COUNCIL OF EUROPE CONSEIL DE L'EUROPE

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CONVENTION ON THE CONSERVATION OF EUROPEAN WILDLIFE
AND NATURAL HABITATS

Contribution to the 13th Meeting of the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA 13) of the Convention on Biological Diversity (Rome, 18-22 February 2008)

Bern Convention action on invasive alien species in Europe

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

What is the Bern Convention

The Convention on the Conservation of European Wildlife and Natural Habitats was adopted in Bern on 19 September 1979. It has at present 45 Contracting Parties, including 40 Council of Europe member states, Burkina Faso, Monaco, Senegal, Tunisia and the European Community[*]. The Convention has a three-fold objective:

- to conserve wild flora and fauna and their natural habitats;
- to promote co-operation between states;
- to give particular emphasis to endangered and vulnerable species and endangered natural habitats.

The Convention is managed by a Conference of the Parties called "Standing Committee" which has met 20 times since the entry into force of the Convention in 1982. It has a small Secretariat depending on the Council of Europe, based in Strasbourg (France).

Since 1983 the Convention has established a system for monitoring of implementation by Parties based on the work of specialised groups of experts and the examination of presumed violations (case files). It has implemented a network of reserves (Emerald Network of Areas of Special Conservation Interest) and has produced extensive information on the status of European threatened species and other subjects of interest for the preservation of wildlife and natural habitats. The work developed under the Convention has led to the establishment of a fully-fledged conservation programme for Europe's wild flora and fauna. Its Standing Committee has set as one of its priorities to play a more active role in the implementation, at the regional level, of the Convention on Biological Diversity and adapt accordingly its tasks and responsibilities for that purpose.

Provisions for alien species

Article 11, paragraph 2.*b*, of the Convention requires Contracting Parties "*to strictly control the introduction of non native species*".

In order to help interpret these obligations, the Committee of Ministers of the Council of Europe adopted in 1984 a specific recommendation:

- Recommendation No. R(84)14 of the Committee of Ministers concerning the introduction of non-native species

in which it recommended governments of member states to:

1. prohibit the introduction of non-native species into the natural environment;
2. authorise certain exceptions to the prohibition (on the condition of risk-evaluation studies;
3. take steps to prevent accidental introductions;
4. inform other governments on introduction schemes or accidental introductions (full text of Recommendation in Appendix 1 to this document).

These four subjects (prohibition, authorisation pending on risk assessment, prevention of accidental introductions and international co-operation) were to mark future action of the Bern Convention on this issue. European co-operation was also enhanced by the insistence, in Standing Committee meetings, of the need to implement those recommendations and to adapt legislation accordingly.

[*] Contracting Parties: Albania, Andorra, Austria, Azerbaijan, Belgium, Bulgaria, Burkina Faso, Croatia, Cyprus, Czech Republic, Denmark, Estonia, European Community, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Moldova, Monaco, Netherlands, Norway, Poland, Portugal, Romania, Senegal, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, "the former Yugoslav Republic of Macedonia", Tunisia, Turkey, Ukraine, United Kingdom.

Implementation of legal provision of the Convention on alien species

A first report by the Secretariat (Isabelle Trinquelle: *Legal aspects of the introduction and re-introduction of wildlife species Europe*, document TPVS (92) 7) showed that there were important gaps and differences in which the different European states parties to the Convention were implementing, at the national level, Article 11, paragraph 2. Some states had little or no legislation on the topic and none considered the possible consequences of introductions in other states. Control of unauthorised introductions was poor and prevention measures often inexistent. The report recommended the taking of more sound legal and administrative measures and even proposed a "model article" (for a conservation law) on introductions (see appendix 2).

Specialised group of experts

- *Work in the 90's*

Alarmed by the lack of implementation of provision on introduction of alien species (and also on some misguided re-introductions), the Standing Committee to the Convention decided in 1992 to create a specialised group of experts originally called "Group of Experts on the legal aspects on introduction and re-introduction of wildlife species", which met for the first time in March 1993. The group collected and analysed different national laws dealing with invasive species and proposed work aimed at the harmonisation of national regulations on introduced species, particularly on the fields of definitions, territorial scope of regulation, listing of species whose introduction is undesirable, identification of authorities responsible for permits, conditions for issuing such permits and control involved. The rules applicable to trade in species was identified as a matter of concern (see for detail document T-PVS (93) 14).

The group of experts met again in May 1995 (document T-PVS (95) 30) and in June 1997 (document T-PVS (97) 16) and it enlarged its scope. It decided to act on the following topics:

- centralisation of existing information on introduced species (European Clearing House Mechanism on Introductions);
- analysis of legal and administrative measures taken by states (follow-up of compliance with obligations);
- design of an overall risk management policy on Europe-wide introduction;
- elaboration of guidelines and codes of conduct on alien species;
- identification of species and control mechanism requiring priority attention;
- identification of sensitive areas, particularly selected islands, where especially strict measures are needed to prevent and control introductions;
- identification of emergency situations;
- elaboration of public awareness mechanism on alien species;
- elaboration of guidelines on eradication and control measures;
- problem of civil liability for damage to the environment by alien species;
- problems of international co-operation and state liability;
- legal status of the introduced species listed in the Appendices of the Convention.

The main policy paper produced by the group during the 90's was a document that was to be adopted by the Standing Committee to the Bern Convention:

Recommendation No. 57 (1997) of the Standing Committee of the Convention on the introduction of organisms belonging to non-native species into the environment (appendix 3 to this document).

The main four points of this recommendation are, not surprisingly, coincident with those of Recommendation No. 84 (14) of the Committee of Ministers of the Council of Europe, but the 1997 recommendation adds guidelines listing "measures that may be considered as appropriate for

controlling introductions of non-native species" which are listed for consideration by Parties. Those guidelines form a comprehensive policy document.

Although that recommendation is a collective work to which many different experts had valuable contributions, the Secretariat of the Convention should like to pay tribute to the author of the first draft, the eminent environmental lawyer Mr Cyrille de Klemm, sadly disappeared in 1999. It will not be surprising for some to learn that he also participated in the drafting, by the team of the Environmental Law Centre of the World Conservation Union (IUCN), of the first draft of a legal text that was to become after long negotiations, the Convention on Biological Diversity.

Two of the publications prepared to guide the work of the group of experts were:

- *Introduction of non-native organisms into the natural environment* (1996), by Cyrille de Klemm, Nature and Environment Series No. 73, Council of Europe Publishing;
- *Introduction of non-native plant species into the natural environment* (1997), by Jacques Lambinon, Nature and Environment Series No. 87, Council of Europe Publishing.

- *Work from 2000 on: drafting and implementing the European Strategy on Invasive Alien Species*

During the early 2000's the energy of the Group of Experts was largely devoted to the preparation and negotiation of a fundamental text to promote and guide European activities on Invasive Alien Species: the European Strategy on Invasive Alien Species. This strategy, which was prepared by Mr Piero Genovesi and Ms Clare Shine, was discussed at the 11th meeting of the Group, held in Horta (Azores, Portugal) in 2002 and was negotiated soon after the adoption, by the 6th Conference of the Parties of the Convention on Biological Diversity (decision V1/23 of April 2002) of "Guiding Principles for the prevention, introduction and mitigation of impacts of alien species that threaten ecosystems, habitats or species". The Strategy follows these "guiding principles" but goes further into the action recommended. It promotes the development and implementation of co-ordinated measures and co-operative efforts throughout Europe to prevent minimise adverse impacts of invasive alien species on Europe's biodiversity, as well as their consequences for the economy and human health and well-being.

The Strategy provides also guidance to Bern Convention parties on:

- awareness and information on IAS issues;
- strengthening national and regional capacities to deal with IAS issues;
- preventing introduction of new IAS and support rapid remedial responses;
- reducing adverse impacts of IAS;
- recovering species and natural habitats affected;
- identifying priorities and key actions.

When the Strategy was adopted by the Standing Committee to the Bern Convention through recommendation 99 (see recommendation in Appendix 3 to this document), governments were asked to draw up and implement national strategies on IAS.

At the following meeting of the Group of experts in 2005 in Palma (Spain) [doc T-PVS (2005) 9] and Iceland [doc T-PVS (2007) 9.] special emphasis was placed on the follow-up by governments of the strategy. A report was commissioned (T-PVS/inf (2004) 4) – updated in 2005 (T-PVS/inf (2005) 25) which showed that many states were indeed busy drafting national strategies on IAS and carrying out interesting projects.

During 2006 two national workshops on IAS were held, in Croatia (May, doc T-PVS (2006) p) and Ukraine (October, doc T-PVS (2006) 18) with the help of the Secretariat of the Convention, some experts and EPPO. The aim of the workshops is to support national efforts to draft and implement national IAS strategies. A further workshop is planned for Bulgaria, to be held in 2007.

The Bern Convention group of experts, meeting every two years, has become the main governmental European forum for discussing problems related to IAS, for proposing new approaches and precise action and assessing the progress of government in implementing appropriate policies.

Identification and eradication of problem species

An important problem to deal with in the framework of the control of invasive alien species is the identification of species that have already become a problem or which are likely to have a negative effect on native species. Different Bern Convention groups of experts (on amphibians and reptiles, and on plant conservation) have identified, in the field of their competence, introduced species which may present risks. This work is being completed by a systematic study of groups. Freshwater ecosystems are particularly vulnerable to introduced species. A report has been drafted in this context:

Identification on non-native freshwater fish established in Europe, assessing their potential threat to native biological diversity, by Benigno Elvira (document T-PVS (2001) 6).

Future Bern Convention work will continue on other groups, as well as on the control of particularly harmful alien species. The Bern Convention has monitoring mechanism called the "case-file system" which permits the verification of implementation by states. As it is non-governmental organisations which usually start the complaint procedure, the Standing Committee has discussed several cases concerning invasive alien species, adopting recommendations on exotic crayfish, the alga *Caulerpa taxifolia*, the grey squirrel *Sciurus carolinensis* in Italy and the control of the Ruddy duck *Oxyura jamaicensis*:

- Recommendation No. 18 (1989) on the protection of indigenous crayfish in Europe;
- Recommendation No. 45 (1995) on controlling proliferation of *Caulerpa taxifolia* in the Mediterranean;
- Recommendation No. 61 (1997) on the conservation of the White-headed duck (*Oxyura leucocephala*);
- Recommendation No. 78 (1999) on conservation of the red squirrel (*Sciurus vulgaris*) in Italy (see appendices 4 to 7 to this document);
- Recommendation No. 114 (2005) on the control of the grey squirrel *(Sciurus carolinensis*) and other alien squirrels in Europe (see appendix 11 to this document);
- Draft Recommendation No. 123 (2007) on limiting the dispersal of the Grey squirrel (*Sciurus carolinensis*) in Italy (see appendix 14 to this document).
- Recommendation No. 124 (2007) on progress in the eradication of the Ruddy Duck (*Oxyura jamaicensis*) (see appendix 15 to this document);

The Standing Committee followed the steps of the Committee of Ministers of the Council of Europe which had issued in 1985 the following recommendation:

Recommendation No. R(85)14 of the Committee of Ministers to member states on the introduction of the American cotton-rabbit (*Sylvilagus sp*) into Europe.

The Standing Committee has also dealt with other cases which did not give rise to recommendations: on the introduction of exotic bees in Portugal (documents T-PVS (96) 37, T-PVS (96) 100) and on the introduction of Japanese scallop in Ireland.

It is important to note that early warning by NGOs on plans to introduce potentially invasive alien species, and early warning by the Standing Committee, the Bureau or its Secretariat that the planned introduction may be a violation of the Convention, has resulted in avoiding some unwanted introductions.

Eradication of problem species has been subject to particular attention by the Convention. Recommendation No. 61 above was the start of an eradication campaign of ruddy ducks (*Oxyura jamaicensis*). The Standing Committee adopted an Action Plan on the European-native white-headed duck (drafted by BirdLife International and Wetlands International) and commissioned an eradication plan for the alien ruddy duck: "*The status of the Ruddy duck (*Oxyura jamaicensis*) in the western*

Palearctic and an action plan for eradication (1999-2002), by Baz Hughes, document T-PVS/Birds (99) 9.

At the 20th meeting of the Standing Committee, in November 2000, the United Kingdom organised a workshop to follow-up the implementation of the plan (communiqué in appendix 9). A £3.34 million LIFE project for the eradication of the species was launched in 2002 (see T-PVS/inf (2005) 19).

The problems linked to eradication have also been studied in a broader scope. A report was prepared on "*Methods to control and eradicate non-native terrestrial vertebrates*" (1998), by Jorge Fernández-Orueta (document T-PVS (98)67) and a seminar on eradication was held on Malta, entitled "Workshop on the control and eradication of non-native terrestrial vertebrates" in June 1999 (Environmental Encounters Series, No. 41, 1999, Council of Europe Publishing). As a result of the workshop the Standing Committee adopted:

> "Recommendation No. 77 (1999) on the eradication of non-native terrestrial vertebrates" (see appendix 10 to this document),

and guidelines were prepared for such eradication:

> "Guidelines for eradication of terrestrial vertebrates: a European contribution to the invasive alien species issue", by Piero Genovesi (document T-PVS (2000) 65 revised).

Following the adoption of the European Strategy on Invasive Alien Species, which recommended the development of inventories of alien species and, conscious that many European and national initiatives existed, the Standing Committee commissioned a report on a synthesis of the different lists used (see report by Mr Piero Genovesi, T-PVS/inf (2007)1). A special focus of that report was the risk of alien species entering Europe through trade and a recommendation was prepared that contained a "metalist" of species to be avoided in trade (see appendix 16 to this document).

