are sustained or developed by various institutions. The Ministry of Environment encourages many of these activities, overall in National Parks and the public domains (coast and rivers). In protected areas in general, subnational governments manage this issue. Also many local authorities and NGOs have had some important initiatives

The Canary Islands government within its Wildlife Conservation Strategy includes many actions on introduced species that threaten native endangered biota. Other regional governments proceed regularly against invasive alien plants and animals. Many angling and fishing regulation make reference to the problem of invasive fishes and crayfishes, and don't allow the transport or keeping of live specimens of some species. This varies quite a lot among different regions and some times responds to sportive or economic reasons more than to environmental ones.

Control of Ruddy duck and its hybrids with White-headed duck is still going on. The White headed-duck working group coordinates the different actions.

Mustela vison (American mink) has been the subject of several projects of control, normally within conservation plans for *Mustela lutreola* (European mink). These projects include live trapping of American mink in areas where there can be conflict with European mink. The areas where such a trapping is being carried out are Catalonia, Alava, La Rioja and Castilla y León. The same activity will also start in Extremadura to contribute to the preservation of Iberian desman (*Galemys pyrenaicus*).

An environmental assessment study has been written up on the impact of hollowing out the Ribarroja reservoir to reduce the level of water in order to eliminate the zebra mussel population. The implementation of this operation is scheduled in September 2005, and will be probably repeated in subsequent years.

Many centres for wildlife recovery also receive exotics to avoid their release in nature. They also collect feral or free-ranging individuals captured in the field. The most common species are sliders, but others are frequently accepted.

Several alien species are controlled or have been eradicated from islets. These actions are implemented or encouraged by regional governments, overall in Balearic and Canary islands. Nevertheless, the Ministry of Environment also implements these actions in areas under its authority. This is the case of National Parks (up to this year, when complete transfer of competences will be

fulfilled to subnational governments) or areas as Chafarinas archipelago.

Many plants have also been the targets of control and eradication measures. The authorities responsible of such initiatives are diverse: town halls, local and regional governments, coastal authorities (depending on the Ministry of Environment), etc. Very often NGOs are involved in these actions. One of the species more frequently controlled is *Carpobrotus edulis* (Doñana, Minorca, Cadiz, etc.) but many others are controlled at least in some localities.

Among the LIFE projects, some of them have been devoted to control or eradicate IAS:

Restoration of the islets and cliffs of Famara (Lanzarote Island)	LIFE99 NAT/E/6392	*Oryctolagus cuniculus*, *Felis catus, Rattus* sp. *Nicotiana glauca*
Conservation of the European mink (*Mustela lutreola*) in Castilla y León (Spain)	LIFE00 NAT/E/7299	*Mustela vison* *Populus* hybrida
Conservation plan for the white-headed duck in the Community of Valencia	LIFE00 NAT/E/7311	*Oxyura jamaicensis*
SCI Parga-Ladra-Támoga: recovery of bog woodland and dystrophic lake	LIFE00 NAT/E/7330	*Azolla filiculoides*, *Pinus* sp.*, Populus* hybrida, *Eucalyptus* sp.
Conservation of the European mink (*Mustela lutreola*) in La Rioja	LIFE00 NAT/E/7331	*Mustela vison* *Populus* hybrida
Conservation of the European mink (*Mustela lutreola*) in Álava (Spain)	LIFE00 NAT/E/7335	*Mustela vison* *Populus* hybrida
Conservation of areas with threatened flora on the island of Minorca	LIFE00 NAT/E/7355	*Carpobrotus edulis*
Conservation of the European mink (*Mustela lutreola*) in Cataluña, Spain	LIFE02 NAT/E/8604	*Mustela vison*
Giant lizard of La Gomera (*Gallotia bravoana* or *Gallotia simonyi gomerana*)	*LIFE02 NAT/E/8614*	*Felis catus, Rattus* sp. and livestock
Control of exotic vertebrates in Islands of Portugal and Spain	LIFE02 NAT/CP/E/14	Exotic vertebrates
Increase in the Size of *Columba bollii* and *Columba junoniae* populations.	LIFE96 NAT/E/3095	*Rattus* sp.
Restoration of riparian ecosystem in the natural reserve of Galachos, Spain	LIFE96 NAT/E/3098	*Populus* hybrida
Restoration and integrated management of the island of Buda	LIFE96 NAT/E/3180	*Eucalyptus* sp., *Populus* hybrida, *Phoenix* sp. and *Washingtonia* sp
Recovery Plan of *Puffinus p. mauretanicus* in SPA (Balearic Islands)	LIFE97 NAT/E/4147	*Felis catus*, *Rattus* sp. and other mammals
Project of physical and ecological recovery of "Playa del Matorral"	LIFE97 NAT/E/4157	*Washingtonia* sp., *Tamarix sp.*
Reintroduction of El Hierro Giant Lizard in its former natural habitat	LIFE97 NAT/E/4190	*Felis catus*, *Rattus* sp.
Conservation of island SPAs in the Valencian region	LIFE98 NAT/E/5300	Livestock (hens, peacocks) *Opuntia* sp.
Restauration and management of the "Estanys de Sils"	LIFE98 NAT/E/5348	*Phytolacca americana*, *Arundo donax*
Conservation of the Blue Chaffinch of Gran Canaria	LIFE98 NAT/E/5354	*Felis catus*
Biodiversity conservation and recovery in the river basin of Asón	LIFE99 NAT/E/6333	*Eucalyptus globulus*, *Bacharis halimifolia, Cortaderia selloana*
Restoration of an integral reserve zone in the SPA for birds	LIFE99 NAT/E/6343	*Populus* hybrida

