

VI/23. Alien species that threaten ecosystems, habitats or species

The Conference of the Parties

I. STATUS AND TRENDS

1. *Notes* the report on the status, impacts and trends of alien species that threaten ecosystems, habitats and species; [49/](#)

II. GUIDING PRINCIPLES FOR THE IMPLEMENTATION OF ARTICLE 8(h)

Recognizing that invasive alien species represent one of the primary threats to biodiversity, especially in geographically and evolutionary isolated ecosystems, such as small island developing States, and that risks may be increasing due to increased global trade, transport, tourism and climate change,

Reaffirming that full and effective implementation of Article 8(h) is a priority,

2. *Notes* the consideration by the Subsidiary Body on Scientific, Technical and Technological Advice of the scientific and technical matters relevant to the Guiding Principles;

3. *Notes* that some non-scientific and technical matters have been identified for its consideration along with options for addressing those matters;

4. *Having considered* these options, *adopts* the Guiding Principles annexed to the present decision;

5. *Urges* Parties, other Governments and relevant organizations to promote and implement the Guiding Principles;

III. RELEVANT INTERNATIONAL INSTRUMENTS

Acknowledging the contribution to the implementation of Article 8(h) of existing international instruments, such as the International Plant Protection Convention, and relevant international organizations such as the Office International des Epizooties, the regional plant protection organizations, the Food and Agriculture Organization of the United Nations, the International Maritime Organization, the World Health Organization and other international organizations that develop relevant standards and agreements,

Noting, however, in the light of the review of the efficiency and efficacy of existing legal instruments applicable to invasive alien species, [50/](#) that there are certain gaps and inconsistencies in the international regulatory framework from the perspective of the threats of invasive alien species to biological diversity,

6. *Recommends* that Parties to the Convention on Biological Diversity and other Governments, as appropriate, consider ratifying the revised International Plant Protection Convention, and *calls on* Parties, Governments, and relevant organizations to actively work to enhance the implementation of the International Plant Protection Convention;

[49/](#) UNEP/CBD/SBSTTA/6/INF/11.

[50/](#) UNEP/CBD/SBSTTA/6/6.

7. *Urges* the International Maritime Organization to complete the preparation of an international instrument to address the environmental damage caused by the introduction of harmful aquatic organisms in ballast water and to develop as a matter of urgency, mechanisms to minimize hull-fouling as an invasion pathway, and *calls on* Governments and relevant organizations to urgently act to ensure full implementation;

8. *Invites* the International Plant Protection Convention, the Office International des Epizooties, the Food and Agriculture Organization of the United Nations, the International Maritime Organization, the World Health Organization and other relevant international instruments and organizations, as they elaborate further standards and agreements, or revise existing standards and agreements, including for risk assessment/analysis, to consider incorporating criteria related to the threats to biological diversity posed by invasive alien species; and *invites further* such instruments and organizations to report on any such ongoing, planned, or potential initiatives;

9. *Requests* the Subsidiary Body on Scientific, Technical and Technological Advice and other international organizations such as the Global Invasive Species Programme to identify and explore, in light of the inter-sessional work referred to in recommendation VI/4 A of the Subsidiary Body, further specific gaps and inconsistencies in the international regulatory framework (including binding and non-binding instruments as well as instruments at the regional level and standards) from a technical perspective of the threats of invasive alien species to biological diversity, including consideration of various pathways for the transmission of invasive alien species, and to report back to the Conference of the Parties at its seventh meeting, taking into account further relevant information arising from the implementation of the present decision;

IV. OTHER OPTIONS

Reaffirming the importance of national and regional invasive alien species strategies and action plans, and of international collaboration to address the threats to biodiversity of invasive alien species and the need for funding as a priority to implement existing strategies,

Noting the range of measures 51/ and the need to strengthen national capacities and international collaboration,

(a) *National invasive alien species strategies and action plans*

10. *Urges* Parties and other Governments, in implementing the Guiding Principles, and when developing, revising and implementing national biodiversity strategies and action plans to address the threats posed by invasive alien species, to:

- (a) Identify national needs and priorities;
- (b) Create mechanisms to coordinate national programmes;
- (c) Review, in the light of the Guiding Principles, relevant policies, legislation and institutions to identify gaps, inconsistencies and conflicts, and, as appropriate, adjust or develop policies, legislation and institutions;

51/ UNEP/CBD/SBSTTA/6/7.

