[country] National Invasive Species Strategy and Action Plan

[year–year]

[Country logos here]

Foreword

[to be provided by the respective Government as part of fourth draft]

Acknowledgements

[to be provided by the respective Government as part of fourth draft]

We acknowledge the support of all the people and organisations involved in the review and endorsement of this document.

[include names of people and organisations here]

This plan was based on the National Invasive Species Strategy and Action Plan template developed by the SPREP Pacific Regional Invasive Species Management Support Service (PRISMSS). The [name of country] [revised] NISSAP was drafted by [name] of [organisation] and [name] of [organisation], assisted by [name], [country]’s National Invasive Species Coordinator, [name] of [organisation], [name] of SPREP, and PRISMSS partners.

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Key Concepts

[add country-specific concepts as needed]

| **Concept** | **Description** |
| --- | --- |
| Biocontrol or biological control | Controlling an invasive species by introducing a natural enemy, such as an insect or fungus, that specifically attacks the target species and does not attack other native or economically important species. |
| Biodiversity | The variety of living organisms on Earth, including the variability within and between species and within and between ecosystems. |
| Biosecurity | Preventing the spread of invasive species across international or internal borders. |
| Containment | Keeping an invasive or pest species within a defined area. |
| Control | Reducing the population of an invasive species (numbers and distribution). |
| Ecosystem | Plants, animals, and other organisms and the physical environment in which they live and interact with each other. Types of ecosystems with distinct characteristics include lagoons, forests, and grasslands. |
| Ecosystem services | All the benefits to people provided by the natural environment and from healthy ecosystems. Some of the benefits of healthy ecosystem function include natural pollination of crops, clean air and water, nutrient cycling, and food productivity. Ecosystem services are usually referred to within four categories: regulating, provisioning, cultural, and supporting services. |
| Effective management | Achieving operational success (such as reducing the pest to defined levels) and desired outcomes (such as reduced impact and recovery of impacted values) of invasive species management. |
| Emergency responseIncursion responseEarly Detection and Rapid Response (EDRR) | The differences between the terms emergency response, incursion response and EDRR might not be obvious:* Emergency response is a general term that describes an event that requires some immediate action to decrease the impact of the event. Ideally, that event has been planned for, but it is not exactly predictable, such as where a cyclone might make landfall.
* Incursion response is an emergency response where the event is the arrival of a harmful pest or invasive species.
* Early detection and rapid response plans also target invasive species or pests. EDRR requires similar actions as for emergency or incursion response, but also includes prioritisation, surveillance (for early detection) and being actively prepared. Active preparedness is crucially important to acknowledge in the Pacific islands because remote locations and lack of locally available treatment products slow the ability to respond rapidly.
 |
| Emergency response plan | When targeting pests and diseases, usually referred to as an incursion response plan. An incursion response plan is an emergency response plan to deal with a newly detected invasive species, plant or animal disease or pest. |
| Endemic species | A native species that naturally occurs confined to a single specific country or area. Indigenous (native) species occur naturally in one or more places. |
| Environmental Impact Assessment | Evaluates the impact of development and other activities on the environment and puts in place actions to mitigate these environmental impacts. |
| Environmental and social impact assessment | In addition to assessing environmental impact, an ESIA evaluates potential impacts to people and puts in place mitigation actions. |
| Eradication | The removal of every individual of an invasive species from a specific place. Eradication is only successful if every individual is removed. |
| Introduced species | Plants, animals, and other organisms taken beyond their natural range by people, deliberately or unintentionally. |
| Invasive species | Introduced species that become destructive to the environment or human interests; can also include some native species that proliferate and become destructive following environmental changes caused by human activities. |
| Kaupule | Established on each island of Tuvalu, the function of the council is to support and guide the work of the islands and enforce conservation legislations and by-laws. |
| Monitoring | Programmes to detect change, such as change in the distribution of invasive species, the success of management projects, and so on. |
| Movement control | Placing restrictions on the movement of people, animals, plants, and goods to restrict the spread of an invasive species. See also containment. |
| Native species | Plants, animals, and other organisms that occur naturally on an island or in a specified area, having either evolved there or arrived without human intervention. |
| Neonative species | Neonative species are those that have expanded geographically beyond their native range and that now have established populations whose presence is due to human-induced changes of the biophysical environment, but not because of direct movement by human agency, intentional or unintentional, or due to the creation of dispersal corridors such as canals, roads, pipelines, or tunnels. |
| Non-native species | Non-native species are those species that have been introduced by people. Non-native species include both harmful (that is, invasive) and beneficial species. |
| Pacific Regional Invasive Species Support Service  | The Pacific Regional Invasive Species Support Service (PRISMSS) is a collaboration of leading organisations supporting invasive species management for biodiversity protection in the Pacific. PRISMSS currently provides technical support across five regional programmes for the Pacific region: Natural Enemies–Natural Solutions (NENS), Predator Free Pacific (PFP), Protect our Islands (POI), Resilient Ecosystems, Resilient Communities (RERC), War on Weeds (WOW). |
| Pathway | The means by which an invasive species can be transported. |
| Pest | A pest is an animal or plant that harms the environment directly or harms human interests in an environment (agriculture, people’s health, and so on) - whether it is native or introduced.Any animal that is harmful, unwanted, or annoying. |
| Precautionary principle | As applied to invasive species, the precautionary principle holds that where there is not enough information to predict whether a species will become invasive or not, it should be assumed that it will have a damaging impact and action should be taken to stop it establishing or spreading. It should also be assumed based on international experience that any species imported with the intention of being kept in ponds, pens or cages will eventually escape into the wild. |
| Region | When not otherwise qualified, means the Pacific Ocean, with specific reference to the island states and territories members of SPC and SPREP. |
| Risk assessment | Evaluation of the risk that a new introduced species will become invasive with damaging consequences, this evaluation is conducted prior to its introduction. |
| Surveillance | Monitoring to detect the arrival of new invasive species. |
| Threatened species | General term for species ranked by [IUCN](https://www.iucnredlist.org/) as Critically Endangered (CR), Endangered (EN), or Vulnerable (VU). |

Acronyms

[add country-specific acronyms as needed and remove acronyms not used in the document]

| **Acronym** | **Definition** |
| --- | --- |
| CABI | Commonwealth Agricultural Bureaux International |
| CBD | Convention on Biodiversity |
| CI | Conservation International |
| CITES | Convention on International Trade in Endangered Species of Wild Fauna and Flora |
| EDRR | Early Detection and Rapid Response |
| EIA | Environmental Impact Assessment |
| ERP | Emergency Response Plan |
| ESIA | Environmental and Social Impact Assessment |
| GBIF | Global Biodiversity Information Framework |
| GEF | The Global Environment Facility  |
| GEF 6 RIP | Global Environment Facility Regional Invasives Project |
| GISD | Global Invasive Species Database (maintained by ISSG) |
| GISIN | Global Invasive Species Information Network |
| GMO | Genetically Modified Organism |
| HPWRA | Hawai‘i-Pacific Ecosystems at Risk |
| IAS | Invasive Alien Species |
| IBA | Important Bird Area of BirdLife International, recognising key sites for bird conservation |
| IBPoW | Island Biodiversity Programme of Work |
| IPM  | Integrated Pest Management |
| IS | Invasive Species |
| ISSG | Invasive Species Specialist Group of the Species Survival Commission of the IUCN |
| IUCN | International Union for Conservation of Nature |
| KBA | Key Biodiversity Area |
| NBSAP | National Biodiversity Strategy and Action Plan |
| NEA | National Executing Agency of the GEF 6 RIP |
| NENS | Natural Enemies–Natural Solutions |
| NISSAP | National Invasive Species Strategy and Action Plan |
| PestList (PLD) | Pacific islands PestList Database |
| PFP | Predator Free Pacific |
| PIAT | Pacific Invasive Ant Toolkit |
| PIER | Pacific island Ecosystems at Risk – for plant risk assessment information |
| PIF | Pacific islands Forum |
| PILN | Pacific Invasives Learning Network |
| PIP | Pacific Invasives Partnership |
| PIRT | Pacific islands Roundtable for Nature Conservation |
| Plant Pono | Hawai‘i-Pacific Ecosystems at Risk website for plant risk assessment information |
| PMBT | Pacific Marine Biosecurity Toolkit |
| POI | Protect our Islands |
| PoWPA | Programme of Work on Protected Areas |
| PRISMSS | Pacific Regional Invasive Species Support Service |
| RERC | Resilient Ecosystems, Resilient Communities |
| SOPs | Standard Operating Procedures |
| SPC | (Secretariat of the) Pacific Community |
| SPREP | Secretariat of the Pacific Regional Environmental Programme |
| SSC | Species Survival Commission of IUCN |
| UNCCD | United Nations Convention to Combat Desertification |
| UNEP | United Nations Environment Programme |
| UNFCCC | United Nations Framework Convention on Climate Change |
| UNCCD | United Nations Convention to Combat Desertification |
| WDPA  | World Database on Protected Areas |
| WOW | War on Weeds |

Species referred to in the document

[add country-specific species as needed and remove any not used in the document. When referring to species in the NISSAP it is desirable to use all three names at first mention and use the (local) common name preferably from there forward. If there is no local common name or ambiguity, use the English name. The list of species here (in scientific name order) is derived from the Niue, Tonga, Tuvalu and RMI 2022 NISSAPs – use as appropriate and add for other countries as appropriate. Some native pest plants are also included. Cross check presence with ISSG list and update ISSG as needed.]