"Riberas de Castronuño"		
Conservation of priority habitats in the Valencian Community	LIFE99 NAT/E/6417	*Carpobrotus edulis*, *Agave americana*
Protection of Posidonia grasses in SCIs of Baleares	LIFE00 NAT/E/7303	*Caulerpa taxifolia*
Conservation of the black vulture in Majorca and other Spanish SPAs	LIFE00 NAT/E/7340	*Felis catus*
Proliferation of the tropical algae *Caulerpa taxifolia* in the Mediterranean	LIFE92 ENV/E/0067	*Caulerpa taxifolia*

Source: Scalera & Zaghi, 2004.

In summary, there is a great deal of activity around IAS in Spain, and this process is likely to end up with the development of a national strategy or some specific legislation.

Madrid, 15 may 2005

15. SWEDEN / SUEDE

Status of work with invasive alien species in Sweden 2004-2005

Work with alien invasive species in Sweden during 2004-2005 has been focused on initiating measures to implement the Convention on Biological Diversity's *Guiding Principles for the prevention, introduction and mitigation of impacts of alien species that threaten ecosystem, habitats or species* and the Bern Convention's *European Strategy on Invasive Alien Species*. Four government remits have resulted in reports about the effects of invasive alien species with recommendations for further work.[1][2][3][4] An overview[5] of gaps and inconsistencies in Swedish laws, regulations and routines regarding alien species has been made and a report has been sent to the Swedish government. Recommendations made in these reports have been incorporated in the Swedish government's bill on Swedish Environmental Quality Objectives and will steer work with the environment in the coming years.

The Swedish government's Bill on Swedish Environmental Quality Objectives contains a proposal for a new environmental objective on biological diversity "*A varied plant and animal life*". In this environmental objective, the goal is stated that *Alien species or genetically modified organisms that may threaten human health or threaten or impoverish biological diversity in Sweden should not be introduced*. Work is now being initiated to develop a national package of measures to deal with IAS. This package of measures is focused on four components:

1) development of a national strategy and action plan
2) development of black, grey and white lists of IAS and the consequent use of risk analysis
3) development of laws and regulations so that IAS are adequately covered
4) development of environmental monitoring of IAS and contingency plans for dealing with IAS

Research

The Swedish Environmental Protection Agency continues to fund and participate in the research project *Aquatic Alien Species – where and how will they pose a threat to the ecosystem functions and economy? (*AquAliens[6]*)* Professor Inger Wallentinus of Gothenberg University is the coordinator for the project, in which research groups from 8 universities in Sweden participate. Research within AquAliens is focused on studying the ecological effects of invasive alien species in the aquatic

[1] Swedish Environmental Protection Agency & Swedish Board of Fisheries. 2004. Ecological effects of release of alien species in fresh water environments. Unpublished report to the Swedish Department of the Environment. In Swedish.