Trade and Invasive Alien Species

Globalisation, new world arrangements for free trade and the disappearance of internal trade barriers in Europe parallel to the expansion of the European Union are providing more opportunities than ever before for species to be transported to new locations. To see the impact of trade on the expansion of alien species and propose precautionary action, the Convention commissioned the following report:

> "Overview of existing international/regional mechanisms to ban or restrict trade in potentially invasive alien species" by Ms Clare Shine (T-PVS/inf (2006) 8).

The report was the base for a recommendation on the topic:

> "Recommendation No. 125 (2007) of the Standing Committee, on trade in invasive and potentially invasive alien species in Europe" (see appendix 16)

aimed at improving information systems on IAS to avoid both intentional and unintentional introductions, enhance early warning systems and encourage remedial action.

Partnerships

The Convention has been looking, in the past, for a greater synergy with other European and world institutions, in particular the European Commission, the European Environment Agency (EEA), the European Plant Protection Organisation (EPPO), the World Conservation Union (IUCN), the Global Invasive Species Programme (GISP) – to harmonise legislation and programmes on invasive alien species. The European Strategy on Invasive Alien Species provides an appropriate instrument for joint implementation as it recognises the importance of the role of other international bodies and institutions, NGOs and the private sector.

The Bern Convention has been recognised as the European forum for invasive alien species by the Sixth Ministerial Conference "Environment for Europe" (Belgrade, October 2007) and reports periodically on its work both to the Convention on Biological Diversity and the Council for the Pan-European Biological and Landscape diversity Strategy (PEBLDS), a European initiative on

biodiversity endorsed in 1995 at the Third Ministerial Conference, "Environment for Europe" (Sofia, Bulgaria).

Plants

Of special significance in the context of collaboration with other international organisations has been the work dedicated to invasive alien plants. The Bern Convention is involved in the preparation and implementation of the Planta Europa / Council of Europe "European Plant Conservation Strategy" adopted in 2001, which addresses the need to combat the ecological threat posed by non-native species. The Strategy is currently under revision, a project in which is involved another major player and partner in this field, EPPO. This organisation has a Panel on Invasive Alien Species and is willing to launch a number of interesting projects in collaboration with the Bern Convention, including the identification of priority species for eradication, the elaboration of technical guidelines for eradication of invasive plants and the elaboration of codes of conduct (e.g. for horticulture). In that context governments were invited to carry out eradication or containment programmes of a few selected species:

"Recommendation No. 126 (2007, on the eradication of some invasive alien plant species" (see appendix 17 to this document)

As far as Mediterranean plants are concerned, the Convention supported a workshop on "Invasive plants in Mediterranean type regions of the World" (Mèze, France 2005) that established a number of recommendations for Government and experts (Mèze Declaration) (see proceedings of workshop in "Environmental Encounters No. 59, Council of Europe Publications).

Invasive alien species on islands

The effects of IAS on biological diversity is more intense on islands and other evolutionary isolated ecosystems, as they are rich in endemic species, which are vulnerable to the introduction of non-indigenous predators or competitors. The Bern Convention Group of experts has met often on islands (Malta, Azores, Mallorca, Iceland) gathering expertise on local IAS problems. In 2002 a workshop on Invasive Alien Species on European Islands and Evolutionary Isolated Ecosystems was held in Horta (Azores) [report T-PVS/inf (2002) 33] preparing the base for a Bern Convention Recommendation 91 (2002) on Invasive species that threaten biological diversity on islands and evolutionary isolated ecosystems (see Appendix 12 to this document).

Work ahead

Much of the work ahead will be related to the monitoring of governments' commitments under CBD and the Bern Convention and the technical support of governments to help in the fulfilment of obligations under these conventions. The Bern Convention is also promoting more dynamic approach to conservation to be able to adapt law and practice to the challenge of climate change, noting that in that context the threat of biological invasion will be notably increased. We are to expect in the next years more IAS threatening native species and ecosystems so precautionary measures and mitigation action will have to be more decisive.

Appendix 1

COUNCIL OF EUROPE

COMMITTEE OF MINISTERS

RECOMMENDATION No. R (84) 14

OF THE COMMITTEE OF MINISTERS TO MEMBER STATES CONCERNING THE INTRODUCTION OF NON-NATIVE SPECIES

(*Adopted by the Committee of Ministers on 21 June 1984 at the 374th meeting of the Ministers' Deputies)*

The Committee of Ministers, under the terms of Article 15.*b* of the Statute of the Council of Europe,

Considering that the aim of the Council of Europe is to achieve a greater unity between its members;

Having regard to the resolutions of the European Ministerial Conferences on the Environment;

Having regard to the Convention on the Conservation of European Wildlife and Natural Habitats of 19 September 1979 and in particular to Article 11.2.*b* thereof which requires Parties to strictly control the introduction of non-native species;

Defining "introduction" as the release of a non-native species into the natural environment, from which it was hitherto absent;

Considering that non-native species are introduced into the natural environment *inter alia* for economic reasons, for hunting and fishing, ornament and attractiveness, biological pest control or accidentally;

Noting that a diversity of indigenous wildlife is essential to the maintenance of the biological balance of ecosystems;

Believing that many introductions have aggravated natural imbalances, especially in island systems, and that non-native species may sooner or later cause the destruction of natural ecosystems, indigenous animal and plant species and even the economy;

Considering that the risks and consequences of introducing a non-native species are frequently incalculable and unforeseeable, even if meticulous research has been carried out, since the species introduced:

- displays in many instances great environmental adaptability and may therefore spread from the biotope to which it was hoped to confine it;
- may spread rapidly because limiting factors (predators, competition, etc.) are often absent or very few in number; it may thus become an ecological and economic pest capable of causing the disappearance of one or more local species or of an entire ecosystem, including all the intermediate levels;
- may transmit diseases to indigenous populations;
- may alter the genetic make-up of populations of a species and give rise to hybridisation;

Convinced therefore of the need to control and regulate the introduction of non-native species in Europe,

Recommends that the governments of the member states:

1. prohibit the introduction of non-native species into the natural environment;
2. authorise certain exceptions to the prohibition on condition that they:

- have a study carried out – preferably by a research establishment responsible for nature conservation – to evaluate the probable consequences of such introduction for wildlife and ecosystems;

- submit such studies for an opinion to the European Committee for the Conservation of Nature and Natural Resources, the final decision resting with the governments concerned;

3. take the necessary steps to prevent as far as possible the accidental introduction of non-native species;
4. inform governments of neighbouring countries concerned of introduction schemes or accidental introductions.

Appendix 2

A "model article" (for a conservation law)
on introduction

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Introduction

The release into a natural environment, without prior authorisation from the competent national authority, of an animal belonging to a species or sub-species which is not native to the area concerned is prohibited.

Exemptions from this ban may be obtained upon presentation of:

- reasons in the public interest that might justify the introduction of a species, and proof of the lack of satisfactory alternatives;

- a taxonomical, ecological and ethological analysis of the species concerned and an ecological analysis of the proposed host habitat;

- an ecological impact study, with particular attention to the risks of hybridisation, competition with indigenous species or sub-species, epidemics and alteration of the habitat;

- a technical implementation and follow-up programme.

This application file shall be submitted to a competent scientific body for an opinion.

A list of indigenous species shall be drawn up at the national and regional level and made available to the public.

Appendix 3

Council of Europe
Conseil de l'Europe

Convention on the Conservation of European Wildlife and Natural Habitats

Standing Committee

Recommendation No. 57 (adopted on 5 December 1997) on the introduction of organisms belonging to non-native species into the environment

The Standing Committee of the Convention on the Conservation of European Wildlife and Natural Habitats, in accordance with Article 14 of the Convention,

Having regard to the aim of the Convention which is notably to ensure the conservation of wild flora and fauna, by giving particular attention to species, including migratory species, which are threatened with extinction and vulnerable;

Recalling that under Article 11, paragraph 2.*b* of the Convention, each Contracting Party undertakes to strictly control the introduction of non-native species;

Considering that species native to a given territory means a species that has been observed in the form of a naturally occurring and self-sustaining population in historical times; "species" in the sense of this Recommendation refers both to species and to lower taxonomic categories, subspecies, varieties, etc. (thus, for instance, the release of a different non-native subspecies into a given territory should also be considered as an introduction);

Considering that "introduction" means deliberate or accidental release, into the environment of a given territory, of an organism belonging to a non-native taxa (species or lower taxa that has not been observed as a naturally occurring and self-sustaining population in this territory in historical times);

Considering that this Recommendation does not apply to:

- genetically modified organisms,

- the introduction of non-native plants cultivated in managed agricultural and forest areas or for the purpose of combating soil erosion,

- the introduction of non-native organisms belonging to non-native species used for the purposes of biological control, if the introduction has been authorised on the basis of regulations for plant protection and pest control, which comprise an assessment of the impacts on flora and fauna,

- the introduction of non-native species maintained into confined space (for example, botanic gardens, greenhouses, arboreta, zoos, aquaculture or animal-breeding establishments or circuses),

- or the use of birds of prey in falconry;

Considering that the introduction of organisms belonging to non-native species may initiate a process (competition with native species, predation, transmission of pathogenic agents or parasites) which can cause serious harm to biological diversity, ecological processes or economic activities;

Being aware of the need to set up a system of risk management aimed at forestalling uncontrolled introductions and at reducing to a minimum the negative consequences of those it has been impossible to prevent;

Believing that the eradication of an established introduced species is very difficult and costly, and in many cases probably impossible;

Desirous of laying down a minimum number of rules, accepted and applied by everyone, aimed at anticipating and repairing the damage caused by inopportune introductions and which should be based essentially on principles of precaution and prevention, and referring to the "polluter-pays" principle;

Noting that there is a need to establish an international information and consultation mechanism to co-ordinate efforts directed at the prevention or eradication of harmful introductions;

Recognising that it is particularly difficult to mobilise the competent authorities and public, whenever an introduction does not endanger human health or major economic interests, and noting the consequent need for a vigorous policy of information and education concerning the problem and the ecological consequences thereof;

Bearing in mind Recommendation No. R (84) 14 of the Committee of Ministers of the Council of Europe to Member states on the introduction of non-native species, adopted on 21 June 1984;

Recalling that under Article 8.*h* of the Convention on Biological Diversity, each Party undertakes to prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or species,

Recommends that Contracting Parties:

1. Prohibit the deliberate introduction within their frontiers or in a part of their territory of organisms belonging to non-native species for the purpose of establishing populations of these species in the wild, except in particular circumstances where they have been granted prior authorisation by a regulatory authority, and only after an impact assessment and consultation with appropriate experts has taken place;

2. Endeavour to prevent the accidental introduction of organisms belonging to non-native species into the environment with the potential to establish populations, where they use anthropogenic routes of dispersal;

3. Draw up a documented national list of non-native species established in the wild, which are known to be invasive and/or cause harm to other species, ecosystems, public health or damage to economic activities;

4. To consider, for the purposes of the application of the Convention, the suggested measures listed in the guidelines set out in the Appendix to the present Recommendation, as appropriate to the specific circumstances in their territory;

5. Communicate to the Secretariat, so that it may in turn inform the other Contracting Parties, any relevant measures adopted or envisaged as well as any information available on the outcome of the measures adopted.

APPENDIX

Guidelines

Measures that may be considered as appropriate for controlling introductions of non-native species are listed for consideration by Contracting Parties. Where appropriate, Contracting Parties are invited to take into account the provisions of existing international agreements and recommendations where they already address issues which are listed in these guidelines.

1. Deliberate introductions into the environment

a. Establishing, in application of the principles of precaution and prevention, a system for prohibiting deliberate introductions of organisms belonging to non-native species, and not granting exemptions save in exceptional cases. Whatever the circumstances, the prohibition should apply to the deliberate introduction of any organisms belonging to non-native species into the environment. Take particularly into consideration the vulnerability of ecosystems of islands, lakes, enclosed and semi-enclosed seas, or centres of endemism.

b. Establishing a system of exemptions, or exceptional authorisations, based on the following provisions:

i. the introduction of an organism belonging to a non-native species should only be considered if it benefits man and/or ecosystems;

ii. the introduction of an organism belonging to a non-native species should only be considered if no native species is considered suitable for the purpose for which the introduction is being made;

iii. no organism belonging to non-native species should be introduced into the environment, except for exceptional reasons and only if the operation has been preceded by a comprehensive and carefully planned impact study, which has reached a favourable conclusion on the proposal.

c. Such an impact study should include:

i. a taxonomic, ecological and ethological analysis;

ii. an analysis of the reproduction, feeding habits, dispersal or migration (if relevant), pathology, predators and competitors of the species to which the organism concerned belongs and of the risks of hybridisation with organisms belonging to native species;

iii. an ecological analysis of the proposed host habitat (including, in particular, an assessment of the effects on the surrounding natural or semi-natural habitats of the introduction of any organisms belonging to species, sub-species or varieties of plant to artificial, arable, ley pasture, forest or other monoculture systems);

iv. an appropriate assessment of measures to reduce or minimise negative effects;

v. an analysis of the risks and dangers and of the means that could be used to eradicate or control the introduced population should unforeseen or harmful consequences of the introduction come to light.

d. Defining with precision the statutory quarantine procedures applicable to imported non-native species for each of the main taxonomic groups, and informing the Secretariat of these statutory procedures where they exist.

e. Once the introduction has been authorised but before the introduction takes place, carrying out trials in a controlled manner or, where possible, in a confined space.

f. Introduction operations should only be carried out by officially recognised establishments and be subject to very strict health and safety requirements.

