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Invasive species in the Pacific: A regional strategy

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Invasive Species Strategy for the Pacific Islands Region

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1. Introduction

Pacific island countries are particularly vulnerable to the effects of invasive species. After habitat destruction or modification, invasive species are responsible for more species extinctions than any other cause. Further, the rate of extinction of native species has been higher on islands than anywhere else in the world. Invasive species have also degraded native ecosystems.

Mitigation of the effects of invasive species on bio-diversity is best coordinated regionally. In response to this need, the New Zealand government funded an Invasive Species Programme to be managed by SPREP for three years, starting from September 1998, with the intention of extending funding for another three years after 2001. One of the objectives of this programme (agreed to by SPREP member countries during the SPREP Meeting in 1998) was to develop a strategy for invasive species for use by all countries and relevant agencies in the region. Thus this strategy is intended for use until 2004.

To facilitate the production of the strategy, a regional workshop was held 26 September–1 October 1999 in Nadi, Fiji, funded mainly by AusAID, with some extra support from the United States Government. It aimed to draw together the pressing invasive species issues being experienced in South Pacific countries and to derive strategic solutions.

All SPREP member countries and territories and non-government organisations working in the Pacific and with a known interest in invasive species were invited to send a delegate to the regional workshop. Prior to the workshop, several technical reviews were commissioned to describe the status of terrestrial and freshwater invasive species in the South Pacific. The reviews, which were restricted to those invasive species threatening the conservation of native species and natural ecosystems, were compiled into a summary issues and options paper, which was circulated to all workshop delegates and appears in this publication.

The workshop restricted itself to invasive species issues related to conservation of native biodiversity on land and freshwater habitats, to the SPREP member countries, and to the development of strategic responses. The strategy has been produced exactly as written by the workshop except for some formatting and editing of this section and the acknowledgements.

The strategy will be used immediately for implementing the Regional Invasive Species Programme (and other programmes administered by SPREP). It will also be useful for other invasive species initiatives in the Pacific region, or indeed, for other regions in the world, especially those mainly composed of islands.

2. Invasive species issues in the Pacific

The following is a summary of the generic issues underpinning the invasive species problems in the Pacific region. They are described in greater detail in Annex 1. Fundamental to these problems in the Pacific island countries is the shortage and inaccessibility of scientific information on basic biology for assessment of risks and management of invasive species. A related problem is the lack of awareness on the impacts of invasive species on biodiversity. There are insufficient networking mechanisms established for the dissemination of information to the relevant decision-makers and government officials. Coordination and collaboration within the region on the management of invasive species threats to bio-diversity is not yet well developed.

Existing legislation, regulations and cross-sectoral policies in Pacific island countries and territories do not fully address the impact of invasive species on biodiversity. Enforcement of these legislative instruments is sometimes inadequate.

There is a shortage of technically trained personnel in Pacific island countries and there are inadequate quarantine and risk assessment facilities. There is in-sufficient funding for training of personnel, establishment of infrastructure, development of risk assessment procedures, and management and research on invasive species.

3. Strategic directions

3.1 Aim of the regional strategy

To promote the efforts of Pacific island countries and territories in protecting and maintaining the rich and fragile natural heritage of the Pacific islands from the impacts of invasive species through cooperative efforts to:

- Develop and maintain an effective, coordinated network of information and technical expertise.
- Prevent the introduction of new invasive species.
- Reduce the impact of existing invasive species.
- Raise awareness.
- Build the capacity required to manage the threats posed by invasive species.

3.2 Components of the regional strategy

Strategy 1: Information

Strengthen both basic and applied research on invasive species by identifying high-priority research needs, and encouraging work on high-priority problems. Establish biological surveys for all member countries and territories. Emphasise prevention and early detection, and evaluation of exotic species that are present or are potential problems. Establish long-term monitoring of high-risk native areas for incursions of recognised invasive species.

Strengthen linkages between Pacific island countries and scientific institutions, sources of technical and research assistance or other bodies of information. Share information regionally through the establishment of mutually accessible databases and web sites.
Develop a regional clearinghouse for information on invasive species that is easily accessible, perhaps through a web-based information system.

Strategy 2: Awareness

Raise public awareness of invasive species threats to conservation.

