Pacific Invasive Species Battler Series

DEVELOP A NATIONAL OR TERRITORIAL INVASIVE SPECIES STRATEGY AND ACTION PLAN

SPREP
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PILN

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Our vision: A resilient Pacific environment sustaining our livelihoods and natural heritage in harmony with our cultures

Cover photo: Stuart Chape

Icons: Integration and Application Network, University of Maryland Center for Environmental Science (ian.umces.edu/imagelibrary/).

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Dear Invasive Species Battler,

We are a diverse bunch of people in the Pacific region, which spans a third of the earth's surface and encompasses about half of the global sea surface. We have ~2,000 different languages and ~30,000 islands. Pacific ecosystems are one of the world's biodiversity hotspots, with a large number of species found only in the Pacific and nowhere else. In fact, there are 2,189 single-country endemic species recorded to date. Of these species, 5.8 per cent are already extinct or exist only in captivity. A further 45 per cent are at risk of extinction. We face some of the highest extinction rates in the world.

The largest cause of extinction of single-country endemic species in the Pacific is the impact of invasive species. Invasives also severely impact our economies, ability to trade, sustainable development, health, ecosystem services, and the resilience of our ecosystems to respond to natural disasters. Fortunately, we can do something about it.

Even in our diverse region, we share many things in common. We are island people, we are self-reliant, and we rely heavily on our environment to support our livelihoods. We also share many common invasive species issues as we are ultimately connected. Sharing what we learn regionally benefits us and our families economically, culturally, and in our daily lives. The "Invasive Species Battler" series has been developed to share what we have learned about common invasive species issues in the region, with information and case studies that can assist you to make a decision about what to do next or where to go for further information.

The SPREP Invasive Species Programme aims to provide technical, institutional, and financial support to regional invasive species programmes in coordination with other regional bodies. We coordinate the Pacific Invasive Learning Network (PILN), a network of practitioners battling invasive species, and the Pacific Invasives Partnership (PIP), the umbrella regional coordinating body for agencies working on invasive species in more than one Pacific country.

For knowledge resources, outreach tools, and more information on SPREP, the Invasive Species Programme, PILN, and PIP, please visit the SPREP website: www.sprep.org

Thank you for your efforts,
SPREP Invasive Species Team

About This Guide

National or Territory Invasive Species Strategies and Action Plans (NISSAP) are a critical document to ensure invasive species management is coordinated within a country or territory and that the different sectors involved with invasive species management are working together toward the same goals. NISSAP are essential to show political will for managing invasive species and are looked upon favourably by funding bodies.

Recently, the Pacific has completed many NISSAP, some of which were greatly assisted by David Butler and Bill Nagle, who have drafted the text for this guide. This guide is primarily intended to assist with developing a NISSAP into a useful and comprehensive document.

Why should I develop a NISSAP?

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

1 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.

2 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 concentrated 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 as a whole. A NISSAP can bring people in the different sectors and the wider community together to agree on the priorities.

3 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 stakeholders together around an agreed plan of priority actions, with clearly identified responsibilities and timeframes.

4 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.

5 A NISSAP identifies resources

There is always more work to be done than a 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 stakeholders 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.

What are the steps to writing a NISSAP?

A NISSAP contains key sections that need to be followed to ensure it is comprehensive and aligns with the accepted format.

Introductory sections

Information in these sections needs to be pulled together by reviewing available information and discussing with stakeholders. The Invasive Species Specialist Group (ISSG) was contracted to prepare such reviews for several countries as part of the GEF-PAS Prevention, control, and management of invasive alien species in the Pacific Island project. The box below identifies the contents of a review for Niue. Information reports for 9 countries that participated in the GEF-PAS IAS project are available at the Battler Resource Base (www.sprep.org/piln/resource-base).