2. Accidental introductions into the environment

2.1. "Fugitives"

a. Defining as "fugitives" organisms belonging to non-native species (or their descendants) that have been imported lawfully and set free, either accidentally or deliberately, but without the deliberate intention to populate.

b. Limiting escapes by a very strict application of rules:

i. preventing escape from establishments containing non-native wild plants (botanic gardens, greenhouses, arboreta and other types of plant culture), or where non-native wild animals are held in captivity (zoos, animal-breeding establishments, fish farms, etc.), by adopting measures to prevent such escape, which may include:

- strict standards of security for boxes, cages, enclosures and for the transportation of species,

- the strict control and containment in a confined space of species considered as a potential serious ecological danger in the event of their escape,

- the requirement that all establishments keeping captive organisms belonging to non-native species should be licensed,

- a register of and an appropriate system to mark animals so that their origin can be identified in the event of their escape,

- strict rules in the event of the establishment closing down to prevent organisms from being deliberately or accidentally freed,

- for the breeders of aquatic species, a location that rules out any communication with open water, bearing in mind the risk of flooding; ideally, such installations should never be located in an area liable to storm damage, even very exceptional climate events (in particular, floods every 100 or even 500 years);

ii. since special attention must be given to aquariums because of the risks involved when they are emptied, imposing standards and procedures on public aquariums and on dealers in species used in aquariums;

iii. since animals, plants or micro-organisms accompanying lawfully introduced organisms constitute another aspect of accidental introductions of organisms, in particular marine organisms, applying strictly the International Council for the Exploration of the Sea (ICES) Code of Practice on the Introductions and Transfers of Marine Organisms 1994, which requires that only species of the first generation be set free, after a period of quarantine, and never species belonging to the stock initially imported; issuing a permit for the transport of captive-bred organisms which should be authorised only if the conditions in question are fulfilled;

iv. as the use of live bait for fishing is another source of unintentional introductions, ensuring, by means of appropriate regulations covering the trade in and use of such live bait, that only organisms belonging to species present in the waters concerned are in fact used. It is important to safeguard the faunal and floral integrity of each drainage basin and thus not to introduce organisms belonging to species that are naturally absent from it, even if they come from neighbouring drainage basins in the same State;

v. drawing up special rules to safeguard certain sensitive areas (protected areas, islands, areas recognised as having great biological diversity or containing endemic species) from escaped species,

such as prohibiting establishments from keeping captive species in these areas or in their neighbourhood or subjecting such establishments to even stricter security conditions than elsewhere;

vi. as the setting free of pets belonging to non-native wild species is a development of increasing concern, limiting as appropriate the species that may be offered for sale to ones that could not survive in the environment in the country concerned or, in so far as people travel with their animals, that could not survive anywhere in Europe. Failing or in addition to this, taking as appropriate the following measures: a general prohibition on setting these pets free; an obligation for pet merchants to inform their customers of this prohibition and of the penalties for violation; a recovery system for animals their owners wish to get rid of, which could be financed by a tax on sales; providing an incentive to use this system in the form of a refundable deposit; subjecting as appropriate animal dealers to the same rules as other enterprises keeping captive animals;

vii. taking precautions that organisms belonging to non-native species intended for human consumption do not escape, alive, into the environment;

viii. taking precautions that non-native cultivated forestry species or ornamental plants do not become propagated into the environment;

ix. controlling the possession and transport of organisms belonging to non-native species and, provided that reliable criteria are available, prohibiting the possession of organisms belonging to non-native species liable to reproduce in the environment.

2.2. "Stowaways"

a. Defining as "stowaways", organisms belonging to non-native species transported inadvertently from one country to another.

b. Identifying all vectors of introductions and adopting effective preventive measures:

i. increased inspections and the application of veterinary and plant health measures in regard to consignments of animals and plants and products thereof and the packaging used;

ii. taking, as appropriate, preventive measures in respect of aircraft and ships arriving from exotic countries, in view of the fact that they represent another pathway for introductions, paying particular attention to water used as ballast.

3. The control of introduced species

a. Abolishing the legal protection enjoyed by certain species introduced without authorisation and giving them a special legal status so that the necessary control and eradication measures can be taken. In particular, steps should be taken to ensure that introduced species are not automatically protected by law when the latter applies to all the species belonging to a particular taxonomic group, in order to make it legally possible to control them (express reference should be made to "indigenous" species in lists of protected species).

b. Preventing any consolidation of the genetic base and populations of such species into the environment and, if appropriate, facilitating the taking of any active measures of control or eradication required:

i. prohibiting all further releases by publishing a list of animal and plant species already introduced without authorisation which it is forbidden to set free into the environment, and by regulating the possession and transport of such species in order to keep them in a confined area, thus minimising the risk of escape;

ii. classifying species introduced without authorisation among those for which hunting or destruction is permitted at all times;

iii. introducing an obligation to notify the authorities of the presence in the environment of unauthorised non-native species and attempting to eliminate them;

iv. granting the authorities the power to declare an ecosafety emergency in order to attempt to eradicate species introduced without authorisation;

v. empowering the administrative authorities to take eradication measures in the event of unlawful introduction;

vi. adopting plans to control species introduced without authorisation by requiring landowners, local authorities and the central administration to introduce measures laid down in regulations to eradicate or limit the numbers of certain species or to safeguard natural areas, especially protected areas and their surroundings, from the intrusion of unauthorised non-native species.

c. Preventing a species introduced without authorisation from spreading through the introduction of binding preventive measures: inspections, disinfection, the closing of certain areas to traffic, etc.

4. Offences, penalties and civil liability

a. Punishing illegal introductions, including those resulting from negligence.

b. With a view to making illegal introductions easier to prove: making it compulsory to register and mark large captive animals so that their owner can be easily identified; and, for other species establishing a presumption;

c. With regard to penalties:

i. establishing criminal penalties for unlawful introductions of organisms belonging to non-native species and, where appropriate, making the authors of these introductions civilly liable (the penalties for unlawful introductions should be as severe as for the most serious offences against legislation on protection of the environment, such as certain types of pollution);

ii. applying administrative sanctions against establishments that keep or breed organisms belonging to non-native species but do not take the necessary precautions to prevent their escape. These could involve the withdrawal of permits and the temporary or even permanent closing of the enterprise, and the confiscation of the organisms.

d. With regard to reparation, and with reference to the polluter-pays principle:

i. making the person responsible for the offence bear the cost of eradicating the species introduced without authorisation;

ii. in the event of an escape, making the person responsible liable for the cost of the preparation and execution of a plan for recapture, control or eradication;

iii. instituting a system of reimbursement of the expenses incurred for reparations, as well as the payment of compensation in respect of the damage caused to the environment;

iv. setting up guarantee systems and insurance arrangements or compensation funds financed by professional species breeders or traders.

5. National policies and institutions

a. Framing a national public policy on the introduction of non-native species.

b. Designating a specialised department within each competent authority with appropriate resources to prepare measures indicated in the present appendix and supervise their implementation.

c. Consulting clearly identified scientific and other clearly identified competent authorities before decisions are taken on the introduction of organisms belonging to non-native species, reintroductions of organisms belonging to wild species, restocking and reinforcement of populations of organisms belonging to wild species in the environment, and possibly eradication.

d. Constituting interministerial machinery to co-ordinate the action taken by the various authorities concerned and drawing up a national programme to reduce the risk of accidental introductions, rapidly identify newly introduced organisms belonging to non-native species and control ones that have become established in the wild without damaging the environment.

With regard to aquatic species, for example, a commission composed of the various authorities concerned with continental waters and the oceans could be responsible for preparing a report identifying and assessing methods of reducing the risks associated with the introduction of organisms belonging to non-native species, which would also cover:

- the identification, description and management of the risks entailed by the various possible types of introduction,

- a decision making process for approving programmes to control introduced species,

- research, in particular on past introductions, education and technical assistance.

6. Information and co-operation

a. Informing the general public of the ecological, economic and health hazards associated with introductions of organisms belonging to non-native species, and of the criminal and/or civil liability incurred by infringing the statutory provisions in force.

b. Co-operating with neighbouring states or ones sharing a common coastline, whether or not they are parties to the Bern Convention, directly or through the intermediary of the Secretariat; consulting them on the measures that might be adopted, notifying them of deliberate introductions and informing them of accidental ones.

c. Submitting an annual report to the Standing Committee on the application of this recommendation and in particular on introductions creating or liable to create a risk.

Appendix 4

Council of Europe
Conseil de l'Europe

CONVENTION ON THE CONSERVATION OF EUROPEAN WILDLIFE AND NATURAL HABITATS

Berne 19.IX.1979

STANDING COMMITTEE

RECOMMENDATION N° 18 (1989)

OF THE STANDING COMMITTEE

ON THE PROTECTION OF INDIGENOUS CRAYFISH IN EUROPE

(Adopted by the Standing Committee on 8 December 1989)

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 flora and fauna and their natural habitats ;

Having regard to Recommendation (86) 10 of the Committee of Ministers of the Council of Europe concerning the Charter on Invertebrates ;

Recalling that three species of crayfish are listed in Appendix III to the convention (*Astacus astacus, Austropotamobius pallipes* and *Austropotamobius torrentium*) ;

Recalling that Article 7, paragraph 2, of the convention provides that any exploitation of wild fauna specified in Appendix III shall be regulated in order to keep the populations out of danger, taking into account the requirement of Article 2 ;

Recalling that Article 7, paragraph 3, of the convention provides that measures to be taken shall include the temporary or local prohibition of exploitation, as appropriate, in order to restore satisfactory population levels, and the regulation as appropriate of sale, keeping for sale or offering for sale of live and dead wild animals ;

Having regard to Recommendation (84) 14 of the Committee of Ministers of the Council of Europe concerning the introduction of non-native species ;

Recalling that Article 11, paragraph 2, of the convention provides that each Contracting Party undertakes so strictly control the introduction of non-native species ;

Having been informed that the astacologists of the International Association of Astacology, meeting in its seventh International Symposium in Lausanne (Switzerland) in August 1987, noted the following :

– the damaging effects to live crayfish markets following the drastic decline in Turkish crayfish production ;

– the marketing of new live crayfish species from many different places ;

– the total absence of guarantees that such crayfish do not carry communicate parasites and diseases ;

– the appearance of epidemics in European crayfish of aphanomycosis (the crayfish plague parasite), especially where it has not previously existed ;

– the accrued risks of transmission of parasites and diseases, especially aphanomycosis, from other crayfish populations to native crayfish ;

– the grave menace to native crayfish and sometimes amphibian populations from the introduction of undesirable exotic crayfish ; and

– the potential for exposing fish to diseases and parasites borne by crayfish ;

Aware that indigenous crayfish species of Europe require special conservation attention.

Recommends that Contracting Parties to the convention :

1. Take necessary and appropriate measures to protect their indigenous crayfish species ;

2. Encourage whenever needed the restoration of native crayfish stocks, mainly by the temporary or local prohibition of exploitation ;

3. Regulate that sale, keeping for sale, transport for sale or offering for sale of live crayfish ;

4. Ensure wherever practicable that live crayfish, used for restocking or reintroduction purposes, are parasite and disease free ;

5. Forbid the introduction of non-native crayfish into the wild. Where introduction in the wild has already taken place, all necessary steps should be taken in order to prohibit the release of non-native crayfish in areas where they may cause negative effects on the environment.

Appendix 5

Council of Europe
Conseil de l'Europe

Convention on the Conservation of European Wildlife
and Natural Habitats

Standing Committee

Recommendation No. 45 adopted on 24 March 1995 on controlling proliferation of *Caulerpa taxifolia* in the Mediterranean

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

Having regard to the Convention's aims of conserving wild flora and fauna and their natural habitats and safeguarding endangered natural habitats;

Considering that under Article 11, paragraph 2 b, each Contracting Party undertakes to strictly control the introduction of non-native species;

Noting that the tropical seaweed *Caulerpa taxifolia* has proliferated in the Mediterranean where the colonies extend along the northern coast from the Balearics to Sicily;

Noting that, in general, in the ecosystems typical of the Mediterranean that have been invaded by *Caulerpa taxifolia* a decline in biodiversity affecting both flora and fauna can be observed;

Taking note that, although all the repercussions of *Caulerpa taxifolia*'s proliferation in Mediterranean littoral environments cannot yet be foreseen, the data gathered so far do not exclude a major threat to indigenous biodiversity, ecological balances and resources used by humankind;

Considering the need to adopt precautionary measures in accordance with Principle 15 of the Rio Declaration on Environment and Development, which provides: "Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation",

Recommends that Contracting Parties bordering on the Mediterranean Sea and the Black Sea:

1. Control proliferation of *Caulerpa taxifolia*, in particular through systematic exploration of sites at risk along their coasts, especially in the vicinity of open moorings;

2. Eradicate *Caulerpa taxifolia* colonies wherever possible, ie where they form isolated patches of less than 100 to 200 square metres in area and then control subsequent regrowth, giving priority attention to protected areas;

3. Initiate coordinated action by countries affected or likely to be affected with a view to adopting a joint strategy;

4. Inform States not party to the Bern Convention, either directly or through the International Commission for Scientific Exploration of the Mediterranean Sea, the Coordinating Unit of the Mediterranean Action Plan or the Secretariat of the Bucharest Convention for the Protection of the Black Sea against Pollution of 21 April 1992, of any proliferation of *Caulerpa taxifolia* colonies in the Mediterranean and the Black Sea.