Species are present in [country] unless otherwise indicated. Presence was initially derived from the ISSG list for [country] and reviewed during the NISSAP creation. The following list is a subset of the ISSG list.

| **English name** | **Common name (local)** | **Scientific name** | **Status** [depends on country] |
| --- | --- | --- | --- |
| MICRO-ORGANISMS |  |  |
| Banana Bunchy Top Virus |  | *Banana Bunchy Top Virus BBTV* | invasive |
| Brown Leaf Spot |  | *Pestalotiopsis palmarum/Bipolaris incurvata* | invasive |
| Breadfruit Soft Rot |  | *Phytophthora palmivora* | invasive |
| Taro Leaf Blight  |  | *Phytophthora colocasiae* | invasive |
| Grey Leaf Spot  |  | *Pseudoepicoccum cocos/Pyricularia grisea* | invasive |
| PLANTS |  |  |  |
| Shell Ginger  |  | *Alpinia zerumbet* | invasive |
| Chain of Love/Coral Vine |  | *Antigonon leptopus* | invasive |
| Mexican Poppy |  | *Argemone mexicana* | invasive |
| Giant Reed |  | *Arundo donax* | invasive |
| Spanish Needle |  | *Bidens alba* | invasive  |
| Spanish Needle |  | *Bidens pilosa* | invasive |
| Buffalo Grass |  | *Brachiaria mutica* | Invasive |
| Panama Rubber Tree |  | *Castilla elastica* | invasive |
| Beach Dodder |  | *Cassytha filiformis* | native |
| Burrgrass  |  | *Cenchrus echinatus* | invasive |
| Siam Weed  |  | *Chromoleana odorata* | invasive |
| Honolulu Rose |  | *Clerodendrum chinense* | invasive |
| Beach Privet |  | *Clerodendrum inerme* | invasive |
| Pagoda Flower |  | *Clerodendrum paniculatum* | invasive |
| Fireworks Tree |  | *Clerodendrum quadriloculare* | invasive |
| Koster's Curse |  | *Clidemia hirta* | invasive |
| Ivy Gourd |  | *Coccinia grandis* | invasive |
| Coconut |  | *Cocos nucifera* | introduced |
| Taro |  | *Colocasia esculenta* | native |
| Benghal Dayflower |  | *Commelina benghalensis* | invasive |
| Dayflower |  | *Commelina diffusa* | invasive |
| Spanish Elm |  | *Cordia alliodora* | invasive |
| A cycad |  | *Cycas seemannii* | native |
| Bermuda Grass |  | *Cynodon dactylon* | invasive |
| Four Finger Grass |  | *Dactyloctenium aegyptium* | invasive |
| Merremia |  | *Decalobanthus peltatus[[1]](#footnote-2)* | invasive |
| Crabgrass  |  | *Digitaria ciliaris* | invasive |
| Air Potato |  | *Dioscorea bulbifera* | invasive |
| Elephant’s Foot |  | *Elephantopus mollis* | invasive |
| Wiregrass  |  | *Eleusine indica* | invasive |
| Money Plant |  | *Epipremnum pinnatum* cv. 'Aureum' (*Scindapsus*) | invasive |
| Lovegrass  |  | *Eragrostis tenella* | invasive |
| Albizzia |  | *Falcataria moluccana* | invasive |
| Tall Fringe Rush |  | *Fimbristylis dichotoma* | introduced |
| Wild Moon Flower |  | *Ipomoea macrantha* | invasive |
| Beach Morning Glory |  | *Ipomoea pes-caprae* | native |
| Lantana |  | *Lantana camara* | invasive |
| Wild Tamarind |  | *Leucaena leucocephala* | invasive |
| Elephant's Ear |  | *Macaranga tanarius* | invasive |
| Hawaiian Wood Rose |  | *Merremia tuberosa* | invasive |
| Mile-a-minute Weed |  | *Mikania micrantha* | invasive |
| Giant Sensitive Plant |  | *Mimosa diplotricha (=Mimosa invisa)* | invasive |
| Sensitive Plant |  | *Mimosa pudica* | invasive |
| Noni |  | *Morinda citrifolia* | native |
| Screwpine |  | *Pandanus tectorius* | native |
| T-grass |  | *Paspalum conjugatum* | invasive |
| Saltgrass  |  | *Paspalum vaginatum* | invasive |
| Stinking passionflower |  | *Passiflora foetida* | invasive |
| False Kava |  | *Piper auritium* | invasive |
| Indian Pluchea |  | *Pluchea indica* | invasive |
| Kudzu |  | *Pueraria montana* | invasive |
| Bunchy Sedge |  | *Pycreus polystachyos* | native |
| Castor Bean |  | *Ricinus communis* | invasive |
| A mangrove |  | *Rhizophora samoensis* | native |
| Coffee Senna |  | *Senna occidentalis* | introduced |
| Arrow-leaf Sida/Teaweed |  | *Sida rhombifolia* | invasive |
| Turkeyberry |  | *Solanum torvum* | invasive |
| African Tulip Tree |  | *Spathodea campanulata* | invasive |
| Singapore Daisy/Wedelia |  | *Sphagneticola trilobata* | invasive |
| Rat-tail Dropseed |  | *Sporobolus fertilis* | invasive |
| Trumpet Flower |  | *Tecoma stans* | invasive |
| Yellow Alder  |  | *Turnera umbifolia* | invasive |
| Beach Pea |  | *Vigna marina* | native |
| ANTS |  |  |  |
| Yellow Crazy Ant |  | *Anoplolepis gracilipes* | invasive |
| Bicoloured Trailing Ant |  | *Monomorium floricola* | invasive |
| Black Crazy Ant |  | *Paratrechina longicornis* | invasive |
| African Big-headed Ant |  | *Pheidole megacephala* | invasive |
| Tropical Fire Ant |  | *Solenopsis geminata* | invasive |
| Red Imported Fire Ant |  | *Solenopsis invicta* | invasive |
| Ghost Ant |  | *Tapinoma melanocephalum* | invasive |
| White-footed House Ant |  | *Technomyrmex albipes* | invasive |
| Fijian White-footed Ant |  | *Technomyrmex vitiensis* | invasive |
| Bicoloured Pennant Ant |  | *Tetramorium bicarinatum* | invasive |
| Similar Groove-headed Ant |  | *Tetramorium simillimum* | invasive |
| Singapore Ant |  | *Trichomyrmex destructor* (*Monomorium destructor)* | invasive |
| Little Fire Ant |  | *Wasmannia auropunctata* | invasive |
| INVERTEBRATES/INSECTS |  |  |
| Giant African Snail |  | *Achatina fulica* | invasive |
| Yellow-fever Mosquito |  | *Aedes aegypti* | invasive |
| Spiralling Whitefly  |  | *AIeurodicus dispersus* | invasive |
| Melon Aphid |  | *Aphis gossypii* | invasive |
| Jumping spider  |  | *Ascyltus audax* | native |
| Coconut Scale |  | *Aspidiotus destructor* | invasive |
| Mango Fruit Fly  |  | *Bactrocera frauenfeldi* | invasive |
| Fruit flies |  | *Bactrocera passiflorae, B. kiriki, B. xanthodes* | invasive |
| Sweet Potato Whitefly |  | *Bemisia tabaci* | invasive |
| Coconut Crab  |  | *Birgus latro*  | native |
| Coconut Hispine Beetle  |  | *Brontispa longissima* | invasive |
| Crab  |  | *Cardisoma carniflex* | native |
| Crab |  | *Cardisoma rotundum* | native |
| Armored Scale |  | *Chrysomphalus dictyospermi* | invasive |
| Circular Scale |  | *Chrysomphalus aonidum* | invasive |
| Brown Soft Scale |  | *Coccus hesperidum* | invasive |
| Hermit crab  |  | *Coenobita* spp. | native |
| Southern House Mosquito |  | *Culex quinquefasciatus* | invasive |
| Kou Leafworm |  | *Ethmia nigroapicella* | invasive |
| Tessellated Scale |  | *Eucalymnatus tesselatus* | invasive |
| Striped Mealybug |  | *Ferrisia virgata* | invasive |
| Mottled crab |  | *Grapsus albolineatus* | native |
| Black Mirid Garden Fleahopper |  | *Halticus bractatus, H. minutus* | invasive |
| Breadfruit Mealybug  |  | *Icerya aegyptiaca* | invasive |
| Pink Mealybug |  | *Maconellicoccus hirsutus* | invasive |
| Land snail |  | *Melampis spp* | native |
| Coconut Termite  |  | *Neotermes rainbowi* | invasive |
| Ghost crab |  | *Ocypode cerophthalmaa* | native |
| Coconut Rhinoceros Beetle |  | *Oryctes rhinoceros* | invasive |
| Papaya Mealybug  |  | *Paracoccus marginatus* | invasive |
| Hibiscus Snow Scale |  | *Pinnaspis strachani*  | invasive |
| Taro Beetle |  | *Papuana* sp. | invasive |
| Paper Wasps  |  | *Polistes* spp. | invasive |
| Citrus Black Scale |  | *Saissetia oleae* | invasive |
| Red Spider Mite |  | *Tetranychus urticae* | invasive |
| Common Wasp |  | *Vespula vulgaris* | invasive |
| German Wasp |  | *Vespula germanica* | invasive |
| REPTILES/AMPHIBIANS |  |  |
| Brown Tree Snake |  | *Boiga irregularis* | invasive |
| Lau Banded Iguana |  | *Brachylophus fasciatus* | introduced |
| Green Turtle |  | *Chelonia mydas* | native |
| Hawkesbill Turtle |  | *Eretmochelys imbricata* | native |
| Asian House Gecko |  | *Hemidactylus frenatus* | invasive |
| Plague Skink/Rainbow Skink |  | *Lampropholis delicata* | invasive |
| Mourning gecko |  | *Lepidodactylus lugubris* | invasive |
| Cane Toad |  | *Rhinella marina* | invasive |
| MAMMALS |  |  |  |
| Feral Cattle |  | *Bos taurus* | invasive |
| Feral Dog |  | *Canis lupus* *familiaris* | invasive |
| Feral Goat |  | *Capra hircus* | invasive |
| Pacific Sheath-tailed Bat |  | *Emballonura semicaudata* | native |
| Feral House Cat |  | *Felis catus* | invasive |
| Jungle fowl |  | *Gallus gallus* | invasive |
| Indian Grey Mongoose |  | *Herpestes javanicus* | invasive |
| House Mouse |  | *Mus musculus* | invasive |
| Pacific Flying Fox  |  | *Pteropus tonganus*  | native |
| Pacific Rat  |  | *Rattus exulans* | invasive |
| Brown Rat/ Norway Rat |  | *Rattus norvegicus* | invasive |
| Black Rat/Ship Rat |  | *Rattus rattus* | invasive |
| Asian Rat |  | *Rattus tanezumi* | invasive |
| Feral Pig |  | *Sus scrofa* | invasive |
| BIRDS |  |  |  |
| Jungle Myna |  | *Acridotheres fuscus* | introduced |
| Common Myna |  | *Acridotheres tristis* | invasive |
| Pacific Black Duck |  | *Anas superciliosa* | native |
| Brown Noddy |  | *Anous stolidus* | native |
| Black or White-capped Noddy |  | *Anous tenuirostris* | native |
| Polynesian Starling  |  | *Aplonis tabuensis brunnescens* | native |
| Ruddy Turnstone |  | *Arenaria interpres* | migrant |
| Feral Pigeon |  | *Columba livia* | introduced |
| Pacific Pigeon |  | *Ducula pacifica* | native |
| Great Frigatebird |  | *Fregata minor* | native |
| Shy Ground-dove |  | *Gallicolumba stairi* | native |
| Red Jungle Fowl |  | *Gallus gallus* | introduced |
| Common Hill Myna |  | *Gracula religiosa* | invasive |
| White Tern |  | *Gygis alba* | native |
| House Finch |  | *Haemorhous mexicanus* | invasive |
| Wandering Tattler |  | *Heteroscelus incanus* | migrant |
| Grey-headed Gull |  | *Larus cirrocephalus* | native |
| Bristle-thighed Curlew  |  | *Numenius tahitiensis* | migrant |
| Eurasian Tree Sparrow |  | *Passer montanus* | invasive |
| House Sparrow |  | *Passer domesticus* | invasive  |
| Lesser Golden Plover |  | *Pluvialis dominica* | migrant |
| Phoenix Petrel |  | *Pterodroma alba* | native |
| Many-coloured Fruit-dove |  | Ptilinopus perousii | native |
| Red-vented Bulbul |  | *Pycnonotus cafer* | invasive |
| Brown Booby |  | *Sula leucogaster* | native |
| Spur-winged Plover  |  | *Vanellus miles novaehollandiae* | introduced |
| Blue-crowned Lory |  | *Vini australis* | native |
| MARINE SPECIES |  |  |  |
| Crown-of-thorns Starfish |  | *Acanthaster planci* | native |
| Seaweed |  | *Caulerpa taxifolia*  | native |
| Humphead/Giant Wrasse |  | *Cheilinus undulatus* | native |
| Dinoflagellates associated with Ciguatera disease |  | *Gambierdiscus toxicus* | unknown |
| Red Algae |  | *Hypnea* spp. | unknown |
| Mozambique Tilapia |  | *Oreochromis mossambicus* | invasive |
| Giant Clam |  | *Tridacna* spp. | native |
| Marine snail |  | *Trochus niloticus* | invasive |