Example: Compilation and Review of Invasive Species Information for Niue

Prepared by Shyama Pagad - Invasive Species Specialist Group (ISSG) Pacific Regional Office - September 2013

Contents:

- Glossary and Definitions
- Introduction
- Niue and the Convention on Biological Diversity and other relevant Multilateral Environmental Agreements (MEAs)
- Threatened Species of Niue
- IUCN Red List of Threatened Species
- The Rare Plants of Niue (an extraction from 'Rare Plants of Niue' Michael and Whistler (2013))
- Pressures on endemic and native species
- Priority Conservation Areas of Niue
- Alien and Invasive Species in Niue
- Impacts of Invasive species on areas of high biodiversity value
- Pathways of introduction and spread
- Biodiversity Conservation and Invasive Alien Species Management Projects in Niue
- Conclusion
- References

Photo : Niue Tourism Office

Introduction to country

This section describes the country, its geography, population, and economy.

Introduction to invasive species, with definitions

Invasive species can be defined as *species introduced to a country,* whether accidentally or deliberately, *that become destructive to the environment or human interests. Invasive species can also include some native species that proliferate and become destructive following environmental changes caused by human activities*.

This section also addresses the complication that some introduced species are considered beneficial in some situations and invasive in others. For example, pigs are very beneficial when farmed in controlled conditions, but pigs are damaging when they run wild, destroying plantations, changing the structure of native forests, and acting as predators of native invertebrates.