Appendix 6

Council of Europe
Conseil de l'Europe

Convention on the Conservation of European Wildlife
and Natural Habitats

Standing Committee

Recommendation No. 61 (adopted on 5 December 1997) on the conservation of the White-headed Duck (*Oxyura leucocephala*)

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 that Article 11, paragraph *b*, of the Convention requires parties to strictly control the introduction of non-native species;

Recalling that Article 1, paragraph 2, of the Convention requires Contracting Parties to give particular emphasis to the conservation of endangered and vulnerable species;

Noting that the species *Oxyura leucocephala*, listed in Appendix II of the Convention, is endangered;

Recognising the efforts of Contracting Parties in preserving the populations of this species;

Noting, however, that the main threat to the long-term survival of the species is its hybridisation with the American Ruddy Duck *Oxyura jamaicensis*;

Conscious of the critical importance of the continued expansion over Europe of the introduced Ruddy Duck *Oxyura jamaicensis* on the future of the native endangered *Oxyura leucocephala*;

Noting the large extent of populations of *Oxyura jamaicensis* in the United Kingdom, where this non-native species was first introduced in Europe;

Conscious that only a very firm control policy by the United Kingdom to halt and reverse the increase in population and range of the non-native *Oxyura jamaicensis* to a level that prevents spread to other countries can result in the long term survival of the endangered *Oxyura leucocephala*;

Desirous to avoid a further loss of biological biodiversity in the continent;
Aware of the obligations under the Convention on Biological Diversity and the Bonn Convention (and article 11 of the Birds Directive) to control and eradicate introduced species in order to prevent damage to threatened species;

Recalling Recommendation No. R (84) 14 of the Committee of Ministers of the Council of Europe, which calls on the member States to prohibit the introduction of non-native species into the natural environment;

Recalling the report of the Group of Experts of the Council of Europe (de Klemm, 1995) on Introductions of non-native organisms into the natural environment;

Recalling Recommendation No. 48 of the Standing Committee, adopted on 26 January 1996, on the conservation of European globally threatened birds;

Recalling the International Action Plan for the White-headed Duck in Europe, prepared by BirdLife International and Wetlands International with the support of the European Commission;

Noting that eradication of *Oxyura jamaicensis* is just one instrument in the conservation of *Oxyura leucocephala* and that other conservation measures need to be taken;

Welcoming the important steps made by the United Kingdom government in undertaking research into the feasibility of control measures for North American Ruddy Duck in the United Kingdom;

Believing, therefore, that international coordination is essential for the conservation of the White-headed Duck;

Recommends that Contracting Parties to the convention or observer states, as appropriate, develop and implement without further delay national control programmes which could include eradication of the Ruddy Duck from all the countries in the Western Palaearctic.

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COUNCIL OF EUROPE CONSEIL DE L'EUROPE

Appendix 7

Convention on the Conservation
of European Wildlife and Natural Habitats

Standing Committee

Recommendation No. 78 (adopted on 3 December 1999) on the conservation of the Red squirrel (*Sciurus vulgaris*) in Italy

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 that Article 1, paragraph 2, of the Convention requires parties to give particular emphasis to the conservation of endangered and vulnerable species;

Recalling that Article 11, paragraph 2.*b*, of the Convention requires Contracting Parties to strictly control the introduction of non-native species;

Recalling that under Article 8.*h* of the Convention on Biological Diversity, each Party undertakes to prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or indigenous species;

Recalling that Article III.4 of the Convention on Migratory Species provides that, with regard to the endangered migratory species listed in its Annex 1, to the extent feasible and appropriate, the Parties must endeavour to prevent, reduce or control "*factors that are endangering or are likely to further endanger the species, including strictly controlling the introduction of, or controlling or eliminating, already introduced exotic species*";

Recalling that Article 22.*b* of the EU Directive (92/43/EEC) on the Conservation of Natural Habitats and of Wild Fauna and Flora requires the Member States to "*ensure that the deliberate introduction into the wild of any species which is not native to their territory is regulated so as not to prejudice natural habitats within their natural range or the wild native fauna and flora and, if they consider it necessary prohibit such introduction*";

Recalling Recommendation No. R 14 (1984) of the Committee of Ministers of the Council of Europe, which calls on the member States to prohibit the introduction of non-native species into the natural environment;

Recalling Recommendation No. 57 (adopted on 5 December 1997) of the Standing Committee, on the introduction of organisms belonging to non-native species into the environment;

Recalling the report to the Council of Europe on the Introduction of non-native organisms into the natural environment (de Klemm, 1996);

Noting that the *Sciurus vulgaris* is listed in Appendix III of the Convention as protected fauna species;

Noting the severe damage that *Sciurus vulgaris* populations have suffered in Great Britain since the introduction of *Sciurus carolinensis*;

Noting that the main threat to the survival of *Sciurus vulgaris* on the European continent comes from competition with the Grey squirrel *Sciurus carolinensis*;

Noting the threat to woodland biodiversity from bark-stripping by grey squirrels, which has eliminated smooth-barked native trees in some British woodlands;

Conscious of the critical importance of the possible expansion of the introduced Grey squirrel *Sciurus carolinensis* to the rest of Europe;

Noting that previous efforts to eradicate *Sciurus carolimensis* in Italy have not been successful due to administrative or legal barriers;

Conscious that only a very firm control policy by Italy to halt and reverse the increase in population and range of the non-native *Sciurus carolinensis* to a level that prevents spread to other countries can result in the long term survival of the endangered *Sciurus vulgaris*;

Desirous to avoid a further degradation of biological diversity in the continent;

Noting that eradication of *Sciurus carolinensis* in Italy is a fundamental instrument in the conservation of *Sciurus vulgaris* in the whole European continent,

Recommends that Italy develop and implement without further delay a national control programme to eradicate the Grey squirrel *Sciurus carolinensis* and remove all legal and administrative obstacles that have hindered previous eradication efforts.

Appendix 8

COUNCIL OF EUROPE

COMMITTEE OF MINISTERS

RECOMMENDATION No. R (85) 14

OF THE COMMITTEE OF MINISTERS TO MEMBER STATES ON THE INTRODUCTION OF THE AMERICAN COTTONTAIL RABBIT (*SYLVILAGUS SP*) INTO EUROPE

(*Adopted by the Committee of Ministers on 23 September 1985 at the 388th meeting of the Ministers' Deputies)*

The Committee of Ministers, under the terms of Article 15.*b* of the Statute of the Council of Europe,

Having regard to the resolutions of the European Ministerial Conferences on the Environment;

Having regard to the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention);

Having regard to Committee of Ministers Recommendation No. R (84) 14 concerning the introduction of non-native species;

Having regard to the report of the European Committee for the Conservation of Nature and Natural Resources (CDSN), Doc. SN-VS (83) 6, concerning the ecological consequences of the introduction of the American eastern cottontail rabbit (*Sylvilagus floridanus*) into Europe as well as to the report of the survey carried out in France by Council of Europe experts;

Congratulating the French Governement on having had a study made of the problem of introducing *Sylvilagus floridanus* into France and thus providing the first example of the application or Recommendation No. R (84) 14;

Aware that *Sylvilagus floridanus* had already been illegally introduced into the natural environment in several European states and that its survival has not been fully ensured;

Observing that diversity of indigenous wildlife is essential to maintaining the biological balance of ecosystems;

Noting that *Sylvilagus floridanus* will extensively occupy the biotopes (agricultural areas and woodlands) of lagomorphs indigenous to Europe, which will run counter to the principle of preserving the diversity of native fauna and maintaining an ecological balance;

Considering that the highly varied diet of *Sylvilagus floridanus* may result in the species causing considerable damage to crops;

Recalling that the dangers and consequences of introducing a non-native species are often incalculable and unforeseeable in both the short and the long term, even if careful research has been carried out beforehand;

Noting that the ectoparasites of the American cottontail rabbit may cause infections transmissible to other mammals, including human beings;

Noting that these parasites may cause tularaemia (in the United States, 70 % of human cases of this disease are due to contact with infected cottontails), Rocky Mountain spotted fever and plague;

Noting that the American cottontail may be a carrier of pseudo-tuberculosis, transmissible to other lagomorphs, notably the brown hare (*Lepus capensis*), which is particularly prone to this disease;

Noting that the American cottontail may be resistant to myxomatosis while being a carrier of the disease, and that it is therefore at an advantage in competing with the European rabbit (*Oryctolagus cuniculus*);

Noting that many endoparasites of the American cottontail may constitute a threat to European lagomorphs (rabbits and hares) and may cause fever and serious septicaemia in other mammals;

Believing that, as predation is one of the main natural causes of cottontail mortality, this might give rise to malevolence against some protection-worthy predators;

Considering that the introduction of several species of American cottontail into Europe will be a costly operation and that the money could be better spent on European co-ordinated research into the resistance of *Oryctolagus cuniculus* to myxomatosis;

Noting that the introduction of the American cottontail into the natural environment in Europe constitutes, for the above-mentioned reasons as well as for others, a threat to native wildlife, especially to lagomorphs;

Recalling that on 21 June 1984 the Committee of Ministers adopted the principle of prohibiting the introduction of non-native species into the natural environment;

Believing that the result of the extensive investigations carried out by the French authorities into the American cottontail do not warrant any departure from the above-mentioned principle in respect of that species;

Noting that the member states of the Council of Europe as well as national and international nature conservation organisations are opposed to schemes for introducing the American cottontail into Europe,

Recommends the governments of member states:

- to prohibit, without exception, the introduction into Europe of non-native *Leporidae*, particularly the American eastern cottontail rabbit (*Sylvilagus floridanus*), and take all necessary measures to this effect;
- to eradicate these animals, either actively or passively, wherever they have already been introduced.

Appendix 9

Communiqué from the Workshop on the control of the North American Ruddy duck (*Oxyura jamaicensis*)

The workshop, organised by the United Kingdom on 30th November 2000, aimed to co-ordinate action by Contracting Parties to further implement the recommendations of the White-headed duck action plan, requests that the 20th Meeting of the Standing Committee of the Bern Convention takes note of the outcome of the workshop.

The workshop took note of the work being taken by range states of the White-headed duck (*Oxyura leucocephala*) to protect the species and its habitats. The workshop agreed that the North American Ruddy duck (*Oxyura jamaicensis*) is major threat to the conservation of the White-headed duck (*Oxyura leucocephala*). It was agreed that to prevent the extinction of the White-headed duck action to control the numbers of feral and captive Ruddy duck in Europe needs to be taken in a co-ordinated manner by all range states.

The workshop recalled that Article 8.*h* of the Convention on Biological Diversity recommends that "*each Contracting Party shall, as far as possible and appropriate, prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or species*" and Article 11.2*b* of the Bern Convention on the Conservation of European Wildlife and Natural Habitats states that each Contracting Party undertakes "*to strictly control the introduction of non-native species*".

The workshop agreed that Recommendations Nos 61 and 77 of the Bern Convention Standing Committee were supplemented by document T-PVS/Birds (99) 9 and formed the basis for co-ordinated action both at the national and international level.

Contracting Parties and observer states agreed to inform the United Kingdom Government and the Secretariat of the Bern Convention of plans to implement national control programmes by 30th March 2001 and that there was a need to reconvene a meeting in Autumn 2001 to review action and to discuss future needs. States agreed that the United Kingdom Government will co-ordinate information and circulate a summary of action being implemented.

Contracting Parties and observer states recognised that this information will be of value to the UK Government in helping it to evaluate the feasibility of undertaking a national eradication programme of the Ruddy duck population.