# Introduction

Biodiversity is a term that describes the number and diversity of the different plants, animals, and other living things within our environment. Biodiversity is a key factor in natural resilience to the impacts of environmental change. All species contribute to environmental resilience, including those that are naturally common and those that are rare.

Natural biological communities have evolved over thousands or millions of years and have resulted in adaptations to local conditions that make these species resilient to natural environmental change. This community of native species contributes to ecosystem functioning, and together provide the ecosystem services that we rely on. These include provisioning (such as food, fuel, raw materials, medicines), regulating (such as providing clean water and air, climate regulation and flood protection, waste decomposition, and biological pest and disease control), supporting (such as nutrient cycling), and cultural services (such as spiritual and heritage value, recreation, and science).

When ecosystems are disturbed or disrupted, due to habitat modification, overharvesting, or invasive species, their function is affected, the benefits they offer decline, and resilience to further change is reduced.

In this time of unprecedented global environmental change protecting biodiversity is more important than ever to ensure we can retain the benefits of the natural world on which all our lives depend.

## Introduction to [country]

[This section describes the country, history, population, environment and economy. From earlier NISSAP if there is one. Keep brief. Include a map.]

[Figure 1: this is an example of how to insert a figure caption so it is picked up by the Table of Figures. To add a caption, go to Word function: References/Insert Caption. Will also auto-number Figures if you move them around. Delete this note to remove the caption from the Table of Figures.]

### History and population

### Environment

### Economy

## The significant threat of invasive species for [country]

Invasive species cause harm across a wide range of human activities in Pacific island environments including:

* Food security
	+ reduced crop yields (both quantity and quality);
	+ food loss or damage in storage;
	+ suppression or removal of natural resources such as land crabs and seabirds;
	+ impacts to reef health and productivity; and
	+ suppression of natural plant growth and regeneration.
* Health
	+ increased incidence of specific diseases;
	+ contamination of water supplies;
	+ greater dependence on imported processed food - Increased risk of non-communicable diseases; and
	+ injuries and deaths through bites, stings, and allergic reactions.
* Biodiversity
	+ impacts to ecosystem processes, such as pollination, seed dispersal, forest regeneration, nutrient cycles and so on; and
	+ suppression and removal of native species.
* Culture
	+ lost resources leading to lost cultural practices; and
	+ changing societal roles.
* Geomorphological
	+ soil erosion; and
	+ suppressed reef building and land accretion.
* Infrastructure
	+ burrowing animals and roots of plants undermine roads and buildings; and
	+ animals nesting in electrical systems causing outages and fires.

Invasive species are a major global threat to biodiversity and Pacific islands are particularly vulnerable due to their isolation and relatively recent human occupation. Native species often cannot cope with predation or competition from new arrivals. [country] already suffers from the impact of invasive species that have arrived in the country. However, there are many more devastating species that are not present in [country] but found in other countries of the region, and every effort needs to be made to prevent their arrival.

In 2004, the IUCN published a selection of ‘100 of the World’s Worst Invasive Species’ (Lowe et al. 2004). [country] already has at least [number] of the species on this list, but there are a vast number more out there ready to invade if [country] does not maintain strong border control.

### Threats already within [country]

[incorporate information here from the latest NBSAP, other NISSAPs, ‘100 of the Worst’ list and other sources and supplement with contributions from interested parties]

Section 7 outlines current and past management programmes and Annex 1 describes the priority invasive species within [country name] and their management.

Plants

Mammals and birds

The reduction or removal of seabird populations by rats and cats has widespread effects on terrestrial and marine ecosystems because these species supply much needed nutrients to forests and nearshore reefs (Graham et al. 2018).

Ants and other insects and invertebrates

Marine species

Interactive impacts

Harm can be caused by multiple invasive species.

### Impacts of invasive species in [country]

[incorporate information here from the latest NBSAP, older NISSAPs and contributions from interested parties. This differs from the previous section as it outlines *realised* impacts, not just potential impacts]

### Potential threats to [country]

[This can be revised to be a more comprehensive but brief overview with examples relevant to the country]

There are many examples from other island countries of invasive species that have had devastating and very costly consequences.

[move the following to “Threats already within [country]” if species already present. See recent NISSAPs, such as Tonga for other examples]

The Brown Tree Snake *Boiga irregularis* is thought to have caused the extinction of 10 native landbird species in Guam leaving only two (Rodda and Savidge 2007). Many other snakes occur around the Pacific rim.

Taro Leaf Blight *Phytophthora colocasiae* reduced annual export returns for this crop in Samoa from around WS$10 million to c.WS$150,000 (US$60,000) over a couple of years (Hunter et al. 1998). Imagine if a new disease wiped out [country’s] taro crop.

Yellow Crazy Ant is well known for its population explosions and impact on Christmas Island (Australia), where it has changed the entire forest community (O’Dowd et al. 2003) and it has been implicated in extinctions of native species. In Tokelau, it caused declines in Uga / Coconut crab *Birgus latro* and reduced the reproductive success of Akiaki / White Tern *Gygis alba* (Gruber et al. 2017).

If Red Imported Fire Ants arrive, they are predicted to potentially cost [country] USD [extract value from manuscript] per year in crop, health, and infrastructure impacts, and could harm [extract value from report] species already threatened species (Gruber et al. 2021).

The Indian Grey Mongoose (*Herpestes javanicus*) is of particular concern, with at least four recent incursions documented in the Pacific.

Asian fishing vessels often carry snakes and rats, such as the Asian rat (*Rattus tanezumi*), which devastated wildlife in the McKean Island in the Phoenix Group of Kiribati before it was eradicated (Pierce 2013).

Even if an invasive species is already present, there are varieties and strains with different levels of impact. For example, large Black Rats that have recently invaded Rennell Island in the Solomon’s from Southeast Asia have a devastating impact on crops, including Taro, Coconut and Pawpaw (S, Cranwell, R. Pierce pers. obs.). The Coconut Rhinoceros Beetle *(Oryctes rhinoceros)* has many different strains (biotypes), and one new biotype has devastated coconut crops in Guam and is now found in the Pacific in Papua New Guinea, Hawai’i, Palau, Solomon Islands and Rota.

Annex 2 describes the priority invasive species to prevent their establishment in [country name].

### Changes in impacts due to climate change

Climate change has been described as an existential problem for some Pacific island countries and territories (Connell 2016, Pasisi 2019). The direct environmental impacts of climate change include warmer average temperatures (including freshwater, ocean, and lagoon habitats), changes in weather (notable for the Pacific is an increase in frequency of high-intensity cyclones and a reduction in low-intensity cyclones), shifts in seasonal rainfall, rising sea levels, and salination. All these primary impacts have far-reaching and difficult to predict secondary consequences.

While we are still learning about the impacts of climate change, we do know some of the effects that may occur on invasive species already present, including:

* disturbance to natural and human infrastructure provides opportunities for invasive species to spread;
* increased intensity and frequency of extreme weather events may affect society’s ability to respond to invasive species threats; and
* native species are typically ill equipped to adapt to a changing climate. Invasive species may benefit from change.

For example, [Niue currently – change country to subject of NISSAP] has several species of mosquito including the introduced *Aedes aegypti* which is one of the main carriers of dengue fever [if the country in question has mosquitos, use that country as an example]. One predicted consequence of climate change could be that these and other mosquitoes and the diseases they carry may spread further south within the Pacific or introduced populations may experience faster growth. These changes could increase risks to human health.

The impacts of invasive species may become more severe if new climate conditions are more favourable for invasive species, the risks of others could lessen, but even currently harmless introduced or native species distributions and their interactions in the environment may change.