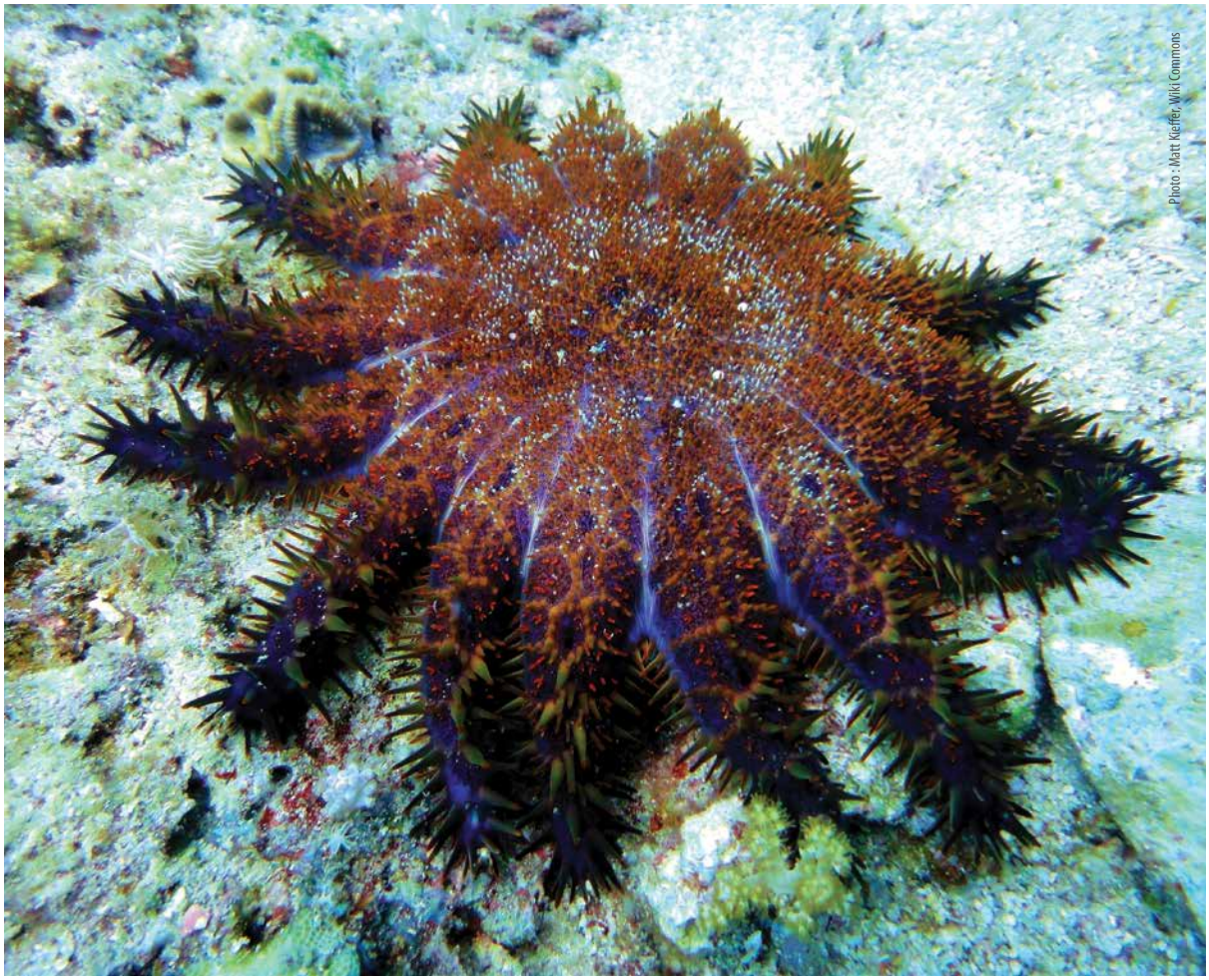


Photo: The most widespread example of a native species that can become invasive is the crown of thorns starfish, which occasionally builds up in number to the point that it damages coral reefs in the region.

Key invasive species for your country

This section identifies the key invasive species in your country that impact the native biodiversity, economy, and human health. It particularly aims to show the country's decision makers what a vital issue invasive species are and why the invasives need increased attention.

Examples

IMPACT ON BIODIVERSITY

Invasive species have been identified as the biggest threat to the Cook Islands' flora, and invasive plants are destroying habitat for native birds, such as the Rarotonga Flycatcher, the Rarotonga starling, and the Blue Lorikeet, and endemic land snails. Rats threaten the Kakerori through predation, and Indian myna are a threat to other native birds through disturbance and competition.

IMPACT ON PEOPLE AND ECONOMY

The little fire ant was first detected in Vanuatu on Vanua Lava in the northern Banks Group in 1996 and has since spread to other islands in that group as well as to Santo and Efate. These ants will occupy gardens and homes in large numbers, frequently stinging the residents, particularly young children, and making growing of crops very difficult. The ants may blind domestic cats and dogs. They reduce the numbers of native insects, have led to reductions in reptile numbers, and contribute to the spread of plant diseases. These ants would have major economic impacts if they reach areas favoured by tourists.

DRAMATIC IMPACTS IN OTHER COUNTRIES

In addition to examples from your country, you can include examples from other countries of invasive species that have had devastating and costly consequences.

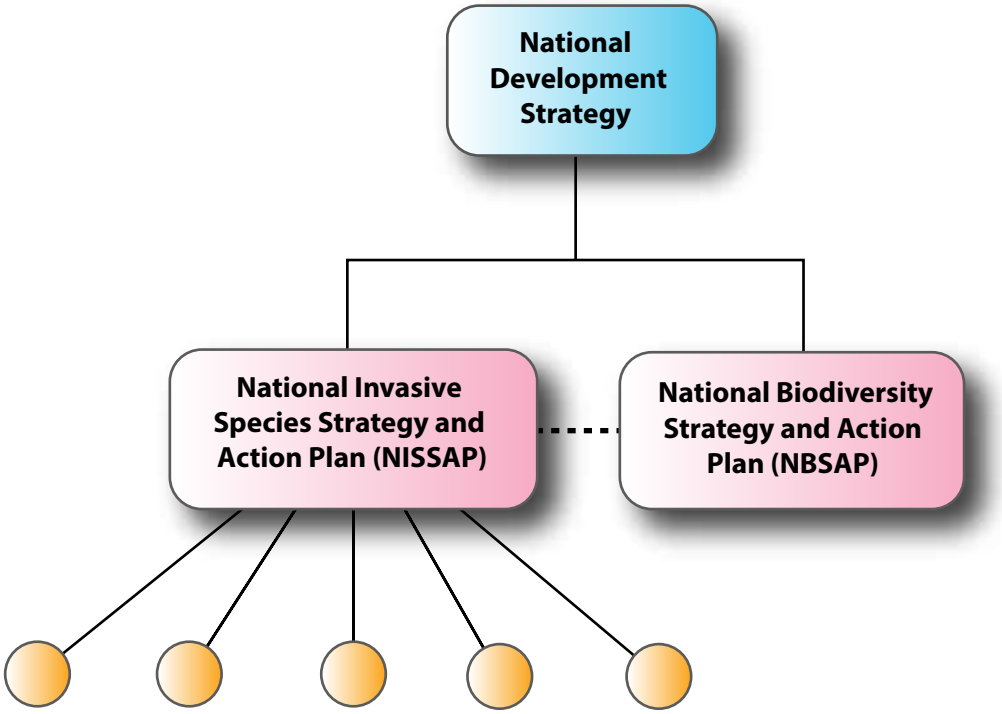
- The brown tree snake is thought to have caused the extinction of ten native landbird species on Guam, leaving only two.
- The taro leaf blight reduced annual export returns for taro in Samoa from approximately WST 10 million to approximately WST 150,000 (USD 60,000) over a couple of years.
- The yellow crazy ant has killed an estimated 10–15 million of the famous red crabs on Christmas Island in the Indian Ocean in recent years.