Appendix 10

Convention on the Conservation
of European Wildlife and Natural Habitats

Standing Committee

Recommendation No. 77 (adopted on 3 December 1999) on the eradication of non-native terrestrial vertebrates

The Standing Committee of the Convention on the Conservation of European Wildlife and Natural Habitats, in accordance with Article 14 of the Convention,

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

Recalling that under Article 11, paragraph 2.*b* of the Convention, each Contracting Party undertakes to strictly control the introduction of non-native species;

Recalling that under Article 8.*h* of the Convention on Biological Diversity, each Party undertakes to prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or indigenous species;

Recalling that the Bonn Convention provides that, with regard to the endangered migratory species listed in its Annex 1, to the extent feasible and appropriate, the Parties must endeavour to prevent, reduce or control "*factors that are endangering or are likely to further endanger the species, including strictly controlling the introduction of, or controlling or eliminating, already introduced exotic species*";

Recalling Article 11 of the EU Directive (79/409/EEC) on the Conservation of Wild Birds, which states that "*Member States shall see that any introduction of species of bird which do not occur naturally in the wild state in the European territory of the Member States does not prejudice the local flora and fauna*";

Recalling that Article 22.*b* of the EU Directive (92/43/EEC) on the Conservation of Natural Habitats and of Wild Fauna and Flora requires the Member States to "*ensure that the deliberate introduction into the wild of any species which is not native to their territory is regulated so as not to prejudice natural habitats within their natural range or the wild native fauna and flora and, if they consider it necessary prohibit such introduction*";

Bearing in mind Recommendation No. R 14 (1984) of the Committee of Ministers of the Council of Europe to Member states concerning the introduction of non-native species;

Recalling Recommendation No. 57 (adopted on 5 December 1997) of the Standing Committee, on the introduction of organisms belonging to non-native species into the environment;

Taking into account that, in Recommendation No. 57, species native to a given territory means a species that has been observed in the form of a naturally occurring and self-sustaining population in historical times; "species" in the sense of this Recommendation refers both to species and to lower taxonomic categories, subspecies, varieties, etc. (thus, for instance, the release of a different non-native subspecies into a given territory should also be considered as an introduction);

Taking into account that, in Recommendation No. 57, "introduction" means deliberate or accidental release, into the environment of a given territory, of an organism belonging to a non-native taxa (species or lower taxa that has not been observed as a naturally occurring and self-sustaining population in this territory in historical times);

Recalling that Recommendation No. 57, recommends that Contracting Parties prohibit the deliberate introduction within their frontiers or in a part of their territory of organisms belonging to non-native species for the purpose of establishing populations of these species in the wild, except in particular circumstances where they have been granted prior authorisation by a regulatory authority, and only after an impact assessment and consultation with appropriate experts has taken place;

Recalling that the methods of eradication should be as selective, ethical and without cruelty as possible, consistent with the aim of permanently eliminating the invasive species;

Considering that feral animals of the domestic species (domestic cats, dogs, goats, etc.) and commensal non-native species (*Rattus* spp., *Mus* spp., etc.) can be some of the most aggressive and damaging alien species to the natural environment, especially on islands, and that in some circumstances the removal of feral and commensal non-native species is a management option;

Considering that the introduction of organisms belonging to non-native species may initiate a process (competition with native species, predation, transmission of pathogenic agents or parasites, hybridisation with native species, etc.) which can cause serious harm to biological diversity, ecological processes or economic activities and public life;

Considering that the species introduced into the territory of a State can easily spread to neighbouring States or entire regions and that the damage which may be caused to the environment of other States gives rise to the liability of that State;

Considering that , at the present state of knowledge, the impact of the eradication of invasive species on native flora and fauna, as well as on the functioning of local ecosystems is likely to be uncertain;

Considering that to be successful in eradicating non-native species a national action plan often requires acceptance by the local community,

Recommends that Contracting Parties:

1. Regulate or even prohibit the deliberate introduction and trade in their territory of certain species of non-native terrestrial vertebrates;

2. Monitor introduced populations of non-native terrestrial vertebrate species and assess the potential threat to biological diversity both within their territory and elsewhere. Those species listed in the Appendix to the recommendation are examples which have proved to be such a threat;

3. Assess the feasibility of eradicating those populations representing a threat to biological diversity;

4. Eradicate populations for which eradication is deemed feasible in Item 3. Monitor the effect of the eradication on native fauna and flora;

5. Set up mechanisms for inter-State co-operation, notification and consultation in order to co-ordinate precautionary and control measures for invasive species;

6. Seek the involvement and co-operation of all interested parties, including organisations and operators who were at the origin of the voluntary release, local and regional authorities, as well as the scientific communities;

7. Upon understanding the key beliefs which are most directly linked to attitude, gain public acceptance, if appropriate, through launching of public awareness and education campaign informing the general public of the threat represented by introduced non-native species for the indigenous wildlife and its natural habitats;

8. Communicate to the Secretariat, so that it may in turn inform the other Contracting Parties, of any relevant result achieved as well as any information available on the outcome of the measures adopted.

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Appendix to the Recommendation No. 77

EXAMPLES OF INVASIVE SPECIES
WHICH HAVE PROVED TO BE A THREAT TO THE BIOLOGICAL DIVERSITY

_____

Mustela vison (American mink)

Ondatra zibethicus (Muskrat)

Myocastor coypus (Coypu)

Sciurus carolinensis (Grey squirrel)

Oxyura jamaicensis (Ruddy duck)

Cervus nippon (Sika deer)

Procyon lotor (Raccoon)

Nyctereutes procyonoides (Raccoon dog)

Castor canadensis (Canadian beaver)

Trachemys scripta (Red eared terrapin)

Rana catesbeiana (Bull frog)

Appendix 11

Convention on the Conservation
of European Wildlife and Natural Habitats

Standing Committee

Recommendation No. 114 (2005) of the Standing Committee, adopted on 1st 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 European 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 international 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 Parties to apply measures preventing introduction of alien squirrel species addressing relevant pathways such as trade and tourism; to be particularly attentive to detect new introductions in order to apply justified and species specific rapid interventions, such as eradication, especially in the very early stages of introduction;

Further recommends that Italy:

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

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Appendix 12

Convention on the Conservation
of European Wildlife and Natural Habitats

Standing Committee

Recommendation No. 91 (2002) of the Standing Committee, adopted on 5 December 2002, on Invasive Alien Species that threaten biological diversity in Islands and geographically and evolutionary isolated ecosystems

The Standing Committee of the Convention on the Conservation of European Wildlife and Natural Habitats, in accordance with Article 14 of the Convention,
Having regard to the aim of the Convention which is notably to ensure the conservation of wild flora and fauna, by giving particular attention to species, including migratory species, which are threatened with extinction and vulnerable;

Recalling that under Article 11, paragraph 2.*b* of the Convention, each Contracting Party undertakes to strictly control the introduction of non-native species;

Bearing in mind Recommendation No. R (84) 14 of the Committee of Ministers of the Council of Europe to Member states on the introduction of non-native species, adopted on 21 June 1984;

Recalling Recommendation No. 57 (1997) on the Introduction of Organisms belonging to Non-Native Species into the Environment, and the use it makes of terms such as "native species" and "introduction", as well as to the species , subspecies or varieties to which Recommendation 57 refers to;

Recalling Recommendation No. 77 (1999) on the eradication of non-native terrestrial vertebrates;

Recalling that under Article 8.*h* of the Convention on Biological Diversity, each Party undertakes to prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or species;

Recalling Decision VI/23 of the 6th Conference of the Parties of the Convention on Biological Diversity, on Alien species that threaten ecosystems, habitats or species, and the definitions used in that text;

Conscious of the high threat that invasive alien species cause to ecosystems, endemic species, and natural habitats in islands and in geographically or evolutionary isolated ecosystems (referred hereafter to as "islands and isolated ecosystems");

Desirous that precautions taken against the spread of invasive alien species be implemented with particular attention in islands and isolated ecosystems;

Noting that no conservation efforts are to be devoted to the protection of alien species introduced in recent historic times;

Considering that, in the case of species introduced in ancient historic times, conservation for historic and cultural reasons may be acceptable if recovery of the original ecosystems is no longer feasible, their conservation does not conflict with or preclude the primary aim of conserving and recovering the native biodiversity (impact assessment before conservation);

Noting that for these species an expansion of the range may have negative effects on native species and habitats, and should not be encouraged;

Noting substantial progress on regulation, management and eradication of invasive alien species has been achieved in Europe in the last five years;

Referring to the measures proposed in the Draft "European Strategy on Invasive Alien Species", (document T-PVS(2002) 8),

Recommends that Contracting Parties:

1. Establish special mechanisms to prohibit intentional introduction of alien species into and between islands and isolated ecosystems, without prior authorisation from a competent authority. A risk analysis and in some cases environmental impact assessment should be carried out as a part of the evaluation process;

2. Take special precautionary measures to avoid unintentional introduction of alien species to islands and isolated ecosystems, in particular through tourism, trade, travel and transport;

3. Assess the need for stricter legislation to prevent unwanted introductions between distinct regions of the same state or islands of the same archipelago;

4. Carry out a detailed inventory of alien species in insular territories, estimating, among other topics, the following:

- possible role of the alien species on native ecosystems, habitats or species,
- impact of the alien species on public health or economic activities,
- potential invasive character of the species with reference from other regions,
- time and means of arrival,
- reasons for introduction,
- distribution and trends,
- socio-economic and cultural value to people and other human-related aspects;

5:. Identify, on the basis of the above information, which invasive alien species are causing severe damage to island native ecosystems, habitats or species, define priority action, and draw-up and implement plans to eradicate or control species of highest concern ; promote containment measures for those invasive alien species that cannot be technically eradicated; draw-up a precise plan for eradication of target invasive species; monitor invasive alien species and update inventories;

6. Disseminate information through appropriate networks, and national and regional clearing-house mechanisms; promote capacity building on IAS and sharing of experiences on eradication and prevention;

7. Actitively support the use of native species or varieties in horticulture, afforestation, biological control, aquaculture, landscaping environmental management, erosion control, road construction and other cultural applications; consider in particular the use of incentives to increase availability of commercial stocks of native species for such purposes;

8. Collaborate with other states, bilaterally, multilaterally and through the framework of the Convention and other relevant fora, such as the IUCN ISSG islands initiative, on the issue of prevention, control and eradication of invasive alien species in islands and isolated ecosystems; inform regularly the Standing Committee on progress made on the implementation of this recommendation and of recommendations 57 (1997) and 77 (1999); promote regular exchange of information on progress or success of eradication operations;

9. Promote ecological restoration of areas adversely affected by invasive alien species in islands and isolated ecosystems, taking in consideration the need to maintain and restore ecological processes and the complex biological cycles of some species of conservation concern;

10. Promote education and public awareness on the problems that invasive alien species cause to native ecosystems, habitats and species and the need to take precautionary measures and eradication: approach relevant stakeholders in particular, horticultural, forestry, aquaculture, angling and hunter communities to look for their collaboration in the measures to avoid new introductions and in the eradication of invasive alien species; carry out specific education campaigns aimed at schools, relevant target groups and the general public; actively promote and publicise the benefits for biodiversity of preventing, controlling or eradicating IAS;

11. Promote scientific research on invasive alien species and on their role in ecological processes, improve existing databases, carry out long-term monitoring programmes;

Specific recommendations for the Macaronesian Region:

Recommends that the governments of Portugal and Spain:

12. Consider the creation of a specific framework for co-operation on Invasive Alien Species in the Macaronesian region, involving the Regional Governments of Azores, Madeira and the Canary Islands;

13. Examine carefully the possibility to continue eradication of rabbits, rats and feral cats from small islands, islets and promote their containment, to avoid their impact on areas of special importance for Macaronesian endemics; examine carefully the need to reinforce actions of control and containment of plant species threatening endemic species listed in Appendix I of the convention or their natural habitats;

Recommends that Spain:

14. Take effective steps towards the eradication of the mufflon *(Ovis ammon*) from Tenerife and the Barbary sheep *(Ammotragus lervia)* from La Palma, given their high negative impact on endemic species listed in Appendix I of the Convention.

COUNCIL OF EUROPE CONSEIL DE L'EUROPE

Appendix 13

Convention on the Conservation
of European Wildlife and Natural Habitats

Standing Committee

Recommendation No. 99 (2003) of the Standing Committee, adopted on 4 December 2003, on the European Strategy on Invasive Alien Species

The Standing Committee of the Convention on the Conservation of European Wildlife and Natural Habitats, in accordance with Article 14 of the Convention,
Having regard to the aim of the Convention which is notably to ensure the conservation of wild flora and fauna, by giving particular attention to species, including migratory species, which are threatened with extinction and vulnerable;

Recalling that under Article 11, paragraph 2.*b* of the Convention, each Contracting Party undertakes to strictly control the introduction of non-native species;

Bearing in mind Recommendation No. R (84) 14 of the Committee of Ministers of the Council of Europe to Member states on the introduction of non-native species, adopted on 21 June 1984;

Recalling Recommendation No. 57 (1997) on the Introduction of Organisms belonging to Non-Native Species into the Environment, and the use it makes of terms such as "native species" and "introduction", as well as to the species, subspecies or varieties to which Recommendation 57 refers to;

Recalling Recommendation No. 77 (1999) on the eradication of non-native terrestrial vertebrates;

Recalling that under Article 8.*h* of the Convention on Biological Diversity, each Party undertakes to prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or species;

Recalling Decision VI/23 of the 6th Conference of the Parties of the Convention on Biological Diversity, on Alien species that threaten ecosystems, habitats or species, and the definitions used in that text, as well as the conservation guidelines of the Africa-Eurasian Migratory Waterfowl Agreement;

Wishing to contribute to improve the control of the introduction of alien species, and the mitigation of the effects of invasive alien species on the native flora, fauna and natural habitats;

Noting that substantial progress on regulation, management and eradication of invasive alien species has been achieved in Europe in the last years;

Referring to the measures proposed in the "European Strategy on Invasive Alien Species", [document T-PVS(2003) 7];
Recommends that Contracting Parties:

1. draw up and implement national strategies on invasive alien species taking into account the European Strategy on Invasive Alien Species mentioned above;

2. co-operate, as appropriate, with other Contracting Parties and Observer States in the prevention of introduction of invasive alien species, the mitigation of their impacts on native flora and fauna and natural habitats, and their eradication or containment where feasible and practical, *inter alia* by exchanging information, collaborating in European projects and paying particular attention to invasive alien species in trade and transboundary areas;

3. keep the Standing Committee informed of the measures taken to implement this recommendation;

Invites Observer States to take note of this recommendation and implement it as appropriate.