## Invasive species – everyone’s responsibility

The movements of people, and their goods and supplies, are the key pathways by which invasive species reach a country. The behaviour of all people is the key to the prevention and management of invasive species. People need to avoid bringing ‘at risk’ goods into and around the country such as fruit, plant material including seeds, soil (even on footwear), and so on). If someone sees a plant overseas that they would like to grow in [country], they must follow biosecurity requirements set by [name of responsible agency].

If people receive a container of goods, or deck cargo such as a vehicle or timber, they should check it very carefully when they get it home and alert [responsible agency] if any live animals/insects, or their eggs are found. Ideally, people will be watchful in villages, plantations, and forests for any unusual animals or plants or for trees with leaves being eaten or dying over large areas. Villagers may be the first to spot the arrival of a new plant disease or insect pest. Detecting such arrivals early is the key to eradicating a new invasive species and potentially saving [country] millions of dollars or, worse, the loss of biodiversity.

iNaturalist is a social network of naturalists, citizen scientists, and biologists built on the concept of mapping and sharing observations of biodiversity across the globe. It enables residents and visitors to actively take part in biodiversity monitoring. The iNaturalist project created as part of the GEF 6 RIP will contribute to protecting [country’s] biodiversity by acting as an ‘early warning system’ for new invasive species observed within [country].

Invasive species are an international issue with an emphasis on preventing them moving from one country to another. Several international and regional organisations undertake coordinating roles, there are international regulations, and countries that trade with each other work in close cooperation.

## Biodiversity at risk in [ country]

[incorporate information here from the latest NBSAP, IUCN Red List and supplement with contributions from interested parties. These contributions can be used to update the IUCN Red List if inaccurate]

## Why is a NISSAP needed?

[standard text from Battler guide]

There are many reasons to develop a NISSAP, but the key five reasons are outlined below.

Invasive species are a consistent threat to resources.

Invasive species continue to be a costly issue for all countries and particularly to island nations, and with increasing trade and movement of people between countries, the threat of new species arriving is increasing. A NISSAP can highlight the issue and bring it to the attention of national and international decision makers.

A NISSAP prioritises invasive species issues

Every country is faced by a wide range of invasive species causing various degrees of damage, many more than the country has the capacity to address. Management has focused on plant and animal pests of the productive sector in the past and on direct threats to human health, but there has been growing recognition of their impacts on native biodiversity and the environment.

A NISSAP can bring people in the different sectors and the wider community together to agree on the priorities.

Creating a NISSAP is a cross-sectoral and inclusive exercise

The management of invasive species involves many different organisations from government departments to non-governmental organisations (NGOs), farmers, fishermen and women, and island communities. This management effort has in the past been fragmented and uncoordinated.

The NISSAP seeks to address this problem by bringing all interested parties together around an agreed plan of priority actions, with clearly identified responsibilities and timeframes.

A NISSAP supports a coordinated approach

Managing invasive species involves many activities, including border control, awareness raising, research, monitoring, eradication, control, and risk assessment. A NISSAP allows appropriate prioritisation of the different elements and spread of resources across them.

A NISSAP identifies resources

There is always more work to be done than any Pacific island country can afford with its own resources. An approved NISSAP identifies that a country has been through a prioritisation process involving a full range of interested parties and that the government has endorsed its findings.

A NISSAP thus gives a funder a priority list of tasks that require money and assurance that the country will commit the ‘in-kind’ support required to achieve successful outcomes.

### PRISMSS supports the NISSAP implementation

The Pacific Regional Invasive Species Management Support Service ([PRISMSS](https://www.sprep.org/invasive-species-management-in-the-pacific/prismss)) is a coordinating mechanism to facilitate the scaling up of operational management of invasive species in the Pacific. PRISMSS brings together experts to provide support within the Pacific region with a focus on protection of indigenous biodiversity and ecosystem function. The goal is to reduce the ecological and socio-economic impact of invasive species on ecosystems through the management or eradication of prioritised species and the protection of valued sites.

PRISMSS supports the implementation of NISSAPs by:

* providing advice to foster on-the-ground-management actions including the development of new projects;
* helping lead the adoption and the development of best practice and innovation in the region;
* sharing technical information as far as practical for publication or training materials;
* providing training, coaching, and project planning support for project execution; and
* providing donors with customised and successful options.

PRISMSS currently provides technical support across five regional programmes for the Pacific region:

1. Protect our islands - “Prevent the arrival, establishment and spread of invasive species”

After an invasive species arrives in a new place, it needs to survive and reproduce, establish a population, and spread, before impacts are noticed. By the time impacts are obvious, the control or eradication of invasive species can be difficult and expensive or sometimes impossible. The purpose of this programme is to prevent or detect the arrival of invasive species and stop their establishment, spread and impacts.

The *clean boats, clean ports* framework guides the programme. The framework defines actions needed to detect the arrival and prevent the establishment and spread of invasive species within Pacific island countries and territories.

1. Predator free Pacific - “Removing Introduced Mammalian Predators from Islands”

Pacific islands connect land and sea. Invasive species such as rats alter ecosystems as they consume the seeds, plants, invertebrates, and seabirds that provide nutrients to forest systems and coastal waters. The prevention, control, and eradication of invasive predators are important strategies for supporting ecosystem-based adaptation to the effects of climate change. To date, more than sixty (60) Pacific islands have had predators removed.

1. War on weeds - “Management of High Priority Weeds”

Some invasive plants can transform (damage or destroy) ecosystem function. Weeds outcompete more desirable plant species and disrupt processes such as water flow, fire regimes, soil quality, nutrient cycling, and regeneration. Weeds can also be harmful to human and animal health. Weeds thrive on disturbance and so their harmful impacts are exacerbated by tropical cyclones, strong winds, drought, and fires, all of which are increasing in severity due to the changing climate. Although there are several existing weed management programmes across the Pacific, capacity overall is very limited. This programme is focused on the management of high risk, low distribution weed species, where the objective is eradication or containment.

1. Natural enemies - natural solutions - “Biological Control of Widespread Weeds”

Conventional control techniques can be useful when weeds are not yet common and to protect high-value sites. However, once weeds become widespread, the only safe, cost-effective, and sustainable way of tackling them is using natural enemies, which is known as biological control. This regional programme aims to lower the impact of widespread invasive plants by reducing their vigour by introducing safe natural enemies from the area where they, and their host plant, originate. This technique has been used safely and successfully worldwide, including the Pacific, to manage weeds for more than 100 years. Natural enemies have been established on more than 25 weed species in 17 countries in the Pacific, and there are many opportunities both for spreading existing agents available in the Pacific to new countries, from introducing agents available outside the Pacific, and through developing new options for the Pacific.

1. Resilient ecosystems – resilient communities - “Priority Area Ecological Restoration”

Pacific threatened species and ecosystems often exist within high-value areas on larger islands where invasive animals and invasive plants will continue to be a threat. A site-led approach to manage multiple invasive species and re-introduce lost native species and ecosystem structure over a longer period is the last remaining option to restore and maintain these ecosystems. Communities directly benefit from resilient ecosystems and are an essential part of ecological restoration. Many priority area ecosystems have been restored over the past 3 decades, mostly in New Zealand. The Pacific has had several pilot sites which have had very successful outcomes with increases in threatened endemic birds.

## Process of NISSAP development

A NISSAP takes account of the regional guidelines produced by SPREP and SPC, whose goal is “to assist Pacific island countries and territories in planning the effective management of invasive species, thereby reducing the negative impacts of invasives on their rich and fragile native heritage, communities and livelihoods” (SPREP 2009). The Action Plan is organised according to the three thematic areas of the Guidelines: Foundations, Problem Definition, Prioritisation, and Management Action.

[follow the above with country-specific background, that is, history (of both this and previous NISSAPs).]

### History of NISSAP development in [country name]

# Linkages of the NISSAP to other strategies

[This section shows how the NISSAP fits alongside other in-country strategies, policies, and so on A NISSAP will sit below a country’s main development strategy and ideally feeds invasive species as a priority issue to be considered in the strategy’s next revision. Include country-specific strategies here. Also include strategies that would benefit from including invasive species, such as climate change policy, strategies and plans.]

This section reviews other Government strategies and policies that address invasive species and the sectoral plans of the key agencies involved. The actions identified in this NISSAP should be considered when strategies and plans next revised.

[the strategies can be divided into sections as suggested below]

## National strategies

Invasive species can have impacts on agricultural, forestry and fisheries sectors, may spread or have increased impacts because of climate change, and are at higher risk of entering the country during the response to a natural disaster (such as a cyclone). It is hoped that the NISSAP will be referred to during the development of strategies and plans within these sectors.

[Climate change strategy must be included here]

## Regional strategies [add or delete as appropriate]

**Framework for Nature Conservation and Protected Areas in the Pacific Islands Region 2021-2025**

The Framework provides guidance for the region on key priorities for biodiversity conservation and ecosystem management with linkages to the global Aichi Biodiversity Targets and National Biodiversity Strategies and Action Plans (NBSAPs).

Guidelines for Invasive Species Management in the Pacific (endorsed 2009)

The goal of the Guidelines is to assist Pacific island countries and territories in planning the effective management of invasive species, thereby reducing the negative impacts of invasives on their rich and fragile natural heritage, communities, and livelihoods. The guidelines are currently (2022) being revised.

The Micronesia Challenge

The Micronesia Challenge is a regional shared commitment to the conservation of terrestrial and coastal resources to effectively manage at least 50% of marine resources and 30% of terrestrial resources by 2030 across the region and to be a voice for sustainability and climate change. <http://www.micronesiachallenge.org/>

**Regional Biosecurity Plan (RBP) for Micronesia and Hawai’i (endorsed 2014)**

The goal of the RBP is to provide recommendations that, if appropriately implemented, will minimize the harmful ecological, social, cultural, and economic impacts of invasive species through the prevention of their introduction, their management, and control of expansion, and dispersal into, within, and from the region. <https://dlnr.hawaii.gov/hisc/plans/rbp>

**Micronesia Regional Invasive Species Council (RISC) Strategic Action Plan (SAP) 2012-2016**

The RISC SAP has five goals: 1) Provide updates and recommendations to enable the RISC member Chief Executives to make informed decisions and take effective actions on invasive species policy and management; 2) Promote public awareness and education regarding invasive species and biosecurity; 3) Foster regional and international communication and cooperation on invasive species and biosecurity; 4) Support and recommend the development and implementation of coordinated efforts to enhance regional biosecurity; 5) Develop human and financial resources to implement RISC goals.