(d) Enhance cooperation between the various sectors, including the private sector that might provide pathways or vectors for the unintended transfer of invasive alien species, in order to improve prevention, early detection, eradication and/or control of invasive alien species, and in particular, ensure communication between focal points of respective relevant international instruments;

(e) Promote awareness of the threats to biological diversity and related ecosystem goods and services posed by invasive alien species and of the means to address such threats, among policy makers at all levels of government, and in the private sector; quarantine, customs and other border officials; and the general public;

(f) Facilitate the involvement of all stakeholder groups, including in particular indigenous and local communities, and the private sector, as well as all levels of government, in national invasive alien species strategies and action plans, and in decisions related to the use of alien species that may be invasive;

(g) Collaborate with trading partners and neighbouring countries, regionally, and with other countries, as appropriate, in order to address threats of invasive alien species to biological diversity in ecosystems that cross international boundaries, to migratory species, and to address matters of common interest;

11. *Urges* existing regional organizations and networks to work cooperatively to actively support the development and implementation of invasive alien species strategies and action plans, and to develop regional strategies where appropriate;

12. *Encourages* Parties and other Governments, in undertaking this work and, in particular, when developing priority actions, to consider the need to:

(a) Develop capacity to use risk assessment/analysis to address threats of invasive alien species to biological diversity, and incorporate such methodologies in environmental impact assessments, and strategic environmental assessments, as appropriate and relevant;

(b) Develop financial measures, and other policies and tools, to promote activities to reduce the threat of invasive alien species;

(c) When necessary, develop recommendations and strategies to take account of effects of alien species on populations and naturally occurring genetic diversity;

(d) Incorporate invasive alien species considerations into national biodiversity strategies and action plans and into sectoral and cross-sectoral policies, strategies and plans, taking into account the ecosystem approach, and in order to ensure full implementation of the national invasive alien species strategies and action plans as called for in paragraph 6 of decision V/8 of the Conference of the Parties;

13. *Notes* the technical information developed by the Executive Secretary, the Subsidiary Body on Scientific, Technical and Technological Advice and the Global Invasive Species Programme and commends this information to Parties for use in national implementation of Article 8(h) and *requests* the Executive Secretary to ensure that the technical information developed within the Convention on Biological Diversity is readily available to Parties in an appropriate form, including through technical publications and the clearing-house mechanism;

14. *Urges* the Global Invasive Species Programme and other relevant organizations to evaluate known and potential pathways for the introduction of invasive alien species and identify opportunities to minimize incursions and manage risks, and:

(a) Provide advice to Governments and organizations on actions to be taken at national and regional levels; and

(b) Provide recommendations to the Conference of the Parties at its seventh meeting on actions to be taken at the international level;

(b) *International cooperation*

15. *Urges* Parties, Governments, multilateral organizations and other relevant bodies to consider the potential effects of global change on the risk of invasive alien species to biodiversity, and related ecosystem goods and services and, in particular:

(a) *Invites* the United Nations Framework Convention on Climate Change to consider this matter when it considers measures for adaptation to and mitigation of climate change in particular with respect to the lifestyles of indigenous and local communities;

(b) *Invites* the World Trade Organization, through its Committee on Trade and the Environment, to take this matter into account when considering the impacts of trade and trade liberalization;

(c) *Invites* the Food and Agriculture Organization of the United Nations, the World Health Organization, the United Nations Development Programme, the United Nations Environment Programme, the World Bank and other development agencies to take this matter into account when considering the impacts of land-use change, agriculture, aquaculture, forestry, health and development policies and activities;

16. *Invites* the Convention on the Conservation of Migratory Species of Wild Animals, the Convention on Wetlands (Ramsar, Iran, 1971), the Convention on the Conservation of European Wildlife and Natural Habitats, the Convention on International Trade in Endangered Species of Wild Fauna and Flora, the World Heritage Convention, and the Man and the Biosphere Programme of the United Nations Educational, Scientific and Cultural Organization, in collaboration with relevant organizations, to promote further the implementation of Article 8(h) within their mandates, through, *inter alia*, the development of guidance, best practices and pilot projects that address the threats of invasive alien species to particular sites or habitats, including means to enhance the capacity of ecosystems to resist or recover from alien species invasions;