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Appendix 14

Convention on the Conservation
of European Wildlife and Natural Habitats

Standing Committee

Recommendation No. 123 (2007) of the Standing Committee, adopted on 29 November 2007, on limiting the dispersal of the Grey squirrel (*Sciurus carolinensis*) in Italy and other Contracting Parties

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**,**

Noting that an eradication of the Ticino population of Grey squirrels would delay invasion of the Central Alps and Switzerland of several decades;

Recalling that its Recommendation No. 77 (1999) on the eradication of non-native terrestrial vertebrate asks Contracting Parties to "regulate or even prohibit the deliberate introduction and trade on their territory of certain species of non-native vertebrates", including the Grey squirrel;

Noting that important trade of Grey squirrels in Italy is still legal;

Regretting that no eradication efforts have been implemented by Italy, as requested by its Recommendations No. 78 (1999) on the conservation of the Red squirrel (*Sciurus vulgaris*) in Italy and No. 114 (2005) on the control of the Grey squirrel (*Sciurus carolinensis*) and other alien squirrels in Europe;

Noting that an eradication plan has been developed jointly by the INFS, the University of Varese and the University of Turin,

Recommends that Italy:

1. urge the Lombardia Region and the other competent local authorities to start without further delay the eradication program of the Grey squirrel in the Ticino Valley, so as to significantly delay invasion of Southern Alps;

Recommends that Contracting Parties:

2. ban trade and possession of the Grey squirrel;

3. eradicate new possible introduced populations of Grey squirrels;

Invites Observer states to apply as appropriate points 2 and 3 above.

Invites Contracting Parties, Observer States and organisations to inform the public why such eradication is essential for the conservation of the Red squirrel.

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Appendix 15

Convention on the Conservation
of European Wildlife and Natural Habitats

Standing Committee

Recommendation No. 124 (2007) of the Standing Committee, adopted on 29 November 2007, n progress in the eradication of the Ruddy duck (*Oxyura jamaicensis*)

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**,**
Recalling that hibridisation with Ruddy ducks is a major cause of concern for the long-term survival of the White-headed duck (*Oxyura leucocephala*), a species protected by the Convention;

Recalling its Recommendation No. 61 (1997) on the conservation of the White-headed Duck (*Oxyura leucocephala*);

Welcoming the very substantial eradication efforts carried out by the United Kingdom and other states;

Noting, however, that some states that have small or very small populations of Ruddy duck are failing to act,

Recommends relevant Parties:

1. carry extensive surveys to detect the presence of Ruddy-ducks in their territory;
2. eradicate as a matter of urgency all Ruddy duck found in their territory in the wild and control strictly them in captivity;
3. establish efficient alert mechanisms that may record new entries;
4. remove all legal barriers to carry out the operations above if there necessary.
5. enact legislation restricting the sale, keeping and release of Ruddy-ducks.

Appendix 16

Convention on the Conservation
of European Wildlife and Natural Habitats

Standing Committee

Recommendation No. 125 (2007) of the Standing Committee, adopted on 29 November 2007, on trade in invasive and potentially invasive alien species 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**,**

Recalling that Article 11 paragraph 2 of the Convention Parties requires Parties to strictly control the introduction of non-native species;

Conscious of the harm that invasive alien species may cause to native species and natural habitats protected under the Convention;

Recalling Recommendation No. 99 (2003) of the Standing Committee on the European Strategy on Invasive Alien Species (IAS) and other recommendations concerning trade-related pathways for the introduction of invasive alien species, such as Recommendation No. 77 (1999) and Recommendation No. 91 (2002);

Recalling Decision VI/23 of the Convention on Biological Diversity and its annexed Guiding Principles for the prevention, introduction and mitigation of impacts of alien species that threaten ecosystem, habitats or species;

Recalling ISMP n° 11 on Pest Risk Analysis for Quarantine Pests, adopted under the International Plant Protection Convention;

Noting that trade provides increased opportunities for potentially invasive alien species to be transported to new locations, both intentionally and unintentionally;

Wishing to reduce the introduction or expansion through trade-related pathways of invasive alien species in the territory of Contracting Parties;

Recalling the reports "Overview of Existing International / Regional Mechanisms to Ban or Restrict Trade in Potentially Invasive Alien Species" by Ms Clare Shine [document T-PVS/Inf (2006) 8], and "Assessment of Existing Lists of Invasive Alien Species for Europe, with particular focus on species Entering Europe through Trade and Proposed Responses" by Mr Piero Genovesi and Riccardo Scalera [document T-PVS/Inf (2007) 2];

Welcoming the work of the European and Mediterranean Plant Protection Organisation (EPPO) and its Standards PM3/67 "Guidelines for the management of invasive alien plants or potentially invasive alien plants which are intended for import or have been intentionally imported" and PM5/3 "Decision-support scheme for quarantine pests", existing animal health frameworks, the European Environment Agency's programme *Streamlining European 2010 Biodiversity Indicators* (EEA/SEBI 2010), the European Union's project *Delivering Alien Invasive Species Inventories for Europe* (EU DAISIE), the NEOBIOTA work, and, for the Nordic and Baltic states, the North European and Baltic Network on Invasive Alien Species (NOBANIS) portal, and recalling the need to avoid duplication of work with existing activities in other fora,

Recommends that Contracting Parties, in cooperation with other Parties where appropriate:

1. carry out in-depth analysis of and research into trade-related pathways, examining imports and international movements of species and commodities, to:

- detect invasive and potentially invasive alien species that are intentionally moved in trade and strengthen measures to prevent unwanted introductions,
- assess the extent of unintentional introduction of potentially invasive alien species through trade-related pathways and take integrated measures based on the precautionary principle to minimise such introductions;

2. examine, in particular, international trade liberalisation measures and intra-Community free movement of goods to assess their contribution to the introduction and spread of potentially invasive alien species;

3. review national standards and regulatory frameworks, species lists for consultation by potential importers and data on invasive and potentially invasive alien species that are currently imported to improve, where necessary, existing procedures and information systems to strictly control trade in invasive alien species;

4. strengthen and extend risk analysis prior to decision-making on the import of alien species that are invasive or potentially invasive, using risk analysis methodology and procedures based on objective and scientific criteria (such as EPPO Standard PM5/3);

5. regulate as appropriate the intentional introduction, possession and trade in their territory of the invasive or potentially invasive alien species listed in Appendix 1 to this Recommendation, herein referred to as the "metalist", applying the precautionary principle and where necessary, prohibiting the introduction, possession of and/or trade in those species that present an unacceptable risk (i.e. there is sufficient evidence of their negative impact on ecosystems, habitats or species from a risk analysis or other objective sources). For species included in the metalist, which is an indicative alert list, consider the following management measures:

- species classified as A category - alien species intentionally introduced as the commodity itself for release into the environment (such as game species, freshwater fishes, tree species of interest for forestry, biocontrol agents, etc.) : if the species presents an unacceptable risk, consider a regional or national ban on trade in such species and/or apply internal measures,
- species classified as B category - alien species intentionally introduced as the commodity itself (such as ornamental plants, agricultural plants, pets, crayfish, etc.) in a containment facility or in a controlled environment (such as botanic gardens, greenhouses, agricultural land, zoos, animal-breeding establishments, fishfarms, etc.) : if the species presents an unacceptable risk, consider regional or national regulation of trade and/or stringent regulation of containment facilities, or apply internal measures,
- species classified as C category - alien species unintentionally introduced as a contaminant of a specific commodity (such as *Anoplophora chinensis* introduced in Italy through import of bonsai; parasites of specific fish species, fruit flies, microcell disease *Bonamia ostreae* transported with oyster shipments, etc): if the species presents an unacceptable risk, consider applying specific treatments and measures across all relevant sectors (i.e. transport, agriculture, fishery, etc.) to prevent unwanted entry,
- species classified as D category - alien species unintentionally introduced with movements of people or of machinery (such as pests in wood packaging, hull fouling, ballast waters, contaminants in containers, hitchhikers on planes, etc.) : if the species presents an unacceptable risk, monitor pathways of introduction and consider regulation of related vectors across all relevant sectors (such as transport, agriculture, fisheries, etc.);

6. ensure that trade regulations are accompanied – when feasible and appropriate - by stringent management provisions (such as regulation of containment facilities; eradication of already established populations; enforcement of control/containment campaigns, awareness raising at Customs points, effective communication campaigns, etc.);

7. propose, in the framework of the Convention, amendments that would permit the updating of the metalist presented in Appendix 1 of this Recommendation, taking account of work carried out by other organisations or based on risk analysis or other evidence of a species having negative effects on ecosystems, habitats or species, in order to build a comprehensive metalist of invasive alien species or potentially invasive alien species already present in Europe or expected to arrive in the next future, giving priority to species that are not yet widespread;

8. promote closer co-operation at the European and Mediterranean level to prevent introduction of invasive alien species through trade by exchanging information on trade, expanding species lists as appropriate and promoting coordinated risk assessment and other appropriate measures to control IAS movement and expansion.; in that context, support the development of international comprehensive registers of IAS, such as the Global Register of Invasive Species (GRIS) being developed by the World Conservation Union´s Invasive Species Specialist Group (IUCN ISSG);

9. improve national and European information systems on IAS, in particular with respect to trade pathways and early warning systems; in this context, consider establishing more stringent reporting mechanisms for IAS in the framework of the Convention and other appropriate mechanisms,

Further invites Observer states to apply the recommendation above.

Appendix 1 Metalist of known invasive alien species for Europe

Species / Group of species *species listed in depoorted and pagad 2007	**Trade category**	**EPPO A1 list**	**EPPO A2 list**	**EPPO list of invasive alien plants**	**EEA/ SEBI**	**Nobanis**	**Daisie**	**Reg. 338/97**
Mammals								
Ammotragus lervia	A				1			
Callosciurus finlaysoni	B				1			
Castor canadensis	A				1	1		
Cervus nippon	A				1		1	
Eutamia sibiricus	B						1	
Herpestes javanicus *	A				1			
Muntiacus reevesii	A				1			
Mustela vison *	B				1	1	1	
Myocastor coypus	B				1		1	
Nyctereutes procyonoides	B				1	1	1	
Ondatra zibethicus	B				1	1	1	
Oryctolagus cuniculus *	B				1			
Procyon lotor	B				1		1	
Rattus norvegicus *	D				1		1	
Sciurus carolinensis	B				1		1	
Birds								
Acridotheres tristis	B				1			
Alopochen aegyptiacus	B				1			
Branta canadensis	B				1		1	
Corvus splendens	B				1			
Oxyura jamaicensis	A				1		1	1
Psittakula krameri	B						1	
Threskiornis aethiopicus	B				1		1	
Amphibians & reptiles								
Chrisemys picta	B							1
Rana catesbeiana	A				1		1	1
Trachemys scripta elegans	B				1	1	1	1

Xenopus laevis	B				1			
Fishes								
Ameiurus nebulosus	A				1			
Aphanius dispar	D						1	
Carassius auratus gibelio	A				1			
Carpio haematopterus/Cyprinus carpio *	A				1			
Fistularia commersoni	D				1		1	
Gambusia affinis	A				1			
Lepomis gibbosus *	A				1			
Liza haematocheila ex Mugil soiuy	A, B, D				1			
Micropterus salmoides	A				1			
Neogobius melanostomus *	D, C?				1	1	1	
Oncorhynchus mykiss	A				1	1		
Perccottus glenii	B, D				1			
Phoxinus phoxinux	D					1		
Pseudorasbora parva	A				1	1	1	
Salmo salar	A, B				1	1		
Salvelinus fontinalis	A				1		1	
Sander lucioperca	A					1		
Saurida undosquamis	D				1		1	
Seriola fasciata	D				1			
Siganus luridus	D				1			
Siganus rivulatus	D				1		1	
Silurus glanis	A				1			
Sphoeroides pachygaster	D				1			
Crustaceans								
Acartia tonsa	D				1		1	
Balanus improvisus	D						1	
Cercopagis pengoi	D				1	1	1	
Charbydis logicollis	D						1	
Chelicorophium curvispinum	D				1			
Dikerogammarus villosus	A, D				1		1	
Elminius modestus	D				1			

Eriocheir sinensis	D				1	1	1	
Gammarus tigrinus	D				1			
Homarus americanus	B					1		
Marsupenaeus japonicus	A, B						1	
Metapenaeus (Marsupenaeus) japonicus	A, B				1			
Orconectes limosus *	A				1			
Pacifastacus leniusculus	A				1	1		
Paralithodes camtschatica	A				1	1	1	
Percnon gibbesi	B, D				1		1	
Pontogammarus robustoides	A, D					1		
Procambarus clarkii *	A, B				1		1	
Insects								
Acleris gloverana A1/281	C	1						
Acleris variana A1/32	C	1						
Aculops fuchsiae A1/185	C	1						
Aedes albopictus	D						1	
Aeolesthes sarta A2/307	C		1					
Agrilus planipennis A1/322	C	1						
Aleurocanthus spiniferus A1/186	C	1						
Aleurocanthus woglumi A1/103	C	1						
Amauromyza maculosa A1/152	C	1						
Anastrepha fraterculus A1/229	C	1						
Anastrepha ludens A1/230	C	1						
Anastrepha obliqua A1/231	C	1						
Anastrepha suspensa A1/200	C	1						
Anoplophora chinensis A1/187	C	1			1		1	
Anoplophora glabripennis A1/296	D, C	1			1		1	
Anthonomus bisignifer A1/189	C	1						
Anthonomus eugenii A1/202	C	1						
Anthonomus grandis A1/34	C	1						
Anthonomus signatus A1/164	C	1						
Aphis gossypi	C						1	
Bactrocera cucumis A1/203	C	1						