Work with economic interests (operating in agriculture, aquaculture, forestry, horticulture, public health, shipping, military, some biocontrol operations, and genetically modified organisms technology) to raise their awareness of risks to biodiversity of invasive species. Represent invasive species issues at regional and national meetings, and with funding organizations in order to increase awareness.

Develop awareness of the accidental movement of invasive species into new relatively pest-free areas, especially their inter-island transfer within one country.

Promote awareness of the inter-island transfer problem by education programmes in identification, establishing networks (national and regional), and early warning databases.

Develop awareness of the dangers of accidental introduction of invasive species to biodiversity. For example by the movement of machines and in particular the inter-island transfer of pests, especially from invaded areas to new or pest-free areas. The establishment of an effective communication network and a manual of existing and potential invasive species may assist with identification, behaviour, where to look, how to exclude, eradicate and control them.

Further communication of the problem can be achieved by networking, international linkages, national working groups, regional expert groups, and an early-warning database.

Strategy 3: Infrastructure

At the national and regional level, develop ongoing training programmes in the areas of species identification, field detection, quarantine inspections, monitoring and the like, and a network of resources that allow for the transfer of information to appropriate field workers.

Develop and upgrade regional and national facilities such as reference collections and specialised facilities for border control.

Promote and strengthen initiatives that facilitate the use and sharing of existing regional facilities by government agencies in-country and between countries (e.g. South Pacific Regional Herbarium, Bishop Museum collections, quarantine facilities).

Strategy 4: Protocols

Develop and strengthen protocols and procedures – particularly:

• Develop and strengthen procedures to process applications for species introduction to assess their potential impact on native species or ecosystems.
• Promote the use of existing protocols for pest risk assessment, modified to accommodate Pacific is-land countries and territories, before pests are introduced into a country.
• Develop early-warning and response systems for invasive species.
• Develop guidelines for pest management that consider the full biological and conservation consequences of control or eradication operations, including restoration.
• Collaborate with other organisations to develop appropriate policies to address the potential conservation/environmental risks of genetically modified organisms.

Strategy 5: Legislation

Survey existing environmental and other relevant legislation in each Pacific island country to deter-mine its adequacy for protecting biodiversity from the threats of invasive species. Develop model legislation which includes provision for mitigating these threats and which makes use of principles developed for invasive species by other organisations (such as IUCN) and countries. Produce country-specific recommendations for modifying or developing new legislation which adequately regulates the following:

- importation of all living organisms,
- surveillance for new incursions,
- risk analysis of import applications,
- assessment of environmental risks prior to introduction of genetically modified organisms,
- quarantine procedures,
- export of pests,
- movements of species between islands,
- control or eradication of invasive species,
- monitoring.

Strategy 6: Funding

Develop long-term external funding mechanisms that will ensure Pacific island countries are able to undertake work for the management of threats from invasive species.

Make representation to government leaders to improve long-term funding to address the pressing issues of invasive species of conservation concern in the region. Demonstrate the extent of the invasive species problem in the region, cast in economic cost/ benefit terms and the necessity of taking action. Secure support for invasive species issues among local communities (including village councils) as well as at national, regional and political levels (e.g. South Pacific Forum). In order to make these representations for more funding, determine and develop a regional resource of materials, in easy-to-read language, that identifies the magnitude of the invasive species problems in the region. Needed information includes: the area of natural ecosystems degraded by invasive species, their conservation impact, and the consequences of not taking action.

Maximise funding self-sufficiency by promoting full participation of local communities in project development management and implementation to ensure a long-term local commitment.

Promote invasive species as a criterion in national, regional, and international disaster management plans.

Strategy 7: Linkages

Establish and maintain a network among Pacific is-land countries and territories and organisations that improves communication, cooperation and information sharing, and that maximises the effectiveness of invasive species work in the Pacific. Specific actions include: development of common standards of border control, staff exchange programmes, nomination of an invasive species position within appropriate organisations, and establishment of national working groups and a regional expert group.

Regional participation is needed in the development of international standards and programmes that govern the movement of invasive species in commerce (e.g. Convention on Biological Diversity, International Plant Protection Convention, World Animal Health Organization, and others).