17. *Invites* international organizations to develop financial and other measures for the promotion of activities aiming to reduce the harmful effects of invasive alien species;

18. *Acknowledges* the contribution of the Global Invasive Species Programme to the sixth meeting of the Subsidiary Body on Scientific, Technical and Technological Advice, particularly the provision of technical advice and therefore:

(a) *Welcomes* phase II of the Global Invasive Species Programme and *urges* Parties, countries and other organizations to support the work of the Global Invasive Species Programme to

minimize the spread and impact of invasive alien species, and consider the Global Strategy on Invasive Alien Species when developing national plans and regional strategies;

(b) *Recommends* continuing cooperation with the Global Invasive Species Programme and *requests* the Executive Secretary to explore the development of arrangements for this further cooperation;

19. *Endorses* the international cooperative initiative on invasive alien species on islands, developed by the Government of the New Zealand, the Invasive Species Specialist Group, and the Global Invasive Species Programme, and *calls on* the Global Environment Facility, Parties, Governments and relevant organizations to support and participate in these initiatives;

20. *Invites* the International Maritime Organization, the Global Invasive Species Programme, the Food and Agriculture Organization of the United Nations, and the Convention on Wetlands (Ramsar, Iran, 1971) to work together to develop an international cooperative initiative to address impediments to the management of marine alien species, particularly to address technical problems related to the identification and control of marine invasions;

21. *Welcomes* the initiative of the Council of Europe in the framework of the Bern Convention to help the implementation of Article 8(h), including the development of a European Strategy on Invasive Alien Species;

22. *Also welcomes* the “I3N” (Inter-American Biodiversity Information Network (IABIN) Invasives Information Network) initiative on invasive alien species, and *calls on* the Global Environment Facility, Parties, Governments and relevant organizations to support and participate in these initiatives;

23. *Welcomes* the initiative of the Interim Commission on Phytosanitary Measures and the secretariat of the International Plant Protection Convention to develop closer relationships to the Convention on Biological Diversity and its work;

(c) ***Assessment, information and tools***

24. *Urges* Parties, Governments and relevant organizations, at the appropriate level, with the support of relevant international organizations to promote and carry out, as appropriate, research and assessments on:

(a) The characteristics of invasive species and the vulnerability of ecosystems and habitats to invasion by alien species, and the impact of climate change on these parameters; ^{52/}

(b) The impact of alien species on biological diversity;

(c) Analysis of the importance of various pathways for the introduction of invasive alien species;

(d) The socio-economic implications of invasive alien species particularly the implications for indigenous and local communities;

(e) The development of environmentally benign methods to control and eradicate invasive alien species, including measures for use in quarantine and to control fouling of ship hulls;

^{52/} As distinct from the direct effects of climate change on species distribution.

- (f) The costs and benefits of the use of biocontrol agents to control and eradicate invasive alien species;
- (g) Means to enhance the capacity of ecosystems to resist or recover from alien species invasions;
- (h) Priorities for taxonomic work through, *inter alia*, the Global Taxonomy Initiative; ^{53/}
- (i) Criteria for assessing risks from introduction of alien species to biological diversity at the genetic, species and ecosystem levels;
- (j) The use of the traditional knowledge of indigenous and local communities in the development and implementation of measures to address invasive alien species, in accordance with Article 8(j) of the Convention;

25. *Decides* that the clearing-house mechanism will be used to facilitate scientific and technical cooperation on the topics listed under paragraph 24 above, in order to enhance the ability of the clearing-house mechanism to promote and facilitate scientific and technical cooperation, and *welcomes* the Global Invasive Species Programme as an international thematic focal point for alien species under the clearing-house mechanism, and calls on Parties, countries and relevant organizations to contribute to the creation and maintenance of the global information network, in particular to:

- (a) Ensure effective international cooperation and expertise sharing;
- (b) Provide information to assist countries to perform effective risk analysis;
- (c) Provide information on potential pathway of alien invasive species; and
- (d) Provide support for management and control efforts, particularly for locating technical support for rapid response activities;

26. *Requests* the Executive Secretary in cooperation with the Global Invasive Species Programme and other relevant organizations to:

- (a) Compile information on topics listed in paragraph 24 above, in collaboration with relevant organizations;
- (b) Identify the key scientific, technical and public awareness impediments to implementation of priority actions at the national and regional levels;
- (c) Develop, in partnership with relevant Parties, countries and relevant organizations, solutions to those impediments;
- (d) Disseminate those solutions to Parties and regional organizations; and
- (e) Develop a joint programme of work through the Global Invasive Species Programme partnership network among the Convention on Biological Diversity, the Convention on Wetlands (Ramsar, Iran, 1971), the International Maritime Organization, the International Plant Protection Convention and other relevant bodies;

^{53/} See decision VI/8.

27. *Urges* Parties, Governments and relevant organizations, at the appropriate level, to develop and make available technical tools and related information to support efforts for the prevention, early detection, monitoring, eradication and/or control of invasive alien species and to support public awareness-raising and environmental education to the extent possible;

28. *Requests* the Executive Secretary, within the availability of resources and in collaboration with relevant organizations, to support the development and dissemination of technical tools and related information on the prevention, early detection, monitoring, eradication and/or control of invasive alien species through, *inter alia*:

(a) Compilation and dissemination of case-studies submitted by Parties, other Governments and organizations, best practices and lessons learned, drawing upon, as appropriate, tools listed in information document UNEP/CBD/SBSTTA/6/INF/3 and the “Toolkit” compiled by the Global Invasive Species Programme; 54/

(b) Further compilation and preparation of anthologies of existing terminology used in international instruments relevant to invasive alien species, and to develop, and update as necessary, a non-legally binding list of terms most commonly used;

(c) Compilation and making available lists of procedures for risk assessment/analysis and pathway analysis which may be relevant in assessing the risks of invasive alien species to biodiversity, habitats and ecosystems;

(d) Identification and inventory of existing expertise relevant to the prevention, early detection and warning, eradication and/or control of invasive alien species, and restoration of invaded ecosystems and habitats, which may be made available to other countries, including the roster of experts for the Convention on Biological Diversity;

(e) Development of databases and facilitated access to such information for all countries including repatriation of information to source countries, through, *inter alia*, the clearing-house mechanism;

(f) Development of systems for reporting new invasions of alien species and the spread of alien species into new areas;

29. *Requests* the Executive Secretary to take appropriate actions to ensure that invasive alien species considerations are fully integrated into thematic work programmes of the Convention and when reporting on the thematic work programmes to report specifically on how the threats and impacts of invasive alien species will be addressed;

30. *Notes* that, in implementing this decision, Parties, Governments, the Subsidiary Body on Scientific, Technical and Technological Advice, the Executive Secretary and relevant organizations are referred to annex II of the report of the liaison group meeting on invasive alien species; 55/

54/ UNEP/CBD/SBSTTA/INF/6/10.

55/ UNEP/CBD/SBSTTA/6/INF/7.

V. ACTIVITIES AND CAPACITY-BUILDING

31. *Requests* the Executive Secretary to explore means to facilitate capacity enhancement for eradication work on alien species on continents and islands;

32. Given the constraints to implementation of Article 8(h) identified in the assessment of second national reports with respect to cross-cutting issues ^{56/} and *urges* the Executive Secretary to use the clearing-house mechanism to provide an on-line educational programme;

33. *Requests* the Executive Secretary, in collaboration with the Global Invasive Species Programme, the Global Environment Facility, the Food and Agriculture Organization of the United Nations and the Organisation for Economic Co-operation and Development, to identify a mechanism(s) for providing Parties with access to financial support for rapidly responding to new incursions by alien species, and report to the Conference of the Parties at its seventh meeting on progress to establish that mechanism(s);

34. *Urges* bilateral donors and other funding sources to provide, as an urgent priority funding for the development and implementation, at national and regional levels, of the invasive alien species strategies and action plans called for in paragraph 6 of decision V/8 and with a particular priority for those strategies and actions related to geographically and evolutionarily isolated ecosystems, and to developing countries and countries with economies in transition, paying particular attention to the needs of the least developed countries and small island developing States, including needs related to capacity-building.