## Sectoral strategies

## Corporate plans

## Community plans

# Guiding principles

The CBD identified a full list of 15 principles as an Annex to the report of the Conference of the Parties 6 (COP 6 2002a). Some key practical principles apply to the NISSAP:

* The ‘precautionary principle’ should be applied – where there is not enough information to predict whether a species will become invasive or not, it should be assumed that it will have a damaging impact and action should be taken to stop it establishing or spreading.
* Preventing the arrival of introduced species is more effective and cheaper than trying to manage them after they arrive. Emphasis should be placed on effective border control.
* Eradication is more effective and cheaper in the long term than ongoing control, so eradication should be attempted in situations in which it is likely to succeed.
* Eradication is most effective if a new arrival is detected early while in small numbers, so surveillance and early warning systems are important, as is rapid response. Emergency Response Plans, such as those in place for the possible arrival of major livestock diseases, and Emergency Response Exercises are key elements of such systems.
* Invasive species that cannot be eradicated should be considered for ongoing control, particularly biological control. This control may be aimed at reducing their impact everywhere to acceptable levels or only in important sites for native species (such as protected areas) or for agriculture.
* Invasive species must be addressed in order of priority. A rigorous system is needed to decide on priorities and stick to them.
* Any species imported into a country to only be kept in ponds, pens, or cages will eventually escape into the wild, and plans should be made accordingly.

# Goals, themes, and outcomes

### Goal

To facilitate and guide the protection of the biodiversity and livelihoods of [country] from the impacts of invasive species through strong collaboration.

Within the goal, emphasis is to be placed on:

* maintaining and enhancing the status of native biodiversity;
* maintaining strong border control;
* developing an inter-island biosecurity programme;
* eradicating invasive species where this is feasible; and
* controlling those species that cannot be eradicated.

### Themes

The strategy follows the Regional Guidelines (SPREP 2009) with three themes as follows:

Theme A: Foundations

Managing invasive species is a huge task that will only be effective if based on strong foundations. It requires:

* support - from Government, village communities, and funders;
* capacity – including strong institutions, individuals with sound management and technical skills, and regional networks; and
* legislative framework – appropriate laws, regulations, policies, protocols, and procedures.

Theme B: Problem definition, prioritisation, and decision-making

There are [several/many] invasive species present in [country] and many more outside its borders, and resources to tackle them are always limited. There needs to be systems in place to make decisions about how to allocate resources based on the best possible information on the distribution, numbers, and likely impacts of these species.

Theme C: Management Action

Management begins with preventing the arrival of new invasive species; then tackles the eradication or control of those already present, and finally any necessary restoration work is undertaken on sites where invasive species have been removed.

### Outcomes

Outcomes are derived from the SPREP Guidelines.

Theme A: Three outcomes are identified to ensure that the impacts of invasive species are understood and actions to manage them supported, to develop the necessary capacity, and to establish the appropriate legislative and operational framework.

Theme B: Three outcomes are identified to establish baseline information and monitor change, establish systems for risk management and prioritisation, and update knowledge and develop new techniques.

Theme C: Three outcomes are identified to prevent the arrival of new invasive species and quickly detect and respond to those that arrive, to eradicate or control existing invasive species, and to carry out restoration following invasive species removal.

# Pathway identification

[This section within a NISSAP identifies the pathways through which invasive species can reach a country, and different islands within it, which clarifies the challenge of maintaining effective national and inter-island border control.]

ISSG has compiled a review (ISSG [citation depending on country]) that identifies the ways that different invasive can move to, or around [country]. As an example, soil is a medium that can transport weed seeds, the nests of ants, the eggs of Giant African Snail (*Achatina fulica*), and larvae of pest insects. This section reviews the major pathways through which invasive species can enter the country or move between islands within it.

[incorporate desktop review information below]

## International pathways

### By air

### By sea

Commercial shipping

Yachts

Fishing vessels

### Other external pathways

Disaster relief

Humanitarian emergencies in general and damage caused by extreme events such as cyclones may directly carry new invasive species to [country name], but their major threat is an indirect one through consequent relief operations. Large shipments of supplies and relief materials may enter the country over a short period from a variety of different countries, at a time when border control may be limited or of lower priority. While humanitarian needs are the priority, disaster management planning needs to incorporate biosecurity to avoid the potential longer-term impacts of new invasive species on the economy and environment.

‘Natural’ pathways

Invasive species can also arrive as they have always done unaided by people; by flying to [country], being carried here on the wind, swimming, or ‘rafting’ on floating vegetation. All [country’s residents] need to watch for any unusual species and report them to [appropriate authority] to assess for the risk they pose. These pathways are equally involved in the inter-island spread of invasive species. Birds can fly from one island to another, some flying insects or fungal spores can be moved by the wind and other small pests carried on rafts of floating vegetation.

## Internal Pathways

### By air

### By sea

Natural pathways can also transport species around [country].

# Roles and responsibilities in invasive species management

This section identifies the different government agencies and NGOs that have roles in invasive species management. [Include from earlier NISSAP if available and updated as part of review]

## Local community

## National

## Regional

SPREP and SPC are the two key agencies providing regional coordination and support for the management of invasive species with impacts on native biodiversity, and on the agricultural and fisheries sectors, respectively. SPC also supports border control programmes. Annex 4 provides further details of their roles and identifies other agencies and initiatives that support invasive species work in the region. The PRISMSS partners represent the regional support mechanisms for invasive species management support:

|  |  |  |
| --- | --- | --- |
| **PRISMSS programme** | **Scope** | **Leading technical partner(s)** |
| [Protect our islands](https://www.sprep.org/prismss/protect-our-islands)  | Prevent the arrival, establishment and spread of invasive species | Pacific Biosecurity (Wellington UniVentures) and SPC |
| [Predator free Pacific](https://www.sprep.org/prismss/predator-free-pacific)  | Removing Introduced Mammalian Predators from Islands | Island Conservation and Birdlife International |
| [War on weeds](https://www.sprep.org/prismss/war-on-weeds)  | Management of High Priority Weeds | SPREP |
| [Natural enemies - natural solutions](https://vuw.sharepoint.com/sites/VLL_KnowledgeServicesProgrammes/Shared%20Documents/Pacific%20Biosecurity/NISSAP%20reviews/NISSAP%20development/Natural%20enemies%20-%20natural%20solutions)  | Biological Control of Widespread Weeds | Manaaki Whenua - Landcare Research |
| [Resilient ecosystems - resilient communities](https://www.sprep.org/prismss/resilient-ecosystems-resilient-communities)  | Priority Area Ecological Restoration | SPREP |

# Past and current programmes

[This section summarises invasive species management activities. Derive from earlier NISSAP if available, and from other country NISSAPs for region-wide projects and updated as part of review]

GEF 6 Regional Invasive Species Project (GEF 6 RIP)

As part of the GEF 6 Regional Invasive Species Project ‘Strengthening national and regional capacities to reduce the impact of Invasive Alien Species on globally significant biodiversity in the Pacific’ (GEF 6 RIP), several activities are being undertaken and planned, including [tailor list depending on country]:

* NISSAP development;
* reviews of legislation, policy, and regulations;
* Early Detection and Rapid Response Planning;
* interisland biosecurity protocols;
* Ballast Water Convention compliance;
* weed and other high risk species surveillance programmes;
* biodiversity baseline surveys, include pest distributions;
* risk assessment protocols;
* economic assessments;
* eradication projects;
* extension officer capacity-building;
* assessments of the economic impacts of invasive species; and
* awareness and outreach programmes.

# Legislation and international conventions

[This section identifies the laws and regulations applied to invasive species in the country and any international conventions that require the country to address the issue. Derive from earlier NISSAP if available and updated as part of review. The signatories / ratifiers of international conventions are publicly available from the UN website so this is easily verified for the target country]

The following Acts, Regulations and Conventions and Protocols include provisions relating to invasive species prevention and management.

## National legislation

[from earlier NISSAP if available]

National legislation that is relevant to environmental protection and invasive species management in [country] includes

### Under development

[add if there are any]

## International conventions and agreements

[country] is party to the following international agreements (in order of relevance) [delete or add to as necessary]:

[status of all UN MEAs can be found here: <https://treaties.un.org/Pages/Treaties.aspx?id=27&subid=A&clang=_en>]

[FAO agreements can be found here: <http://www.fao.org/treaties/en/>]

**Convention on Biological Diversity (CBD)**

[check ratifications for CBD by choosing a country: <https://www.cbd.int/countries/>]

The [CBD](https://www.cbd.int/), ratified in 1993, is the key convention relating to the conservation of flora, fauna, and ecosystems. It requires countries to develop a NBSAP and specifically to “prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or species.”

The Kunming-Montreal Global Biodiversity Framework (GBF) has established new targets for invasive species that focus strongly on biosecurity (Target 6):

* Eliminate, minimize, reduce and or mitigate the impacts of invasive alien species on biodiversity and ecosystem services by identifying and managing pathways of the introduction of alien species, preventing the introduction and establishment of priority invasive alien species, reducing the rates of introduction and establishment of other known or potential invasive alien species by at least 50 per cent, by 2030, eradicating or controlling invasive alien species especially in priority sites, such as islands.

Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their utilization (Nagoya Protocol)

[check ratifications for CBD by choosing a country: <https://www.cbd.int/countries/>]

The [Nagoya Protocol](https://www.cbd.int/abs/) to the Convention on Biological Diversity aims to enable sharing of the benefits arising from the use of genetic resources in a fair and equitable way. By helping to ensure benefit-sharing, the Nagoya Protocol creates incentives to conserve and sustainably use genetic resources, and therefore enhances the contribution of biodiversity to development and human well-being.

**Cartagena Protocol on Biosafety**

[check ratifications for CBD by choosing a country: <https://www.cbd.int/countries/>]

The [Cartagena](http://bch.cbd.int/protocol) Protocol to the Convention on Biological Diversity aims to ensure the safe handling, transport, and use of living modified organisms (LMOs) resulting from modern biotechnology. The Parties undertake to ensure that the development, handling, transport, use, transfer, and release of any LMOs are undertaken in a manner that prevents or reduces the risks to biological diversity, also considering risks to human health. While LMOs are different from invasive species, similar processes of risk management, border control, and quarantine apply.