Linking the NISSAP to other strategies

This section shows how the NISSAP fits alongside other strategies, policies, etc. 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.

The NISSAP sits alongside other strategies such as the National Biodiversity Strategy and Action Plan (NBSAP), which provides the national framework for biodiversity conversation. Invasive species management is likely to be a major theme in the NBSAP, and the priorities and actions identified in the NISSAP should be fed into the NBSAP.

The actions identified in the NISSAP should also then feature in the corporate/business plans of the key agencies involved in invasive species management.



Key agencies involved in invasive species management

Guiding principles for invasive species management

The CBD identified a full list of 15 principles as an Annex to the report of the Conference of the Parties 6 which should be used to develop this section. Here are some key practical principles:

- Apply the precautionary principle: if you cannot 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 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 is important.
- 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 flora and fauna 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 in to a country to only be kept in ponds, pens, or cages will eventually escape into the wild, and plans should be made accordingly.

Pathways of invasion

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. Key pathways are likely to be by air and sea, as in the following examples.

Vanuatu – By Air

Six international airlines provide direct flights to Port Vila from Australia (Sydney, Melbourne, and Brisbane), New Zealand (Auckland), Fiji (Nadi), Solomon Islands (Honiara) and New Caledonia (Noumea). There are also direct flights from Sydney and Brisbane to the airport at Luganville on Santo. There are discussions about the development of a new airport and direct flights from Asia, which would represent a significantly increased biosecurity risk.