Annex

GUIDING PRINCIPLES FOR THE PREVENTION, INTRODUCTION AND MITIGATION OF IMPACTS OF ALIEN SPECIES THAT THREATEN ECOSYSTEMS, HABITATS OR SPECIES

Introduction

This document provides all Governments and organizations with guidance for developing effective strategies to minimize the spread and impact of invasive alien species. While each country faces unique challenges and will need to develop context-specific solutions, the Guiding Principles give governments clear direction and a set of goals to aim toward. The extent to which these Guiding Principles can be implemented ultimately depends on available resources. Their purpose is to assist governments to combat invasive alien species as an integral component of conservation and economic development. Because these 15 principles are non-binding, they can be more readily amended and expanded through the Convention on Biological Diversity's processes as we learn more about this problem and its effective solutions.

According to Article 3 of the Convention on Biological Diversity, States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.

^{56/} UNEP/CBD/COP/6/INF/10.

It should be noted that in the Guiding Principles below, the terms listed in footnote 57 are used. ^{57/}

Also, while applying these Guiding Principles, due consideration must be given to the fact that ecosystems are dynamic over time and so the natural distribution of species might vary without involvement of a human agent.

A. *General*

Guiding principle 1: Precautionary approach

Given the unpredictability of the pathways and impacts on biological diversity of invasive alien species, efforts to identify and prevent unintentional introductions as well as decisions concerning intentional introductions should be based on the precautionary approach, in particular with reference to risk analysis, in accordance with the guiding principles below. The precautionary approach is that set forth in principle 15 of the 1992 Rio Declaration on Environment and Development and in the preamble of the Convention on Biological Diversity.

The precautionary approach should also be applied when considering eradication, containment and control measures in relation to alien species that have become established. Lack of scientific certainty about the various implications of an invasion should not be used as a reason for postponing or failing to take appropriate eradication, containment and control measures.

Guiding principle 2: Three-stage hierarchical approach

1. Prevention is generally far more cost-effective and environmentally desirable than measures taken following introduction and establishment of an invasive alien species.
2. Priority should be given to preventing the introduction of invasive alien species, between and within States. If an invasive alien species has been introduced, early detection and rapid action are crucial to prevent its establishment. The preferred response is often to eradicate the organisms as soon as possible (principle 13). In the event that eradication is not feasible or resources are not available for its eradication, containment (principle 14) and long-term control measures (principle 15) should be implemented. Any examination of benefits and costs (environmental, economic and social) should be done on a long-term basis.

^{57/} The following definitions are used: (i) "alien species" refers to a species, subspecies or lower taxon, introduced outside its natural past or present distribution; includes any part, gametes, seeds, eggs, or propagules of such species that might survive and subsequently reproduce; (ii) "invasive alien species" means an alien species whose introduction and/or spread threaten biological diversity (For the purposes of the present guiding principles, the term "invasive alien species" shall be deemed the same as "alien invasive species" in decision V/8 of the Conference of the Parties to the Convention on Biological Diversity.); (iii) "introduction" refers to the movement by human agency, indirect or direct, of an alien species outside of its natural range (past or present). This movement can be either within a country or between countries or areas beyond national jurisdiction; (iv) "intentional introduction" refers to the deliberate movement and/or release by humans of an alien species outside its natural range ; (v) "unintentional introduction" refers to all other introductions which are not intentional, and (vi) "establishment" refers to the process of an alien species in a new habitat successfully producing viable offspring with the likelihood of continued survival (vii) "risk analysis" refers to: (1) the assessment of the consequences of the introduction and of the likelihood of establishment of an alien species using science-based information (i.e., risk assessment), and (2) to the identification of measures that can be implemented to reduce or manage these risks (i.e., risk management), taking into account socio-economic and cultural considerations.

Guiding principle 3: Ecosystem approach

Measures to deal with invasive alien species should, as appropriate, be based on the ecosystem approach, as described in decision V/6 of the Conference of the Parties.