[2] Swedish Board of Fisheries. 2004. Ecological effects of release of alien species. Report to the Swedish Deaprtment of Agriculture. In Swedish.

[3] Swedish Maritime Board 2005. Sweden's Implementation of the International Convention on the control and management of ship's ballast water and sediment. In Swedish.

[4] Laikre, L. & Palmé, A. in press.. The spread of alien populations. Swedish Environmental Agency Report 5475. In Swedish with English summary.

[5] Centre for Biological Diversity. 2004. Sweden's implementation of the Convention on Biological Diversity regarding alien species and genotypes. In Swedish.

[6] http://www.aqualiens.tmbl.gu.se/

environment, developing methods for risk analysis and developing tools to quantify the socio-economic effects of IAS. The project will continue until 2007.

The Swedish Environmental Protection Agency is participating in the EU 6th Framework STREP project *Delivering Alien Invasive Inventories for Europe* (DAISIE) which began in February 2005 and will run until 2008.

Regional Cooperation

The Danish Forest and Nature Agency and the Swedish Environmental Protection Agency are coordinating the *Nordic/Baltic Network on Invasive Species*[7] (NOBANIS) which is funded by the Nordic Council of Ministers. The 11 Nordic and Baltic countries including Poland, Russia and Germany are participating in the project which aims to develop an Internet based gateway to information on alien species and their management. This gateway will enable information exchange and cooperation within the region. NOBANIS began in year 2004 and will continue until 2006.

Sweden is also participating in regional work within the North Sea Conference and HELCOM with implementing the International Maritime Organization's *Convention for the control and management of ship's ballast water and sediments*.

[7] http://www.sns.dk/nobanis/

Appendix 4

MÈZE DECLARATION

Invasive Plants in Mediterranean Type Regions of the World

Preamble

From 25 to 27 May 2005, 110 plant scientists, conservationists and other experts from 24 countries met in Mèze (France) to discuss the threats to biodiversity, the environment and the economy posed by *invasive alien species* (IAS) (definitions according to the COP meeting of 26 March 2002: UNEP/CBD/COP/6/18/Add.1/Rev.1) of plants in the world's five Mediterranean-type climate regions – southern Australia, California, Chile, the Cape region of South Africa and the Mediterranean basin – and to search for possible ways to address these threats.

Although the Mediterranean climate regions cover less than 5% of the Earth's land surface, they are home to about 20% of the world's vascular plants, including a high number of endemic species and many taxa of considerable economic importance, and the Workshop Participants noted with concern that this plant diversity is increasingly threatened by invasive alien species, often exacerbated by global change and in particular its climatic components.

Recognizing **the importance and relevance of existing organizations, programmes and initiatives that address the issue of IAS in the framework of several international fora, such as the Convention of Biological Diversity (*Guiding Principles for the Prevention, introduction and mitigation of impacts on alien species that threaten ecosystems, habitats or species,* The Hague April 2002), the Council of Europe (*Bern Convention European Strategy on IAS*, Strasbourg December 2003) the International Plant Protection Convention (IPPC), the European and Mediterranean Plant Protection Organization (EPPO), the Paris Declaration (Conference Biodiversity Science and Governance, January 2005), The Global Invasive Species Programme (GISP) and the Baltimore Declaration (Technical Workshop on the Implementation of a Global Invasive Species Information Network (GISIN) Baltimore, USA, April 2004), and recognizing the great importance attached to regional cooperation;**

Recognizing the environmental, economic, health, and other social risks posed by plant IAS;