Bactrocera cucurbitae A1/232	C	1						
Bactrocera dorsalis A1/233	C	1						
Bactrocera minax A1/234	C	1						
Bactrocera tryoni A1/235	C	1						
Bactrocera tsuneonis A1/236	C	1						
Bactrocera zonata A1/302	C	1						
Bemisia tabaci A2/178	C		1					
Blitopertha orientalis A1/33	D, C	1						
Cacoecimorpha pronubana A2/104	C		1					
Cacyreus marshalli A2/181	C		1					
Cameraria ohridella	D, C				1		1	
Carposina sasakii A2/163	C		1					
Ceratitis capitata A2/105	C		1				1	
Ceratitis rosa A1/237	C	1						
Choristoneura conflictana A1/205	C	1						
Choristoneura fumiferana A1/206	C	1						
Choristoneura occidentalis A1/207	C	1						
Choristoneura rosaceana A1/208	C	1						
Conotrachelus nenuphar A1/35	D	1						
Corythucha arcuata	C				1			
Cydia inopinata A2/193	C, D		1					
Cydia packardi A1/209	C, D	1						
Cydia prunivora A1/36	C, D	1						
Dacus ciliatus A2/238	C		1					
Dendroctonus adjunctus A1/43	C	1						
Dendroctonus brevicomis A1/263	C	1						
Dendroctonus frontalis A1/264	C	1						
Dendroctonus ponderosae A1/265	C	1						
Dendroctonus pseudotsugae A1/266	C	1						
Dendroctonus rufipennis A1/267	C	1						
Dendrolimus sibiricus A2/308	C		1					
Dendrolimus superans A2/330	C		1					
Diabrotica barberi A1/210	C, D	1						
Diabrotica speciosa A1/303	C, D	1						

Diabrotica undecimpunctata A1/292	C, D	1						
Diabrotica virgifera A2/199	C, D		1				1	
Diaphorina citri A1/37	C	1						
Dryocoetes confusus A1/268	C	1						
Dryocosmus kuriphilus A2/317	C		1					
Epitrix cucumeris A1/299	D	1						
Epitrix tuberis A1/165	D	1						
Erschoviella musculana A2/318	C, D		1					
Eutetranychus orientalis A2/288	C		1					
Frankliniella occidentalis A2/177	C		1				1	
Gnathotrichus sulcatus A1/269	C	1						
Gonipterus gibberus A1/301	C, D	1						
Gonipterus scutellatus A2/38	C, D		1					
Harmonia axyridis	A				1		1	
Helicoverpa armigera A2/110	C		1					
Helicoverpa zea A1/195	C	1						
Heteronychus arator A1/297	C, D	1						
Homalodisca coagulata A1/336	C	1						
Hyphantria cunea	C				1			
Ips calligraphus A1/270	C	1						
Ips confusus A1/271	C	1						
Ips grandicollis A1/272	C	1						
Ips hauseri A2/326	C		1					
Ips lecontei A1/273	C	1						
Ips pini A1/274	C	1						
Ips plastographus A1/275	C	1						
Ips subelongatus A2/325	C		1					
Lasius neglectus	D				1			
Lepidosaphes ussuriensis A2/319	C		1					
Leptinotarsa decemlineata A2/113	C		1				1	
Limonius californicus A1/304	D, C	1						
Linepithema humile	D				1		1	
Liriomyza huidobrensis A2/283	C		1				1	
Liriomyza sativae A2/282	C		1					

Liriomyza trifolii A2/131	C		1					
Listronotus bonariensis A1/168	C, D	1						
Lopholeucaspis japonica A2/289	C		1					
Lymantria mathura A2/331	D, C		1					
Maconellicoccus hirsutus A1/314	C	1						
Malacosoma americanum A1/276	C	1						
Malacosoma disstria A1/213	C	1						
Malacosoma parallela A2/320	C		1					
Margarodes prieskaensis A1/214	D, C	1						
Margarodes vitis A1/215	D, C	1						
Margarodes vredendalensis A1/216	D, C	1						
Melanotus communis A1/305	D	1						
Naupactus leucoloma A1/293	C, D	1						
Numonia pirivorella A2/184	C		1					
Oligonychus perditus A1/217	C	1						
Opogona sacchari A2/154	C		1					
Orgyia pseudotsugata A1/218	C	1						
Paysandisia archon A2/338	C		1					
Pissodes nemorensis A1/44	C	1						
Pissodes strobi A1/258	C	1						
Pissodes terminalis A1/259	C	1						
Popillia japonica A2/40	D, C		1					
Premnotrypes latithorax, P. suturicallus & P. vorax A1/143	C	1						
Quadraspidiotus perniciosus A2/117	C		1					
Rhagoletis cingulata A2/239	C		1					
Rhagoletis fausta A1/241	C	1						
Rhagoletis indifferens A1/242	C	1						
Rhagoletis mendax A1/243	C	1						
Rhagoletis pomonella A1/41	C	1						
Rhizoecus hibisci A1/300	C	1						
Rhynchophorus ferrugineus A2/339	C		1		1			
Rhynchophorus palmarum A1/332	C	1						
Scirtothrips aurantii A1/221	C	1						
Scirtothrips citri A1/222	C	1						

Scirtothrips dorsalis A2/223	C		1					
Scolytus morawitzi A2/309	C		1					
Sirex ermak A2 327	D, C		1					
Spodoptera eridania A1/196	C	1						
Spodoptera frugiperda A1/197	C	1						
Spodoptera littoralis A2/120	C		1				1	
Spodoptera litura A1/42	C	1						
Sternochetus mangiferae A1/286	C	1						
Strobilomya viaria A2/333	D		1					
Tecia solanivora A2/310	C		1					
Tetropium gracilicorne A2/311	C		1					
Thrips palmi A1/175	C	1						
Toxoptera citricida A1/45	C	1						
Trialeurodes vaporarium	C						1	
Trioza erytreae A1/46	C	1						
Trogoderma granarium A2/121	D		1					
Tuta absoluta A1/321	C	1						
Unaspis citri A1/226	C	1						
Viteus vitifoliae A2/106	C		1					
Xylotrechus altaicus A2/312	C		1					
Xylotrechus namanganensis A2/328	C		1					
Anellids								
Artioposthia triangulata	C				1			
Ficopomatus enigmaticus	D				1		1	
Hydroides dianthus	D				1			
Hydroides elegans	D				1			
Hydroides ezoensis	D				1			
Marenzelleria neglecta	D				1	1		
Marenzelleria viridis	D				1		1	
Pileolaria berkeleyana	D				1			
Spirorbis marioni	D				1			

Molluscs								
Anadara spp inaequivalvis/demiri	A, B				1			
Anodonta (Sinanodonta) woodiana	C, A				1			
Arion lusitanicus	C					1		
Arion vulgaris	C				1		1	
Brachiodontes pharaonis	D						1	
Corbicula fluminea	D				1		1	
Crassostrea gigas	A, B					1		
Crepidula fornicata	C, D				1		1	
Dreissena bugensis	D				1			
Dreissena polymorpha	D				1	1	1	
Ensis americanus	D				1			
Musculista senhousia	A, B				1		1	
Petricola pholadiformis	A, B				1			
Pinctada radiata	A, B, C, D				1		1	
Potamopyrgus antipodarum	D				1			
Rapana venosa	C, D				1		1	
Ruditapes philippinarum	A				1			
Teredo navalis	D						1	
Comb jellies								
Beroe cucumi					1			
Blackfordia virginica					1			
Mnemiopsis leidyi	D				1		1	
Hydroids, jellyfish, sea anemones & corals								
Cordylophora caspia	D				1		1	
Craspedacusta sowerbyi	D					1		
Polypodium hydriforme					1			
Rhopilema nomadica	D				1		1	
Ascidians and sessile tunicates								
Microcosmus squamifer					1			
Styela clava	D				1		1	

Bryozoans								
Tricellaria inopinata					1		1	
Victorella pavida					1			
Flatworms								
Artioposthia triangulata (Arthurdendyus triangulatus)						1		
Fasciola gigantica					1			
Gyrodactylus salaris					1	1	1	
Pseudodactylogyrus anguillae					1			
Cestoda								
Botriocephalus acheilognathi					1			
Nematodes								
Anguillicola crassus	C				1	1	1	
Aphelenchoides besseyi A2/122	C		1					
Ashworthius sidemi	C				1			
Bursaphelenchus xylophilus and its vectors in the genus Monochamus A1/158	C, D	1			1		1	
Ditylenchus dipsaci A2/174	C, D		1					
Globodera pallida A2/124	C		1					
Globodera rostochiensis A2/125	C		1					
Heterodera glycines A2/167	C, D		1					
Meloidogyne chitwoodii A2/227	C, D		1					
Meloidogyne fallax A2/295	C, D		1					
Nacobbus aberrans A1/144	C, D	1						
Radopholus citrophilus A1/161	C, D	1						
Radopholus similis A2/126	C, D		1					
Xiphinema americanum sensu stricto A1/150	D	1						
Xiphinema bricolense A1/260	D	1						
Xiphinema californicum A1/261	D	1						
Xiphinema rivesi A2/262	D		1					
Plants								
Acacia dealbata	A			1			1	
Acacia saligna	A				1			

Acer negundo *	A				1	1		
Acroptilon repens	C, D			1				
Ailanthus altissima *	A			1	1		1	
Ambrosia artemisiifolia *	C, D			1	1		1	
Amelanchier spicata	A, B			1		1		
Amorpha fruticosa *	A, D			1	1			
Anthriscus sylvestris	Indigenous					1		
Arceuthobium abietinum	C	1						
Arceuthobium americanum	C	1						
Arceuthobium campylopodum	C	1						
Arceuthobium douglasii	C	1						
Arceuthobium laricis	C	1						
Arceuthobium minutissimum	C	1						
Arceuthobium occidentale	C	1						
Arceuthobium pusillum	C	1						
Arceuthobium spp. (non-European) A1/24	C	1						
Arceuthobium tsugense	C	1						
Arceuthobium vaginatum	C	1						
Aster novi-belgii agg.	A				1			
Azolla filiculoides	C, D			1	1	1		
Baccharis halimifolia	A			1				
Bidens frondosa	C, D			1	1			
Buddleja davidii	A			1				
Bunias orientalis	D				1	1		
Campylopus introflexus	C					1	1	
Cabomba caroliniana	B			1				
Carpobrotus edulis * & C. spp.	A			1	1		1	
Cenchrus incertus	D			1				
Cenchrus longispinus	D				1			
Cortaderia selloana	A			1	1		1	
Crassula helmsii A2/340 (A2 in 2006)	B, C, D		1	1	1		1	
Cyperus esculentus	C			1				
Echinocystis lobata *	C, D				1		1	
Egeria densa	B, C, D			1				

Elodea canadensis	C, D				1		1	
Elodea nuttallii	C, D			1	1			
Epilobium ciliatum	D				1			
Fallopia japonica *, F. sachalinensis, Fallopia x bohemica	A			1	1	1	1	
Galinsoga quadriradiata	C, D					1		
Grindelia squarrosa	B				1			
Halophila stipulacea	C				1		1	
Hedychium gardnerianum *	A				1		1	
Helianthus tuberosus *	A			1	1			
Heracleum mantegazzianum	A			1	1		1	
Heracleum sosnowskyi	A			1	1	1		
Hydrocotyle ranunculoides A2/334 (A2 in 2005)	A		1	1	1			
Impatiens glandulifera *	B, A			1	1	1	1	
Iva (Cyclachaena) xanthiifolia	C				1			
Lagarosiphon major	A			1				
Ludwigia peploides	A			1	1			
Ludwigia uruguayensis	A			1				
Lupinus nootkatensis *	A					1		
Lupinus polyphyllus *	A			1		1		
Lysichiton americanus A2/335 (A2 in 2005)	A, B		1	1	1			
Myriophyllum aquaticum	A, B, C			1				
Opuntia ficus-indica	A				1		1	
Oxalis pes-caprae	B, C, D			1	1		1	
Paspalum paspalodes (= P distichum)	C			1			1	
Pinus mugo *	A					1		
Prunus serotina *	A			1	1	1	1	
Pueraria lobata A2/341	A		1					
Pueraria montana var. lobata (A2 in 2006)	A			1				
Rhododendron ponticum *	A			1	1		1	
Robinia pseudoacacia *	A				1		1	
Rosa rugosa	A				1	1	1	
Sambucus nigra	Indigenous					1		
Senecio inaequidens	C, D			1	1	1		

Sicyos angulatus	C, D			1				
Solanum elaeagnifolium A2/342 (A2 in 2006)	C, A, D		1	1				
Solidago canadensis	A			1	1	1		
Solidago gigantea *	A			1	1			
Solidago nemoralis	A			1				
Spartina townsendi /anglica	A				1	1		
Bryophytes								
Campylopus introflexus					1			
Macroalgae								
Acrothamnion preisii					1			
Asparagopsis armata					1			
Asparagopsis taxiformis					1			
Bonnemaisonia hamifera							1	
Caulerpa racemosa	D				1		1	
Caulerpa taxifolia *	D				1		1	
Codium fragile	D				1		1	
Grateloupia doryphora					1			
Polysiphonia morrowii					1			
Sargassum muticum	C				1			
Stypopodium schimperi					1			
Undaria pinnatifida	A, D				1		1	
Womersleyella setacea					1			
Phytoplankton								
Alexandrium catenella	D				1		1	
Alexandrium minutum	D				1			
Alexandrium tamarense	D				1			
Chattonella verruculosa	D				1	1	1	
Coscinodiscus wailesii	D				1		1	
Karenia mikimotoi	D				1			
Odontella sinensis	D						1	
Phaeocystis pouchetii					1			
Prorocentrum minimum	D						1	
Rhizosolenia calcar-avis					1			