Guiding principle 4: The role of States

1. In the context of invasive alien species, States should recognize the risk that activities within their jurisdiction or control may pose to other States as a potential source of invasive alien species, and should take appropriate individual and cooperative actions to minimize that risk, including the provision of any available information on invasive behaviour or invasive potential of a species.

2. Examples of such activities include:

(a) The intentional transfer of an invasive alien species to another State (even if it is harmless in the State of origin); and

(b) The intentional introduction of an alien species into their own State if there is a risk of that species subsequently spreading (with or without a human vector) into another State and becoming invasive;

(c) Activities that may lead to unintentional introductions, even where the introduced species is harmless in the state of origin.

3. To help States minimize the spread and impact of invasive alien species, States should identify, as far as possible, species that could become invasive and make such information available to other States.

Guiding principle 5: Research and monitoring

In order to develop an adequate knowledge base to address the problem, it is important that States undertake research on and monitoring of invasive alien species, as appropriate. These efforts should attempt to include a baseline taxonomic study of biodiversity. In addition to these data, monitoring is the key to early detection of new invasive alien species. Monitoring should include both targeted and general surveys, and benefit from the involvement of other sectors, including local communities. Research on an invasive alien species should include a thorough identification of the invasive species and should document: (a) the history and ecology of invasion (origin, pathways and time-period); (b) the biological characteristics of the invasive alien species; and (c) the associated impacts at the ecosystem, species and genetic level and also social and economic impacts, and how they change over time.

Guiding principle 6: Education and public awareness

Raising the public's awareness of the invasive alien species is crucial to the successful management of invasive alien species. Therefore, it is important that States should promote education and public awareness of the causes of invasion and the risks associated with the introduction of alien species. When mitigation measures are required, education and public-awareness-oriented programmes should be set in motion so as to engage local communities and appropriate sector groups in support of such measures.

B. Prevention

Guiding principle 7: Border control and quarantine measures

1. States should implement border controls and quarantine measures for alien species that are or could become invasive to ensure that:
 - (a) Intentional introductions of alien species are subject to appropriate authorization (principle 10);
 - (b) Unintentional or unauthorized introductions of alien species are minimized.
2. States should consider putting in place appropriate measures to control introductions of invasive alien species within the State according to national legislation and policies where they exist.
3. These measures should be based on a risk analysis of the threats posed by alien species and their potential pathways of entry. Existing appropriate governmental agencies or authorities should be strengthened and broadened as necessary, and staff should be properly trained to implement these measures. Early detection systems and regional and international coordination are essential to prevention.

Guiding principle 8: Exchange of information

1. States should assist in the development of an inventory and synthesis of relevant databases, including taxonomic and specimen databases, and the development of information systems and an interoperable distributed network of databases for compilation and dissemination of information on alien species for use in the context of any prevention, introduction, monitoring and mitigation activities. This information should include incident lists, potential threats to neighbouring countries, information on taxonomy, ecology and genetics of invasive alien species and on control methods, whenever available. The wide dissemination of this information, as well as national, regional and international guidelines, procedures and recommendations such as those being compiled by the Global Invasive Species Programme should also be facilitated through, *inter alia*, the clearing-house mechanism of the Convention on Biological Diversity.
2. The States should provide all relevant information on their specific import requirements for alien species, in particular those that have already been identified as invasive, and make this information available to other States.

Guiding principle 9: Cooperation, including capacity-building

Depending on the situation, a State's response might be purely internal (within the country), or may require a cooperative effort between two or more countries. Such efforts may include:

- (a) Programmes developed to share information on invasive alien species, their potential uneasiness and invasion pathways, with a particular emphasis on cooperation among neighbouring countries, between trading partners, and among countries with similar ecosystems and histories of invasion. Particular attention should be paid where trading partners have similar environments;
- (b) Agreements between countries, on a bilateral or multilateral basis, should be developed and used to regulate trade in certain alien species, with a focus on particularly damaging invasive species;

(c) Support for capacity-building programmes for States that lack the expertise and resources, including financial, to assess and reduce the risks and to mitigate the effects when introduction and establishment of alien species has taken place. Such capacity-building may involve technology transfer and the development of training programmes;

(d) Cooperative research efforts and funding efforts toward the identification, prevention, early detection, monitoring and control of invasive alien species.