Aware of the international commitments of the World Summit on Sustainable Development, Johannesburg 2002 and the Ministerial Conference 'Environment for Europe', held in Kiev in 2003, which both recommend the management of IAS and the prevention of their introduction so as to help the global Millennium goal of halting the loss of biological diversity by 2010;

Realizing the importance of information and experience sharing among the countries in the Mediterranean-climate regions for the effective management of plant IAS;

Noting the lack of inventory of plant IAS in some Mediterranean-type climate -regions and basic information about the threats they pose;

Confronting the lack of education, awareness and communication about the impacts of plant IAS on the environment and the livelihoods of people;

Recognizing the substantially different impacts of plant IAS in the different Mediterranean-type climate regions;

Recognizing the different social and economic realities in the different countries of the Mediterranean-type climate regions and the different priorities given to plant IAS;

Recognizing that methods of tackling plant IAS and their impacts often exist, including environmentally sound approaches which are overlooked,

The participants of the Workshop:

1. Urge governments, scientific institutions, NGOs and all other stakeholders, as part of their continuing efforts to conserve biological diversity, to apply the best known practices for the prevention, eradication, and control of plant IAS, building on existing knowledge and control and prevention systems where these exist.
2. Call upon governments to ensure that national legislation and regulations effectively address the management and control of plant IAS and limit the spread and further introductions of such plants and of those that are potentially invasive because of their known impacts elsewhere.
3. Encourage plant IAS practitioners and experts in the countries concerned to share experiences, skills, technologies and data on the inventory, monitoring, management, control and eradication of such plants.
4. Recommend the preparation of 'Codes of Conduct' for stakeholder groups, including both the public and the private sector, that take into account, adapt, and build on existing guidelines where these exist.
5. Urge governments and donor agencies to increase funding to facilitate the development of prevention, management and monitoring programmes, essential research, and economic analysis on invasive alien plants.
6. Encourage the development of national inventories of invasive alien plants in the Mediterranean-type climate countries, using appropriate information technology; suggest the Global Invasive Alien Database as a clearing house mechanism; further the development of spatial tools to assist in the management of plant IAS; and encourage governments to support the exchange of information, methodologies and staff in biological control programmes.
7. Call upon the countries to cooperate in the development and distribution of materials for public awareness and education.

Appendix 5

COUNCIL OF EUROPE CONSEIL DE L'EUROPE

Convention on the Conservation

of European Wildlife and Natural Habitats

Standing Committee

Draft Recommendation No. … (2005) examined on … December 2005 on the control of the Grey squirrel (*Sciurus carolinensis*) and other alien squirrels in Europe

The Standing Committee of the Convention on the Conservation of European Wildlife and Natural Habitats, acting under the terms of Article 14 of the Convention**,**

Having regard to the aims of the Convention to conserve wild fauna and its natural habitats;

Recalling Recommendation No. 78 (1999) of the Standing Committee on the conservation of the Red squirrel (*Sciurus vulgaris*) in Italy;

Recalling Recommendation No. 99 (2003) of the Standing Committee on the Europen Strategy on Invasive Alien Species;

Noting that the Grey squirrel has established a population in the wild in the Ticino valley and surrounding areas;

Noting that the Grey squirrel is likely to further spread in the next decades over a large part of Europe, causing both economic damage to forests and also impacts to other native biological diversity, including damage to forest species and changes of biocenoses, and that its spread will probably lead to the extinction of many populations of the native Red squirrel,

Recommends that Contracting Parties:

1. encourage European and national institutions to support and fund further studies into the impacts to forests, Red squirrels and other biological diversity caused by the Grey squirrel and into efficient control measures;

2. request governments to be particularly attentive to detect new possible introductions of alien squirrel species and rapidly respond through eradication measures; ban trade of alien squirrel species as it is a source of uncontrolled introductions;

Further recommends that Italy:

3. urge the authorities of the Ticino valley, in particular the Ticino park, to start without delay an eradication programme on the Grey squirrel, following the guidelines developed by the *Istituto Nazionale per la Fauna Selvatica* (INFS) and the Italian Ministry of Environment, so as to prevent its expansion to Switzerland and other neighbouring states.