

Bioinvasion and Global Environmental Governance: The Transnational Policy Network on Invasive Alien Species

Palau's Actions on IAS

Description³

Independent from UN trusteeship since Oct. 1st, 1994, Palau is one of the world's youngest and smallest nations (it is populated by scarcely more than 20,000 people). Palau, a series of islands about 459 square km in the North Pacific Ocean, southeast of the Philippines and northeast of Indonesia. Palau consists of eight major islands as well as approximately 250 other minor islands. The country is primarily situated over corral islands on the edge of a large barrier reef. Palau's coral reefs have both high species diversity and high habitat diversity. Palau's reefs contain more than 350 species of hard corals, 200 species of soft corals, 300 species of sponges, 1,300 species of reef fish, and endangered species such as the dugong, saltwater crocodile, sea turtles, and giant clams.⁹

It is a democratic presidential republic, whose primary industries are tourism, fishing, and subsistence farming. In 2005, President Tommy E. Remengesau, Jr. took a leading role in the Micronesia challenge to conserve 30 percent of near shore coastal waters and 20 percent of forest land by 2020. In terms of trade, Palau's main partners are the United States, Japan, Singapore, and South Korea. Its main imports consist of machinery, fuels, metals, and foods while it exports seafood and garments.

Overview of Biodiversity

- [CBD Country Profile](#)
- [The Nature Conservancy: Coral Reef Case Study](#)
- [Pacific Biodiversity Information Forum: Country Data](#)

Legislation relating to IAS

- Palau National Code Title 25, Chapter 20 "regulates certain aspects of the international trade in plants and animals in order to protect Palau against the introduction and further dissemination of injurious insects, pests, and diseases into and within the Republic. With the prior approval of the President, the Chief of the Division of Agriculture shall issue plant and animal quarantines and Regulations relating to the administration and enforcement of the controls established by this Chapter. Letters and memoranda may be issued from time to time by the Chief of the Division of Agriculture and the President relating to the administration and enforcement of such quarantines and regulations. The Chief of the Division of Agriculture shall administer the provisions of the plant and animal quarantines and regulations. Agricultural quarantine inspectors may be appointed by the President, and shall, under the direction of the Chief of the Division of Agriculture, enforce the provisions of the plant and animal quarantines and Regulations."²
- [Palau National Invasive Species Strategy](#) (2004) (see Table 1 for details)

Government Agencies/Departments/Ministries dealing with IAS

- National Invasive Species Committee(NISC) Members are composed of different government departments:²
 - Office of Environmental Response and Coordination
 - Ministry of Natural Resources, Environment and Tourism
 - Palau Environmental Quality Protection Board
 - Ministry of Justice
 - [Ministry of Health](#)
 - Ministry of Finance
 - [Palau Conservation Society](#)
- Bureau of Agriculture¹
 - Weed Control Officer¹
- Bureau of Marine Resources¹

Major Invasive Alien Species⁵

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|---|---|
| Acacia confusa (tree, shrub) | Melia azedarach (tree, shrub) |
| Achatina fulica (mollusc) | Merremia peltata ⁶ |
| Antigonon leptopus (vine, climber) | Mikania micrantha (plant) ¹ |
| Arundo donax (grass) | Mimosa diplotricha (vine, climber, shrub) |
| Bidens pilosa (herb) | Monomorium destructor (insect) |
| Bufo marinus (amphibian) | Oryctes rhinoceros (insect) |
| Canna indica (herb) | Panicum repens (grass) |
| Clidemia hirta (shrub) | Passiflora foetida (vine, climber) |
| Cyperus rotundus (sedge) | Pheidole megacephala (insect) |
| Dioscorea bulbifera (herb, vine, climber) | Platydemus manokwari (flatworm) |
| Eichhornia crassipes (aquatic plant) | Psidium guajava (tree, shrub) |
| Elaeis guineensis (palm) | Rattus norvegicus (mammal) |
| Eudendrium carneum (aquatic plant) ¹ | Spathodea campanulata (tree) ⁶ |
| Ipomoea aquatica (vine, climber) | Sphagneticola trilobata (herb) |
| Imperata cylindrical (grass) ¹ | Tabebuia heterophylla (tree) |
| Lantana camara (shrub) | Tradescantia spathacea (herb) |
| Macaca fascicularis (mammal) | |

Native Species Exported/Introduced to Non-Native Environments⁵

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|---|--|
| Alternanthera sessilis (herb) | Merremia peltata (vine, climber) |
| Dioscorea bulbifera (herb, vine, climber) | Pterois volitans (fish) |
| Ischaemum polystachyum (grass) | Varanus indicus (reptile) |
| Lutjanus kasmira (fish) | |

Table 1 Actions to prevent, detect and manage IAS categorized into three themes: biodiversity, human health, and economic

Note: Actions (such as projects, publications and programs) are classified according to the most obvious theme but may also fit into the dimensions of another.