**United Nations Convention to Combat Desertification (UNCCD)**

[status of treaty with list of countries can be found here: [https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg\_no=XXVII-10&chapter=27&clang=\_en#](https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-10&chapter=27&clang=_en)][https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg\_no=XXVII-10&chapter=27&clang=\_en - 1](https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-10&chapter=27&clang=_en#1)

Established in 1994, the [UNCCD](https://www.unccd.int/) is the sole legally binding international agreement linking environment and development to sustainable land management. The Convention addresses specifically the arid, semi-arid, and dry sub-humid areas, known as the drylands, where some of the most vulnerable ecosystems and peoples can be found.

**Convention on International Trade in Endangered Species (CITES)**

[status of treaty with list of countries can be found here: <https://cites.org/eng/disc/parties/chronolo.php?order=field_official_name&sort=asc>]

[CITES](https://cites.org/eng) controls the trade in specimens of endangered species by requiring import and export permits for those on an international list. In carrying out the inspections and permitting requirements under CITES to prevent trade in endangered species, countries may also detect the movement of invasive species and be able to prevent their entry.

**United Nations Framework Convention on Climate Change (UNFCCC)**

[status of treaty with list of countries can be found here: <https://treaties.un.org/Pages/ViewDetailsIII.aspx?src=TREATY&mtdsg_no=XXVII-7&chapter=27&Temp=mtdsg3&clang=_en>]

The ultimate objective of the [UNFCCC](https://unfccc.int/) is to stabilise greenhouse gas concentrations “at a level that would prevent dangerous anthropogenic (human induced) interference with the climate system.” It states that “such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened, and to enable economic development to proceed in a sustainable manner.” The UNFCCC entered into force on 21 March 1994. Today, it has near-universal membership.

The Kyoto Protocol

[status of protocol with list of countries can be found here: <https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-7-a&chapter=27&clang=_en>]

Adopted on in 1997, and ratified in 2005, the [Kyoto Protocol](https://unfccc.int/kyoto_protocol) operationalises the UNFCCC by committing developed countries and economies in transition to limit and reduce greenhouse gas emissions in accordance with agreed individual targets. The Convention itself requires those countries to adopt policies and measures on mitigation and to report periodically.

The Paris Agreement

[status of protocol with list of countries can be found here: <https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-7-d&chapter=27&clang=_en>]

The [Paris Agreement](https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement) is a landmark in the multilateral climate change process because, for the first time, a binding agreement brings all nations into a common cause to undertake ambitious efforts to combat climate change and adapt to its effects. Adopted by 196 Parties at the UNFCCC Conference of the Parties (COP) 21 in Paris in 2015, it entered into force on 4 November 2016. Its goal is to limit global warming to well below 2 degrees Celsius, and preferably to 1.5 degrees Celsius compared to pre-industrial levels, to achieve a climate neutral world by mid-century**.**

**Sustainable Development Goals (SDGs)**

[all states have adopted]

**The** [2030 Agenda for Sustainable Development](https://sdgs.un.org/goals)**, adopted by all United Nations Member States in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. At its heart are the 17 Sustainable Development Goals (SDGs), which are a call for action by all countries—developed and developing—in a global partnership. They recognise that ending poverty and other deprivations must go together with strategies that improve health and education, reduce inequality, and spur economic growth, all while tackling climate change and working to protect the environment.**

**Framework for Resilient Development in the Pacific (FRDP)**

[endorsed by all Pacific islands Forum members]

**The** [FRDP](https://www.forumsec.org/the-framework-for-resilient-development-in-the-pacific/) (2016) **is the current regional policy that guides action to ensure that future development is more resilient to the adverse effects of climate change and disasters. The Pacific Resilience Partnership (PRP) is the umbrella implementation mechanism for the FRDP.**

**International Plant Protection Convention (IPPC)**

[list of countries: <https://www.ippc.int/en/countries/all/list-countries/>]

The [IPPC](https://www.ippc.int/) is an international agreement on plant health developed in 1951 and overseen by the United Nations Food and Agriculture Organisation (FAO). Its objectives include:

* protecting sustainable agriculture and enhancing global food security through the prevention of pest spread;
* protecting the environment, forests, and biodiversity from plant pests;
* facilitating economic and trade development through the promotion of harmonized scientifically based phytosanitary measures; and
* developing phytosanitary capacity for members to accomplish the preceding three objectives.

**Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement)**

[members of WTO: <https://www.wto.org/english/thewto_e/whatis_e/tif_e/org6_e.htm>]

The [SPS Agreement](https://www.wto.org/english/tratop_e/sps_e/sps_e.htm) was adopted in 1994 and came into force in 1995. The agreement applies to the importation of pests, diseases, disease-carrying organisms, or disease-causing organisms.

* Provides a uniform interpretation of the measures governing safety and plant and animal health regulations.
* Applicable to all sanitary and phytosanitary measures, directly or indirectly affecting international trade.
* Sanitary and phytosanitary measures are defined as any measure applied to protect animal or plant life or health within a Members’ Territory from entry, establishment or spread of pests, diseases and disease carrying organisms, and to prevent or limit other damage within the Members Territory from the entry, establishment, or spread of pests.

**United Nations Convention on the Law of the Sea (UNCLOS)**

[status for all countries here: <https://treaties.un.org/Pages/ViewDetailsIII.aspx?src=TREATY&mtdsg_no=XXI-6&chapter=21&Temp=mtdsg3&clang=_en>]

[UNCLOS](https://www.iucn.org/theme/marine-and-polar/our-work/international-ocean-governance/unclos) includes (Part V) prescription of exclusive economic zones (EEZs) stretching to 200 nautical miles from its coast over which a country has sovereign rights over the exploration and use of marine resources. Part XII contains provisions for protection and preservation of the marine environment including minimising pollution and preventing the introduction of invasive species.

**International Convention for the Control and Management of Ships’ Ballast Water and Sediments**

[IMO has a useful link to Excel spreadsheet with status of all IMO treaties by State: <https://www.imo.org/en/About/Conventions/Pages/StatusOfConventions.aspx>]

In 2004, the [IMO](https://www.imo.org/en/About/Conventions/Pages/International-Convention-for-the-Control-and-Management-of-Ships%27-Ballast-Water-and-Sediments-%28BWM%29.aspx) adopted this Convention, which entered into force 12 months after it was ratified by 30 states representing 35 percent of the world’s merchant shipping tonnage. It ensures the safe management of ballast water through requiring ships to have ballast management plans and detailed record keeping.

International Convention for the Prevention of Pollution from Ships (MARPOL)

[IMO has a useful link to Excel spreadsheet with status of all IMO treaties by State: <https://www.imo.org/en/About/Conventions/Pages/StatusOfConventions.aspx>]

The International Convention for the Prevention of Pollution from Ships (MARPOL) is the main international convention covering prevention of pollution of the marine environment by ships from operational or accidental causes. The Convention includes regulations aimed at preventing and minimising pollution from ships—both accidental pollution and that from routine operations—and currently includes six technical Annexes. Special Areas with strict controls on operational discharges are included in most Annexes.

World Heritage Convention

[status for all countries here: <https://whc.unesco.org/en/statesparties/>]

The Convention sets out the duties of the parties in identifying potential sites and their role in protecting and preserving them. The convention links together in a single document the concepts of nature conservation and the preservation of cultural properties. The Convention recognizes the way in which people interact with nature, and the fundamental need to preserve the balance between the two.

Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar)

[status for all countries here: <https://treaties.un.org/pages/showDetails.aspx?objid=0800000280104c20>]

The Convention on Wetlands is the intergovernmental treaty that provides the framework for the conservation and wise use of wetlands and their resources. The Convention was adopted in 1971 and came into force in 1975. Since then, almost 90% of UN member states have become contracting Parties.

# Action plan

[The Action Plan is the most important part of the NISSAP document, and it can be structured according to the Regional Guidelines as outlined below. Notes to consultants:

1. When facilitating the development of the Action Plan, focus on SMART goals – Specific, Measurable, Achievable, Realistic and Time-constrained.
2. Some interested parties may consider native species to be a problem, for example, native plants growing in places they are not wanted, seabirds roosting on rooves and fouling water. These concerns should be acknowledged, but the messaging must be clear that an invasive species is one that is introduced, and causes harm. Similarly, a distinction should be made between invasive species that harm the environment (the mandate of SPREP), and those that are crop pests (the mandate of SPC). Any issues raised that fall under the mandate of SPC should be acknowledged, relayed to SPC colleagues, but not incorporated into the NISSAP.
3. The Invasive Species Management Guidelines are under review (due for completion in 2023). Although the outcome of the Guidelines revision cannot be predicted, a major amendment is likely to be a new definition of “Restoration” (C3) from *Following invasive species management the best methods are determined and implemented to facilitate effective restoration of native biodiversity or recovery of other values* to something like *A site-led approach to manage multiple invasive species and re-introduce lost native species and ecosystem structure and function*. This change should be borne in mind when developing / revising the NISSAP (particularly related to C2/C3). Discussion on priority restoration sites among interested parties should be facilitated, including the potential for translocations. Specific sites should be identified.
4. Future NISSAPs should incorporate linkages to the PRISMSS for implementation support.]

***Goal setting***

It is tempting to set a wide range of goals to solve everything. This can make the task of progressing the NISSAP overwhelming. Goals are difficult to achieve if they are too vague, aggressive, or poorly framed. When setting goals, use the SMART approach. SMART is an acronym that stands for Specific, Measurable, Achievable, Relevant (or realistic) and Time-based (or Time-bound). Each element of the SMART framework works together to create a goal that is carefully planned, clear and trackable. Interested parties may need help to set goals that meet these criteria and may express needs in very broad ways. These can be broken down and reframed into achievable targets.

The SMART goal framework can establish a strong foundation for achieving success.

**S = Specific**

Be as clear and specific as possible with what you want to achieve. A non-specific goal might be “Implement EDRR”. A better way to plan express this “Develop an endorsed plan for EDRR, ensure we have all the resources we need and do regular surveillance”. This could be an Activity in the Action Tables. The Outcome would be ‘EDRR is implemented for the highest priority species’.