C. Introduction of species

Guiding principle 10: Intentional introduction

1. No first-time intentional introduction or subsequent introductions of an alien species already invasive or potentially invasive within a country should take place without prior authorization from a competent authority of the recipient State(s). An appropriate risk analysis, which may include an environmental impact assessment, should be carried out as part of the evaluation process before coming to a decision on whether or not to authorize a proposed introduction to the country or to new ecological regions within a country. States should make all efforts to permit only those species that are unlikely to threaten biological diversity. The burden of proof that a proposed introduction is unlikely to threaten biological diversity should be with the proposer of the introduction or be assigned as appropriate by the recipient State. Authorization of an introduction may, where appropriate, be accompanied by conditions (e.g., preparation of a mitigation plan, monitoring procedures, payment for assessment and management, or containment requirements).

2. Decisions concerning intentional introductions should be based on the precautionary approach, including within a risk analysis framework, set forth in principle 15 of the 1992 Rio Declaration on Environment and Development, and the preamble of the Convention on Biological Diversity. Where there is a threat of reduction or loss of biological diversity, lack of sufficient scientific certainty and knowledge regarding an alien species should not prevent a competent authority from taking a decision with regard to the intentional introduction of such alien species to prevent the spread and adverse impact of invasive alien species.

Guiding principle 11: Unintentional introductions

1. All States should have in place provisions to address unintentional introductions (or intentional introductions that have become established and invasive). These could include statutory and regulatory measures and establishment or strengthening of institutions and agencies with appropriate responsibilities. Operational resources should be sufficient to allow for rapid and effective action.

2. Common pathways leading to unintentional introductions need to be identified and appropriate provisions to minimize such introductions should be in place. Sectoral activities, such as fisheries, agriculture, forestry, horticulture, shipping (including the discharge of ballast waters), ground and air transportation, construction projects, landscaping, aquaculture including ornamental aquaculture, tourism, the pet industry and game-farming, are often pathways for unintentional introductions. Environmental impact assessment of such activities should address the risk of unintentional introduction of invasive alien species. Wherever appropriate, a risk analysis of the unintentional introduction of invasive alien species should be conducted for these pathways.

D. Mitigation of impacts

Guiding principle 12: Mitigation of impacts

Once the establishment of an invasive alien species has been detected, States, individually and cooperatively, should take appropriate steps such as eradication, containment and control, to mitigate adverse effects. Techniques used for eradication, containment or control should be safe to humans, the environment and agriculture as well as ethically acceptable to stakeholders in the areas affected by the invasive alien species. Mitigation measures should take place in the earliest possible stage of invasion, on the basis of the precautionary approach. Consistent with national policy or legislation, an individual or entity responsible for the introduction of invasive alien species should bear the costs of control measures and biological diversity restoration where it is established that they failed to comply with the national laws and regulations. Hence, early detection of new introductions of potentially or known invasive alien species is important, and needs to be combined with the capacity to take rapid follow-up action.

Guiding principle 13: Eradication

Where it is feasible, eradication is often the best course of action to deal with the introduction and establishment of invasive alien species. The best opportunity for eradicating invasive alien species is in the early stages of invasion, when populations are small and localized; hence, early detection systems focused on high-risk entry points can be critically useful while post-eradication monitoring may be necessary. Community support is often essential to achieve success in eradication work, and is particularly effective when developed through consultation. Consideration should also be given to secondary effects on biological diversity.

Guiding principle 14: Containment

When eradication is not appropriate, limiting the spread (containment) of invasive alien species is often an appropriate strategy in cases where the range of the organisms or of a population is small enough to make such efforts feasible. Regular monitoring is essential and needs to be linked with quick action to eradicate any new outbreaks.

Guiding principle 15: Control

Control measures should focus on reducing the damage caused as well as reducing the number of the invasive alien species. Effective control will often rely on a range of integrated management techniques, including mechanical control, chemical control, biological control and habitat management, implemented according to existing national regulations and international codes.