4. Concluding comments

The workshop confirmed the need for a regional invasive species strategy as a platform for obtaining funds for in-country projects. The country issues have been successfully tabled for those countries that participated (see Annex 1). The regional invasive species strategy may now be used as a vehicle to:

(1) seek funds from international agencies and do-nor countries, (2) reinforce and guide national biodiversity management plans (such as the National Biodiversity Strategic Action Plans), (3) complement other regional invasive species programmes, especially the United States of America's Invasive Species Management Plan, and (4) guide the Regional Invasive Species Programme administered by the South Pacific Regional Environment Programme in writing its annual workplans.

Finally, the workshop identified at least one regional generic need: a marine regional invasive species strategy and implementation plan which, together with the terrestrial regional species plan, may include wetlands habitats such as intertidal zones (e.g. man-grove forests and estuaries).

5. Acknowledgements

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Annex 1. List of invasive species issues developed at the workshop

1. Information

• Lack of information on the basic biology (including distribution) of many invasive species and of the best control methods – particularly biological control methods. Part of this lack of information includes a lack of accessibility and coordination of information within the region and outside the region.
• Lack of monitoring of high-risk areas for invasive species (vulnerable sites).

2. Public awareness

• Lack of understanding, from the public, politicians, and other sectors, of the major threats posed by pests to conservation assets. This results in a lack of public commitment for both biodiversity protection and management of invasive pests.
• Competition with conservation interests from agriculture, aquaculture, forestry, horticulture, some biocontrol operations, public health considerations, traditional practices, shipping, military and genetically modified organisms technology.
• Accidental introduction of invasive species: by movement of machines, boats and materials from pest-invaded areas to pest-free areas, trampers, animals, and smuggling operations.

3. Lack of infrastructure

• Lack (quality and quantity) of technically trained personnel on the ground, and of species identification, field detection, quarantine inspections, control operations, monitoring, and research. Lack of mechanisms for transfer of information to field workers.
• Inadequate facilities to house confiscated species, fumigate, and implement adequate border control (amongst other things), but no support for upgrading some regional facilities and thus these facilities do not reach their full potential.

4. Protocols

• Lack of a system to warn of impending threats.
• Lack of adequate pest risk assessment procedure which is accurate and can cope with all variables.
• Intractable problem of inability to predict invasiveness (risk assessment) of new species, including genetically modified organisms, at the border, or as a target for eradication or for control.
• Inadequate quarantine procedures, which are too cumbersome, and are not fully implemented (inadequate checks). Lack of collaboration in some instances (between different agencies/ countries) and inefficient use of limited resources in some Pacific island countries and territories. No protocol to ensure detection/assessment of organisms/ commodities being brought into a country, including illegally, and lack of emphasis on (recognition of) conservation threats at quarantine.
• No protocols to determine the priorities for eradication and control.
• Lack of early detection and evaluation action on new pest incursions may lead to bigger problems later.
• Lack of appropriate processes to implement legislation.
• Inter-island movement of pests is not controlled due to a lack of protocols and regulations.
• No control of the export of pests.
• Lack of knowledge or planning for the full biological and conservation consequences of control operations.
• Poorly defined or no standards of phytosanitary measures, or pest risk analysis.

5. Legislation

• Absence of, or inadequate or ineffective legislation to protect conservation values.
• Lack of legislation that regulates exports and imports against the risks of invasive species.
• Not enough enforcement of legislation, for various reasons.

6. Inadequate funding

• Lack of funding for technical work such as re-search on control methods, taxonomy (identification), impact of invasive species, survey work, monitoring, eradication or control.
• Inadequate distribution of funding siphoned off by other activities (other than invasive species) within the country or by other countries.
• Projects dependent on outside sources of funding.
• Poor mechanisms to ensure adequate and timely funding, such as not coinciding with the timing of the life cycle of the invasive species.
• Not enough funding for resources and personnel or the mechanism in place for these people to set priorities to maximise the benefits for conservation.

7. Linkages

• Pacific island countries and territories and regional organisations do not yet share enough information or consult with each other, e.g. sharing information and making agreements to set common standards for border control.
• Too little cooperation between quarantine officers and the public.
• Difficulties cooperating across international borders due to disputes and differing conservation values.

Annex 2. List of participants at the Regional Invasive Species Work-shop, Nadi, Fiji, 26 September–1 October 1999

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