**M = Measurable**

You need evidence to prove progress toward the goal. How will you measure this progress? If the goal is specific, it can be broken down into milestones.

For the example above, milestones could be: Consult with interested parties to set priorities and develop plan; write the plan; obtain Director’s approval and funding; order equipment; schedule training; begin and continue surveillance.

Setting milestones gives the opportunity to re-evaluate and adapt as needed and identify constraints stopping you from achieving your goals. Achieving milestones is important to ensure the team stay focussed on the goal and get a sense of achievement.

**A = Achievable**

Setting goals you know you can meet will help keep the team motivated and focused. Using the example above, if you know the Director disagrees that an EDRR plan is needed, you will never achieve their endorsement. The goal could be reframed as “Demonstrate to interested parties the need for EDRR and get approval to proceed”.

**R = Relevant / realistic**

When setting goals, consider if they are relevant and realistic. Deciding to implement EDRR for species that you cannot eradicate or cannot establish in the country is not realistic.

**T = Time-based / time-bound**

It is important to set a (realistic) timeframe for the goal. Even if you don’t know for certain that the goal can be achieved by a certain date, having the date forces evaluation of that goal and can help to re-focus priorities. If the goal is not achieved in that timeframe, why? The timeframe might have been unrealistic, or unexpected problems may have slowed your progress, or made the goal unachievable.

***What to record in the Action Tables***

**Actions**

The actions are a high-level description of what is required to support the outcome, for example, implement EDRR activities.

**#**

Each Activity for a given action is broken down into a number of Activities, with the sequence indicated by #.

**Activities**

The Activities break down the actions further, for example, draft EDRR plan, have EDRR plan endorsed, conduct surveillance regularly, implement awareness raising and so on Create a new row for each Outcome & action and Activity so it is easy to track the Baseline, Target and so on for the specific Activity and the Outcome & action overall.

**Baseline**

This is the ‘current state’ in relation to the Outcomes & actions.

**Targets**

The timeframe for the desired Outcome & actions, including milestone steps for the Activities along the way.

**Means of verification**

Description of how the Targets are verified, for example, reporting, evidence of sign offs or records of specific events or creation of plans.

**Responsibility**

Who is tasked with ensuring the Outcomes & Actions and Activities happen within the target timeframe.

**Financing**

The estimated cost and who will finance the Outcomes & Actions and Activities. If Financing has not be confirmed, this should be noted (and should itself be one of the Activities, for example, Obtain finance. In some cases, finance may already have been identified, and the Activities may need to eb tailored to what is achievable with that level of financing.]

The Action Plan is based on the nine outcomes in the regional guidelines.

## THEME A – FOUNDATIONS

### A1 - Generating support

Outcome A1: The impacts of priority invasive species on biodiversity, economies, livelihoods, and health, are widely understood and actions to manage and reduce them are supported

| A1: Actions | # | Activities | Baseline | Target | Verification | Responsibility | Financing |
| --- | --- | --- | --- | --- | --- | --- | --- |
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### A2 -Building Capacity

OUTCOME A2: The institutions, skills, infrastructure, technical support, information management, networks and exchanges required to manage invasive species effectively are developed

| A2: Actions | # | Activities | Baseline | Target | Verification | Responsibility | Financing |
| --- | --- | --- | --- | --- | --- | --- | --- |
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### A3 - Legislation, policy, and protocols

Outcome A3: Appropriate legislation, policies, protocols, and procedures are in place and operating, to underpin the effective management of invasive species

| A3: Actions | # | Activities | Baseline | Target | Verification | Responsibility | Financing |
| --- | --- | --- | --- | --- | --- | --- | --- |
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## THEME B – PROBLEM DEFINITION, PRIORITIZATION AND DECISION-MAKING

### B1 - Baseline & Monitoring

Outcome B1: Systems are in place to generate baseline information on the status and distribution of invasive species, detect changes, including range changes and emerging impacts

| B1: Actions | # | Activities | Baseline | Target | Verification | Responsibility | Financing |
| --- | --- | --- | --- | --- | --- | --- | --- |
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### B2 - Prioritization

Outcome B2: Effective systems are established and implemented to assess risk and prioritise invasive species for management

| B2: Actions | # | Activities | Baseline | Target | Verification | Responsibility | Financing |
| --- | --- | --- | --- | --- | --- | --- | --- |
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### B3 - Research on priorities

Outcome B3: Knowledge is updated for priority invasives, including species biology and impacts, and development of effective management techniques

| B3: Actions | # | Activities | Baseline | Target | Verification | Responsibility | Financing |
| --- | --- | --- | --- | --- | --- | --- | --- |
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## THEME C – MANAGEMENT ACTION

### C1 - Biosecurity

OUTCOME C1: Mechanisms are established to prevent the spread of invasive species across international or internal borders and quickly detect and respond to those that arrive

| C1: Actions | # | Activities | Baseline | Target | Verification | Responsibility | Financing |
| --- | --- | --- | --- | --- | --- | --- | --- |
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### C2 - Management of established invasives

Outcome C2: The impacts of priority established invasive species are eliminated or reduced by eradicating or controlling the target species

| C2: Actions | # | Activities | Baseline | Target | Verification | Responsibility | Financing |
| --- | --- | --- | --- | --- | --- | --- | --- |
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### C3 - Restoration

Outcome C3: Following invasive species management the best methods are determined and implemented to facilitate effective restoration of native biodiversity or recovery of other values

| C3: Actions | # | Activities | Baseline | Target | Verification | Responsibility | Financing |
| --- | --- | --- | --- | --- | --- | --- | --- |
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[Alternative Outcome C3: Pending review of the Guidelines for Invasive Species Management in the Pacific, restoration should include multi taxa management to protect ecological values of high value sites (consistent with the RERC PRISMSS programme). See Tonga, RMI, Niue and Tuvalu for examples of how to treat this in the interim]

# Monitoring and evaluation

The [name of responsible in-country agency] has the role of coordinating the monitoring and evaluation of the implementation of this strategy.

Monitoring – NISSAP annual reporting

An annual review of activities in the Action Plan is required, with the involvement of the [National Invasive Species Committee, TAG, or other designation as applicable]. The NISSAP annual reporting requires only completion of the monitoring template as shown on the following page and is prompted by SPREP at the same time as the Guidelines Reporting updates. Ideally, any reports that have been produced should also be send out with the completed monitoring template.

Once the annual review is complete, it is shared with SPREP and SPC. Monitoring assesses progress using the baselines, targets, and verification (indicators) identified in the Action Plan tables. Monitoring identifies issues that might affect the success of the activities and provides an opportunity to adapt to changing conditions.

Any additional work that contributes to the NISSAP goals but was not identified in the Action Plan should also be recorded.

Evaluation

Halfway through the NISSAP timeframe, a *mid-term review* should be undertaken, and a final review should occur at the end of the NISSAP timeframe. The *final review* may be undertaken as part of the preparation for the updated NISSAP. The purpose of the reviews is to compare the expected progress with actual outcomes. The reviews are undertaken by the agency responsible for the implementation of the NISSAP as well as the Technical Action Group, with contributions and guidance from SPREP and SPC.

The evaluation should include a review of the monitoring reports to date. The mid-term review should identify areas that will likely be carried forward to the next NISSAP, for which funding should be sought, so that the work to secure funding can commence.

Monitoring template

This template should be completed for NISSAP annual reporting. All the applicable columns from the Action Tables are included in the left-hand columns. Each year, status information is added to the right-hand columns.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Outcomes and actions | Verification (indicators) | Baseline | Target  | Actual measurement (against targets using indicators) | Comment/Variance explanation |
| Will be incorporated from Action Tables once they are complete [see completed NISSAPs for Tonga, Tuvalu, Niue and RMI for an example] |  |  |  |  |  |

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# Annexes

## Annex 1: Priority invasive species for management in [country]

|  |  |
| --- | --- |
| **Species** | **comment** |
| PLANTS |  |
| [Common name of species (scientific name)][Image of species: ensure image is fully credited with hyperlink to source] | [1-3 sentences including known impacts, status in-country, whether subject to management in-country] |
| [insert as many rows as needed] |  |
| MAMMALS |  |
| [Common name of species (scientific name)][Image of species: ensure image is fully credited with hyperlink to source] | [1-3 sentences including known impacts, status in-country, whether subject to management in-country] |
| [insert as many rows as needed] |  |
| INSECTS |  |
| [Common name of species (scientific name)][Image of species: ensure image is fully credited with hyperlink to source] | [1-3 sentences including known impacts, status in-country, whether subject to management in-country] |
| [insert as many rows as needed] |  |
| REPTILES AND AMPHIBIANS |  |
| [Common name of species (scientific name)][Image of species: ensure image is fully credited with hyperlink to source] | [1-3 sentences including known impacts, status in-country, whether subject to management in-country] |
| [insert as many rows as needed] |  |
| BIRDS |  |
| [Common name of species (scientific name)][Image of species: ensure image is fully credited with hyperlink to source] | [1-3 sentences including known impacts, status in-country, whether subject to management in-country] |
| [insert as many rows as needed] |  |

## Annex 2: Priority invasive species for prevention in [country]

|  |  |
| --- | --- |
| **Species** | **comment** |
| PLANTS |  |
| [Common name of species (scientific name)][Image of species: ensure image is fully credited with hyperlink to source] | [1-3 sentences including known impacts, where it could come from] |
| [insert as many rows as needed] |  |
| MAMMALS |  |
| [Common name of species (scientific name)][Image of species: ensure image is fully credited with hyperlink to source] | [1-3 sentences including known impacts, where it could come from] |
| [insert as many rows as needed] |  |
| INSECTS |  |
| [Common name of species (scientific name)][Image of species: ensure image is fully credited with hyperlink to source] | [1-3 sentences including known impacts, where it could come from] |
| [insert as many rows as needed] |  |
| REPTILES AND AMPHIBIANS |  |
| [Common name of species (scientific name)][Image of species: ensure image is fully credited with hyperlink to source] | [1-3 sentences including known impacts, where it could come from] |
| [insert as many rows as needed] |  |
| BIRDS |  |
| [Common name of species (scientific name)][Image of species: ensure image is fully credited with hyperlink to source] | [1-3 sentences including known impacts, where it could come from] |
| [insert as many rows as needed] |  |

## Annex 3: Priority sites

|  |  |
| --- | --- |
| **Name of site** | **Comment** |
|  | [management activities occurring, invasive species actions] |
|  |  |

## Annex 4: Consultations for NISSAP [development (first NISSAP) or review (subsequent NISSAPs)]

[Insert one section for each workshop – two are given here as an example. Refer to recent finalised NISSAPs, such as Tonga’s, for examples.]