| Theme | Action |
|--------------|--|
| Biodiversity | <ul style="list-style-type: none"> • A national Invasive Species Committee of the Palau Environmental Protection Council has been established to coordinate action on invasive species, and a national policy and strategy has been adopted by the NEPC. In addition to these overall efforts, the Bureau of Agriculture now has a full-time Invasive Weed Control Officer committed to working on invasive plant issues in Palau. There is, however, a major lack of resources and staff to undertake extensive invasive control or prevention programs... Four species of invasive plant currently being eradicated are: <i>Imperata cylindrical</i>, <i>Mikania micrantha</i>, <i>Scheffera actinophylla</i>, and <i>Spathodea campanulata</i>. All of these have potential to cause serious damage to forest and savanna environments and habitats in Palau, and ongoing control efforts will be needed to fully eliminate them and prevent re-introduction.¹ • According to Palau's National Biodiversity Strategy and Action Plan, at present (date unknown) more information is available on invasive weeds than on other invasive species in Palau, and efforts to combat invasive weeds are more advanced. A recent report on invasive weeds of environmental concern in Palau found:¹ <ul style="list-style-type: none"> - 4 species that are presently subjects of eradication programs; - 53 species that are in Palau that are known to be invasive or potentially invasive; - 95 species that are invasive or weedy elsewhere and are common, weedy or cultivated in Palau; - 15 native species (or Micronesian introductions) that exhibit aggressive behavior; and - 249 species that are invasive elsewhere in similar ecosystems but are not currently known in Palau (potentially invasive). • Any previously used mechanical equipment must be thoroughly cleaned prior to entry into Palau. Steam cleaning does not offer a complete guarantee that no seeds will survive.⁶ • Palau National Invasive Species Strategy (2004) The purpose of the National Invasive Species Strategy is to minimize the harmful effects of invasive species on the environment and society of Palau through coordination of efforts at all levels of Palauan society, and to facilitate cooperation with neighboring countries and the Pacific Islands region to prevent the movement of invasive species. The National Invasive Species Strategy is based on the recognition and acceptance of four principles (adapted from the Australian National Weeds Strategy):² <ol style="list-style-type: none"> 1. Management of invasive species is an essential and integral part |

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|--------------|---|
| | <p>of the sustainable management of natural resources and the environment, and requires an integrated, multidisciplinary approach.</p> <ol style="list-style-type: none"> 2. Prevention and early intervention are the most cost effective techniques that can be utilized against invasive species. 3. Successful management of invasive species will require a coordinated national approach which involves all levels of government in establishing appropriate legislative, educational, and coordination frameworks in partnership with private business, landholders, and communities. 4. The primary responsibility for management of invasive species lies with land owners and land managers, but collective action is necessary where the problem is beyond the capacity of the individual land owner/manager to address.² <ul style="list-style-type: none"> • National Invasive Species Committee Action Plan 2007 - 2010 (2007) For each of the 5 goals of the Palau National Invasive Species Strategy the NISC has developed several actions. Actions range from developing a database of IAS for harmonizing IAS activities across the state to building social marketing skill in workshops for increasing public awareness. • Invasive species do not recognise Marine Protected Area (MPA) boundaries, yet very little is done to address the problem of alien invasive species in marine protected area planning and management. To help address this issue in the western Pacific, in July 2007, IUCN co-hosted a marine invasive species survey and training workshop with the Palau National Invasive Species Committee (NISC) and in collaboration with the Australian Maritime College.⁷ • The Biodiversity Planning for Palau's Protected Areas Network (2007) lists invasive species as a threat or stress to many protected areas but also notes that in many of these areas the impacts and distribution of invasives have not been properly studied.¹⁰ |
| Human health | <ul style="list-style-type: none"> • Weed seeds are very hardy and can even survive being eaten by livestock. Therefore, any transboundary movement of livestock must require that the animal be fed only weed-free feed for several days prior to importation.⁶ |
| Economic | <ul style="list-style-type: none"> • Operation Counter Invasion, initiated in August 2006, is a one-year project initiated to implement the Palau National Invasive Species Strategy. Operation Counter-Invasion includes several activities including: the creation and staffing of a National Invasive Species Coordinator; creating and equipping a Quarantine Inspection Room at the Palau International Airport and partial funding for a baseline survey of marine invasive species. In addition, the project will fund 3 key invasive species projects: public awareness of an invasive anemone in the world-famous Jellyfish Lake, eradication of feral pigs from Ngerchur Island to prevent damage to important turtle nesting beaches, and printing of an invasive species calendar.⁸ |

Table 2 Action on IAS in cooperation with other countries

| Agreement/ Organization | Countries/ Member | Action |
|-------------------------------|---|----------------------|
| MOU for Research ⁴ | US Department of Agriculture, Forest Service, Institute of Pacific Islands Forestry | See case study below |

Case Studies

[Report to the Republic of Palau on Invasive Plant Species of Environmental Concern](#)⁴

James C. Space, Barbara M. Waterhouse, Joel E. Miles, Joseph Tiobech and Kashgar Rengulbai
[Pacific Islands Ecosystems at Risk Project](#)
 1 May 2003

The Republic of Palau requested assistance from the US Department of Agriculture, Forest Service, Institute of Pacific Islands Forestry, to conduct a survey of invasive plant species of environmental concern. The survey was carried out in December 2002 and January 2003. The objectives of the survey were to: (1) identify plant species presently causing problems to natural and semi-natural ecosystems; (2) identify species that, even though they are not presently a major problem, could spread more widely or are known to be problem species elsewhere; (3) confirm the absence of species that are a problem elsewhere and, if introduced to Palau, could be a threat there; and (4) make appropriate recommendations.

References

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