Fungi								
Alternaria mali A1/277		1						
Anisogramma anomala A1/201		1						
Aphanomyces astaci	C				1	1	1	
Apiosporina morbosa A1/10		1						
Atropellis pinicola A1/5		1						
Atropellis piniphila A1/280		1						
Botryosphaeria laricina A2/12			1					
Ceratocystis fagacearum and its vectors A1/6		1						
Ceratocystis fimbriata f.sp. platani A2/136	D		1					
Chrysomyxa arctostaphyli A1/8		1						
Ciborinia camelliae A2/190	C		1					
Cronartium coleosporioides A1/248		1						
Cronartium comandrae A1/249		1						
Cronartium comptoniae A1/250		1						
Cronartium fusiforme A1/9		1						
Cronartium himalayense A1/251		1						
Cronartium kamtschaticum A2/18			1					
Cronartium quercuum A1/252		1						
Cryphonectria parasitica A2/69	C		1					
Deuterophoma tracheiphila A2/287			1					
Diaporthe vaccinii A1/211		1						
Didymella ligulicola A2/66			1					
Endocronartium harknessii A1/11		1						
Fusarium oxysporum f.sp. albedinis A2/70			1					
Gibberella circinata A1/306		1						
Glomerella gossypii A2/71			1					
Guignardia citricarpa A1/194		1						
Gymnosporangium asiaticum A2/13			1					
Gymnosporangium clavipes A1/253		1						
Gymnosporangium globosum A1/254		1						
Gymnosporangium juniperi-virginianae A1/255		1						
Gymnosporangium yamadae A1/257		1						

Melampsora farlowii A1/15		1						
Melampsora medusae A2/74			1					
Melampsoridium hiratsukanum						1		
Monilinia fructicola A2/153			1					
Mycosphaerella dearnessii A2/22			1					
Mycosphaerella gibsonii A1/7		1						
Mycosphaerella laricis-leptolepidis A1/16		1						
Mycosphaerella populorum A1/17		1						
Ophiostoma novo-ulmi					1		1	
Ophiostoma wageneri A1/179		1						
Phaeoramularia angolensis A1/298		1						
Phellinus weirii A1/19		1						
Phialophora cinerescens A2/77			1					
Phoma andigena A1/141		1						
Phyllosticta solitaria A1/20		1						
Phymatotrichopsis omnivora A1/21		1						
Phytophthora cinnamomi					1		1	
Phytophthora fragariae A2/79			1					
Phytophthora lateralis A1/337		1						
Phytophthora ramorum						1		
Pseudopityophthorus minutissimus		1						
Pseudopityophthorus pruinosus		1						
Puccinia horiana A2/80			1					
Puccinia pittieriana A1/155		1						
Seiridium cardinale	C						1	
Septoria lycopersici var. malagutii A1/142		1						
Sirococcus clavigignenti-juglandacearum A1/329		1						
Stegophora ulmea A1/315		1						
Stenocarpella macrospora A2/67			1					
Stenocarpella maydis A2/68			1					
Synchytrium endobioticum A2/82	C		1					
Thecaphora solani A1/4		1						
Tilletia indica A1/23		1						

Verticillium albo-atrum & V. dahliae (hop-infecting strains) A2/85			1					
Protists								
Bonamia ostreae	C				1			
Prokaryotes								
Apple proliferation phytoplasma A2/87			1					
Burkholderia caryophylli A2/55			1					
Clavibacter michiganensis subsp. insidiosus A2/49			1					
Clavibacter michiganensis subsp. michiganensis A2/50			1					
Clavibacter michiganensis subsp. sepedonicus A2/51			1					
Curtobacterium flaccumfaciens pv. flaccumfaciens A2/48			1					
Elm phloem necrosis phytoplasma A1/26		1						
Erwinia amylovora A2/52			1					
Erwinia chrysanthemi A2/53			1					
Grapevine flavescence dorée phytoplasma A2/94			1					
Liberobacter africanum & L. asiaticum A1/151		1						
Palm lethal yellowing phytoplasma A1/159		1						
Pantoea stewartii pv. stewartii A2/54			1					
Peach rosette phytoplasma A1/138		1						
Peach X-disease phytoplasma A1/140		1						
Peach yellows phytoplasma A1/139		1						
Pear decline phytoplasma A2/95			1					
Potato purple-top wilt phytoplasma A1/128		1						
Pseudomonas syringae pv. persicae A2/145			1					
Ralstonia solanacearum A2/58			1					
Stolbur phytoplasma A2/100			1					
Vibrio cholerae					1			
Xanthomonas arboricola pv. corylina A2/134			1					
Xanthomonas arboricola pv. pruni A2/62			1					
Xanthomonas axonopodis pv. citri A1/1		1						
Xanthomonas axonopodis pv. dieffenbachiae A2/180			1					
Xanthomonas axonopodis pv. phaseoli A2/60			1					

Xanthomonas axonopodis pv. vesicatoria and Xanthomonas vesicatoria A2/157			1					
Xanthomonas fragariae A2/135			1					
Xanthomonas oryzae pv. oryzae A1/2		1						
Xanthomonas oryzae pv. oryzicola A1/3		1						
Xanthomonas translucens pv. translucens A2/183			1					
Xylella fastidiosa A1/166		1						
Xylophilus ampelinus A2/133			1					
Viruses								
American plum line pattern virus (Ilarvirus) A1/28		1						
Andean potato latent virus (Tymovirus) A1/244		1						
Andean potato mottle virus (Comovirus) A1/245		1						
Bean golden mosaic virus (Begomovirus) A1/204		1						
Beet leaf curl virus A2/90			1					
Beet necrotic yellow vein virus (Benyvirus) A2/160			1					
Blueberry leaf mottle virus (Nepovirus) A2/198			1					
Cherry rasp leaf virus (Cheravirus) A1/127		1						
Chrysanthemum stem necrosis virus (Tospovirus) A1/313		1						
Chrysanthemum stunt viroid (Pospiviroid) A2/92			1					
Citrus blight disease A1/278		1						
Citrus leprosis virus A1/284		1						
Citrus mosaic virus (Badnavirus) A1/285		1						
Citrus tatter leaf virus (Capillovirus) A1/191		1						
Citrus tristeza virus (Closterovirus) A2/93			1					
Coconut cadang-cadang viroid (Cocadviroid) A1/192		1						
Cucumber vein yellowing virus (Ipomovirus) A2/316			1					
Cucurbit yellow stunting disorder virus (Crinivirus) A2/324			1					
Impatiens necrotic spot virus (Tospovirus) A2/291			1					
Lettuce infectious yellows virus (Crinivirus) A1/212		1						
Peach mosaic virus (Trichovirus) A1/27		1						
Peach rosette mosaic virus (Nepovirus) A1/219		1						
Plum pox virus (Potyvirus) A2/96			1					
Potato black ringspot virus (Nepovirus) A1/246		1						
Potato spindle tuber viroid (Pospiviroid) A2/97			1					

Potato virus T A1/247		1						
Potato yellow dwarf virus (Nucleorhabdovirus) A1/29		1						
Potato yellow vein virus (Crinivirus) A1/30		1						
Potato yellowing virus A1/220		1						
Raspberry leaf curl virus (Nepovirus) A1/31		1						
Raspberry ringspot virus (Nepovirus) A2/98			1					
Satsuma dwarf virus (Sadwavirus) A2/279			1					
Squash leaf curl virus (Begomovirus) A2/224			1					
Strawberry latent C virus A1/129		1						
Strawberry veinbanding virus (Caulimovirus) A2/101			1					
Tobacco ringspot virus (Nepovirus) A2/228			1					
Tomato chlorosis virus (Crinivirus) A2/323			1					
Tomato mottle virus (Begomovirus - and other American Geminiviridae of capsicum and tomato) A1/225		1						
Tomato ringspot virus (Nepovirus) A2/102			1					
Tomato spotted wilt virus (Tospovirus) A2/290			1					
Tomato yellow leaf curl virus (Begomovirus) and related viruses A2/182			1					
Watermelon silver mottle virus (Tospovirus) A1/294		1						
Protozoa								
Eimeria sinensis					1			
Trichodina nobilis					1			

Appendix 17

COUNCIL OF EUROPE CONSEIL DE L'EUROPE

Convention on the Conservation
of European Wildlife and Natural Habitats

Standing Committee

Recommendation No. 126 (2007) of the Standing Committee, adopted on 29 November 2007, on the eradication of some invasive alien plant species

The Standing Committee of the Convention on the Conservation of European Wildlife and Natural Habitats, in accordance with Article 14 of the Convention,

Recalling that under Article 11, paragraph 2.*b* of the Convention, each Contracting Party undertakes to strictly control the introduction of non-native species;

Bearing in mind Recommendation No. R (84) 14 of the Committee of Ministers of the Council of Europe to Member states on the introduction of non-native species, adopted on 21 June 1984;

Recalling Recommendation No. 57 (1997) on the Introduction of Organisms belonging to Non-Native Species into the Environment;

Recalling Recommendation No. 99 (1999) on the European Strategy on Invasive Alien Species;

Recalling that under Article 8.*h* of the Convention on Biological Diversity, each Party undertakes to prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or species;

Recalling Decision VI/23 of the 6th Conference of the Parties of the Convention on Biological Diversity, on Alien species that threaten ecosystems, habitats or species, and the definitions used in that text, in particular the following:

- eradication means the extirpation of the entire population of an alien species in a managed area; eliminating the invasive alien species completely/ from an area.
- containment means any operation, undertaken within a facility, installation or other physical structure, for the purpose of ensuring that invasive alien species are controlled by specific measures that effectively limit their contact with, their spread in,/ and their impact on, the external environment;

Wishing to contribute to improve the control of the introduction of alien species, and the mitigation of the effects of invasive alien species on the native flora and natural habitats;

Recognising the competent work done by the European and Mediterranean Plant Protection Organisation (EPPO) in the identification of alien species that may threatened European and Mediterranean biological diversity and wishing to pursue collaboration of the Convention with EPPO;

Recalling that, following an inventory of invasive alien plants for the European and Mediterranean region, a number species have been evaluated in the EPPO framework and that Pest Risk Analysis has been performed for 5 species which are now recommended for regulation by EPPO, listed in appendix 1 to this recommendation; furthermore recalling that EPPO has gathered information on other alien plants that have a high capacity of spread and a very limited distribution, examples of which are presented in appendix 2 to this recommendation;

Recommends that Contracting Parties:

1 carry out eradication of invasive alien plants which are not widespread and represent a threat at the regional scale or, when the invasion is taken at a late stage, containment or management action. This should apply to invasive alien plants, such as those listed in appendix 1 to this recommendation;

2 consider taking similar action against alien plant species having a high capacity of spread and presenting a very limited distribution, such as those in appendix 2 to this recommendation.

Appendix 1 to the recommendation, alien plant species for which eradication or containment is recommended

Species	Ecosystems	Countries in which the species occurs
Crassula helmsii	Uncultivated	Belgium, Denmark, France, Germany, Ireland, the Netherlands, the United Kingdom (Great Britain, Northern Ireland, Guernsey).
Hydrocotyle ranunculoides	Uncultivated	Belgium, France, Germany, Italy, the Netherlands, Spain, the United Kingdom. Italy, Palestine, Israel.
Lysichiton americanus	Uncultivated	Denmark, Germany, Ireland, the Netherlands, Norway, Sweden, Switzerland, the United Kingdom.
Pueraria lobata	Uncultivated	Italy, Switzerland.
Solanum elaeagnifolium	Uncultivated and cultivated	Algeria, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, "the former Yugoslav Republic of Macedonia", Moldova, Montenegro, Morocco, Serbia, Spain, Syria, Tunisia.

Appendix 2 to the recommendation, listing examples of alien plant species having a high capacity of spread and/or a very limited distribution.

Species	Ecosystems	Countries in which the species occurs
Acaena novae zelandiae (*=A. anserinifolia*)	Uncultivated	United Kingdom
Alternanthera caracasana	Cultivated	Spain, Israel
Alternanthera pungens	Cultivated	Israel
Araujia sericifera	Uncultivated	Spain, France
Azolla mexicana	Uncultivated	Hungary
Bothriochloa barbinodis	Uncultivated and cultivated	France
Cabomba caroliniana	Uncultivated	The Netherlands, United Kingdom, Hungary
Cenchrus incertus	Uncultivated and cultivated	Spain, Italy, Romania
Cotula coronopifolia	Uncultivated	Portugal, Spain, Italy, United Kingdom
Diospyros lotus	Uncultivated	France
Eichhornia azurea	Uncultivated	the Netherlands
Eichhornia crassipes	Uncultivated	Portugal, Spain
Eupatorium adenophorum	Uncultivated	Spain
Fallopia baldschuanica	Uncultivated	Czech Republic, Spain, Italy, Slovenia, France, UK
Glyceria striata	Uncultivated	Austria, Czech Republic, Germany
Hakea salicifolia	Uncultivated	Portugal
Hakea sericea	Uncultivated	Portugal, France
Muehlenbeckia complexa	Uncultivated	United Kingdom
Myriophyllum heterophyllum	Uncultivated	Spain, Germany
Pistia stratiotes	Uncultivated	Spain
Pueraria lobata	Uncultivated	Switzerland
Senecio deltoideus	Uncultivated	France
Sesbania punicea	Uncultivated	Italy