Photo: Exinbil, Wiki Commons

Niue – Commercial Shipping

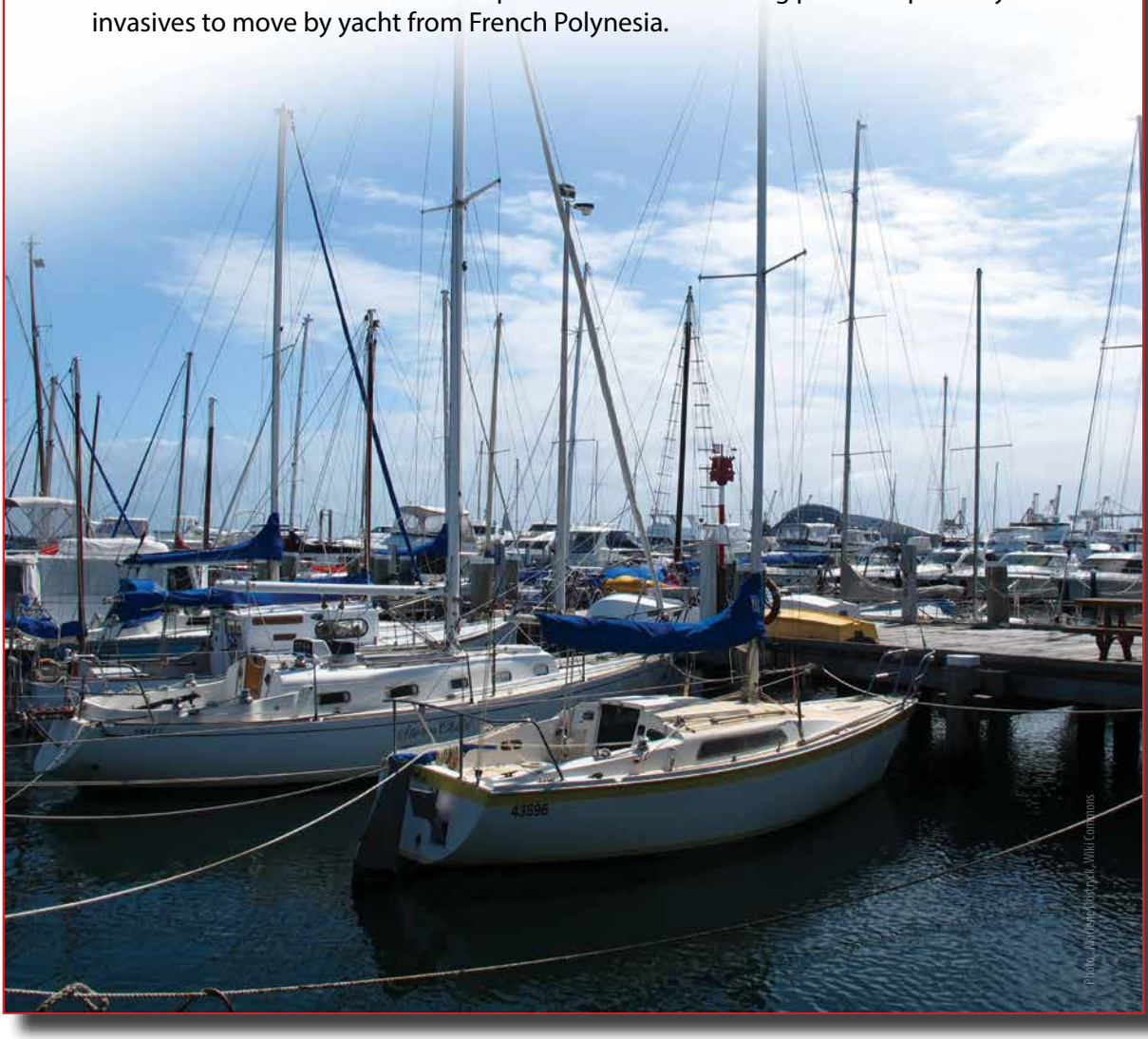
A new commercial shipping service serving Niue was established in July 2013 by NZ-based Matson Shipping, replacing a direct New Zealand–Niue service run by a different company. A vessel (currently MV 'Liloa') is scheduled on a monthly run from Auckland, NZ, through Fiji, Samoa, American Samoa, and the Cook Islands, carrying containers and deck cargo.

Whereas direct shipping from New Zealand carries fewer risks, this altered service that stops and loads cargo from these other countries en route to Niue could potentially carry invasive species that pose very significant threats to Niue. In addition, some of these species have been carried by boat to new countries in recent years. These species include cane toads and Indian brown mongoose found in Fiji that have been detected over the past five years in Samoa, common myna birds that were probably taken from New Zealand to Tokelau, and a range of invertebrates, including African land snails.

Cook Islands – Visiting Yachts

There are three designated Biosecurity Ports of Entry for yachts visiting the Cook Islands: Rarotonga (Avatiu Harbour), Aitutaki (Arutanga), and Atiu (Taunganui). No one can come ashore until a vessel has been cleared by Customs, a biosecurity clearance has been issued by Quarantine, and a 'certificate of pratique' has been issued by the Health Department. Suwarrow Atoll is not a recognised port of entry; however, the Government has relaxed its laws permitting vessels to enter the island only when the park rangers are present. May to September is the main period during which yachts visit the Cook Islands.

A registry of 80 yachts visiting Suwarrow between mid-June and September 2014 identified that the last port visited by 74 (92.5%) of these was in French Polynesia, three were from Kiribati, was one from American Samoa, and two were from elsewhere in the Cook Islands. This pattern confirms a strong potential pathway for invasives to move by yacht from French Polynesia.