###  [location of workshop 1] NISSAP workshop

Date: [Day Month (in words to avoid US/English format confusion) Year]

Workshop Venue: [venue]

Comments from participants included:

* [summarised bullet points]

[location of workshop 1] participants

Facilitator: [facilitator names and organisations]

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **#** | **Name of participant** | **Organisation** | **Gender** | **Youth?** |
| 1 |  |  |  |  |
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| 4 |  |  |  |  |
| [insert rows as needed] |  |  |  |  |

### [location of workshop 2] NISSAP workshop

Date: [Day Month (in words to avoid US/English format confusion) Year]

Workshop Venue: [venue]

Comments from participants included:

* [summarised bullet points]

[location of workshop 2] participants

Facilitator: [facilitator names and organisations]

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| **#** | **Name of participant** | **Organisation** | **Gender** | **Youth?** |
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| [insert rows as needed] |  |  |  |  |

## Annex 5: Regional and international organisations and databases related to invasive species management

### Organisations

The Pacific Community (SPC)

[SPC](http://www.spc.int/) helps Pacific island people respond effectively to the challenges they face and make informed decisions about their future and the future they wish to leave for the generations that follow. Go to the website for a description of the core business of each of SPC’s Divisions and more detailed information about how they can help. SPC is a leading partner in the PRISMSS [Protect our Islands programme](https://www.sprep.org/prismss/protect-our-islands).

Secretariat of the Pacific Regional Environment Programme (SPREP)

[SPREP](http://sprep.org/) works for its member countries towards the ongoing goal of improved sustainable management of island and ocean ecosystems and biodiversity, in support of communities, livelihoods, and national sustainable development objectives, through an improved understanding of ecosystem-based management and implementation of National Biodiversity Strategy and Action Plans.

The [SPREP Island and Ocean Ecosystem Services Strategy](https://www.sprep.org/island-and-ocean-ecosystem-services) is delivered through four main priorities: 1) Biodiversity; 2) Invasive Species; 3) Coastal and Marine; 4) Threatened species. SPREP is a leading partner in the PRISMSS programmes [War on weeds](https://www.sprep.org/prismss/war-on-weeds) and [Resilient ecosystems – resilient communities](https://www.sprep.org/prismss/resilient-ecosystems-resilient-communities).

Pacific Regional Invasive Species Support Service (PRISMSS)

Made up of five programmes, [PRISMSS](https://www.sprep.org/invasive-species-management-in-the-pacific/prismss) is a coordinating mechanism to facilitate the scaling up of operational management of invasive species in the Pacific. PRISMSS brings together experts to provide support within the Pacific region with a focus on protection of indigenous biodiversity and ecosystem function. The goal is to reduce the ecological and socio-economic impact of invasive species on ecosystems through the management or eradication of prioritised species and the protection of valued sites.

PRISMSS currently provides technical support across five programmes for the Pacific region:

1. [Protect our islands](https://www.sprep.org/protect-our-islands) - “Prevent the arrival, establishment and spread of invasive species”

2. [Predator free Pacific](https://www.sprep.org/predator-free-pacific) - “Removing Introduced Mammalian Predators from Islands”

3. [War on weeds](https://www.sprep.org/war-on-weeds) - “Management of High Priority Weeds”

4. [Natural enemies - natural solutions](https://www.sprep.org/natural-enemies-natural-solutions) - “Biological Control of Widespread Weeds”

5. [Resilient ecosystems – resilient communities](https://www.sprep.org/resilient-ecosystems-resilient-communities) - “Priority Area Ecological Restoration”

### Databases and information resources

Pacific Invasive Species Battler Resource Base

The [Battler Resource Base](https://brb.sprep.org/) provides a central base for all invasive species information needs. It offers national invasive species practitioners and interested parties from around the Pacific an easier way to find information and knowledge products to assist with their programme of works, research on priority species and management of invasive species projects.

# Document history (to be removed prior to finalising NISSAP)

|  |  |  |  |
| --- | --- | --- | --- |
| author | version | description | date |
| Monica Gruber | 0.1 | First draft of template | November 2020 |
| Monica Gruber | 0.2 | Incorporating Bradley Meyer’s comments | December 2020 |
| Monica Gruber | 0.3 | Incorporating David Moverley’s comments | January 2021 |
| Monica Gruber | 0.4 | Added section for priority species for prevention, definitions for UNFCCC and so on, minor updates and additions to references and section numbering | February 2021 |
| Monica Gruber | 0.5 | Addition of species table, climate change description, iNAT information, changes to Action Table layout and, creation of Action Table Review template document. | March 2021 |
| Monica Gruber | 0.6 | Incorporation of SMART goals and revision to Action Tables. | March 2021 |
| Monica Gruber | 0.7 | Addition of Nagoya Protocol to international agreements, minor updates to agreement wording and addition of acronyms and definitions. | March/April 2021 |
| Monica Gruber/Ray Pierce | 0.8 | Addition of links to where to find treaty ratifications, reformat of species list. Addition of World Heritage Convention | April 2021 |
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| Monica Gruber | 1.0 | General revisions based on Niue, RMI, Tonga, and Tuvalu work, including PRISMSS partner suggestions | September 2021 |
| Monica Gruber | 1.1 | Addition of PMBT in Annex 12.5.2, general revisions | April 2022 |
| Monica Gruber | 1.2 | Incorporation of SPREP Style Guide, Isabel Rasch and Tiffany Straza’s comments | June 2022 |
| Monica Gruber | 1.3 | Incorporation of further Dave Moverley comments | July 2022 |
| Monica Gruber | 1.4 | Replacement of “stakeholders” with “interested parties” etc. | September 2022 |
| Monica Gruber | 1.5 | Update of POI description, swapped columns in species list, further comments from David Moverley | November 2022 |
| Monica Gruber | 1.6 | Update to CBD description to include GBF. | December 2022 |

# Third party disclosures (for use by SPREP and consultants)

This section is to be removed prior to finalisation of the NISSAP. The purpose of this section is to meet the requirements related to Intellectual Property in the contract between SPREP and the consultants:

*12.6 The Supplier is to inform the Buyer of all instances in which pre existing and new intellectual property is incorporated in the Service and Deliverables.*

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*a) In which instances they are certain that there is no infringement of third party rights; and*

*b) In which instances they used best efforts*

*c) The Supplier will advise the Buyer of instances where there may be a potential dispute.*

To fulfil these requirements, *all* third party materials (including images) must be listed in the references, and categorised below:

## No infringement of third party rights (certainty)

COP 6. 2002a. Guiding principles for the prevention, introduction, and mitigation of impacts of alien species that threaten ecosystems, habitats and species. COP 6 Decision VI/23. Sixth Meeting of the Conference of the Parties to the Convention on Biological Diversity, the Hague, Netherlands. 7 - 19 April 2002. <https://www.cbd.int/doc/decisions/cop-06-dec-23-en.pdf>

COP 6. 2002b. National invasive alien species strategies and action plans. COP 6 Decision VI/23. Sixth Meeting of the Conference of the Parties to the Convention on Biological Diversity, the Hague, Netherlands. 7 - 19 April. <https://www.cbd.int/doc/decisions/cop-06-dec-23-en.pdf>

Gruber M.A.M., Santoro D., Cooling M., Boser C., Hoffmann B.D., Janssen-May S., Lach L., Lester P.J., and Wylie F.R. 2020. Global socio-economic and environmental impacts of invasive ants. Report prepared for the Australian Department of Agriculture and Water Resources. Version 1.0. <https://piat.org.nz/uploads/PIAT_content/pdfs/DAWR%20Final%20Report%20Gruber%20310520.pdf>

Pacific Invasives Initiative. 2011-. Resource Kit for Rodent and Cat Eradication. <http://www.pacificinvasivesinitiative.org/rk/index.html>

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SPREP. 2020-. Pacific Regional Invasive Species Management Support Service (PRISMSS). <https://www.sprep.org/invasive-species-management-in-the-pacific/prismss>

SPREP. 2009. Guidelines for invasive species management in the Pacific: A Pacific strategy for managing pests, weeds and other invasive species. SPREP, Apia, Samoa. 20pp <https://www.sprep.org/att/publication/000699_RISSFinalLR.pdf>

SPREP. 2016. Develop a national or territorial invasive species strategies and action plan (NISSAP). SPREP, Apia, Samoa. <https://www.sprep.org/attachments/Publications/BEM/create-nissap.pdf>

## No infringement of third party rights (best efforts)

Hunter D., Pouono K. & Semisi S. 1998. The impact of Taro Leaf Blight in the Pacific islands with special reference to Samoa. Journal of South Pacific Agriculture 5: 44-56. <https://www.researchgate.net/publication/265668376_The_Impact_of_Taro_Leaf_Blight_in_the_Pacific_Islands_with_special_reference_to_Samoa#fullTextFileContent>. The original source for this article was not found. A version of the content has been made available publicly on ResearchGate. No information was given about permissions in the journal description, but as it is a pre-publication version, this may be allowed.

Rodda G.H. & Savidge J.A. 2007. Biology and impacts of Pacific island invasive species. 2. *Boiga irregularis*, the brown tree snake (Reptilia: Colubridae). Pacific Science 61: 307-324. <https://scholarspace.manoa.hawaii.edu/handle/10125/22607>. Available as open access archive.

## Potential infringement of third party rights

O’Dowd D.J., Green P.T. & Lake P.S. 2003. Invasional ‘meltdown’ on an oceanic island. Ecology Letters 6: 812-817). If this paper were to be made publicly available it would infringe the rights defined by the journal.

1. Formerly *Merremia peltata* [↑](#footnote-ref-2)