Roles, programmes, and policies in your national strategy

Roles and responsibilities
This section identifies the different government agencies and NGOs that have roles in invasive species management.

Past and current programmes
This section summarises invasive species management activities.

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.

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 follows:

1. **Foundations:** Generating support; building capacity; and legislation, policy and protocols.
2. **Problem definition, prioritisation and decision-making:** Baseline and monitoring; prioritisation; research on priorities.
3. **Management Action:** Biosecurity; management of established invasives; restoration.

The Plan is set out as a table with six columns as follows:

- **Outcomes and Actions** – what outcome is sought and the key action to achieve this.
- **Activities** – the different activities that are undertaken to achieve the outcome.
- **Target** – what each activity aims to achieve and by what date.
- **Means of verification and monitoring frequency** – how you check if the targets have been achieved.
- **Responsibility –** who is responsible for carrying out the activities. The lead agency is listed first.
- **Financing** – how the activities are to be funded, whether from government budgets or outside sources.

Here is an example from Vanuatu of a 'Foundation' action:

Outcomes and Actions	Activities	Target	Means of Verification and Monitoring Frequency	Responsibility	Financing
Enact draft Biosecurity Bill	Finalise draft bill. Arrange translation Present to Cabinet Prepare and circulate information on new Act when passed	Biosecurity Act passed by Cabinet before end of September 2014	Biosecurity Act in place	BV, State Law Office, DEPC, Live & Learn	GEF-PAS, EU - Live & Learn

Monitoring and Evaluation

This important section will identify how to monitor and evaluate progress, which can be challenging. Leadership should be provided by the agency that led the NISSAP development, and a committee with representation of all the main stakeholders should be formed to play a role. An annual review of progress with the participation of the committee may be the best approach, as in the example below.

Vanuatu NISSAP example

The Division of Environmental Protection and Conservation has the role of coordinating the monitoring and evaluation of the implementation of this strategy.

This division is proposed to conduct an annual review of activities in the Action Plan with the involvement of the National Invasive Species Committee, SPREP, and SPC using the 'targets' and 'means of verification'. Those activities that are part of donor-funded projects will also be monitored as part of those projects' reporting systems.

What are the challenges to finding data to support my NISSAP?

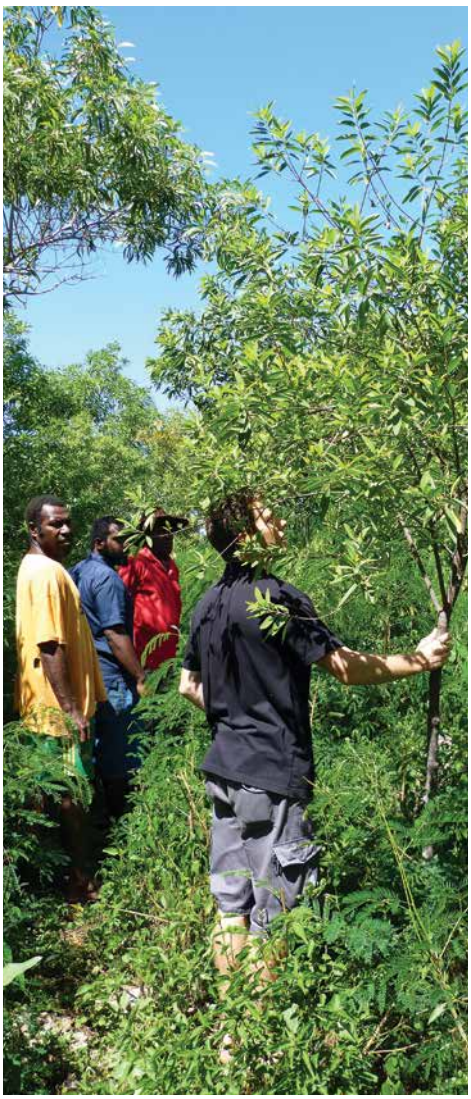


Photo : Carlo Iacovino, SPREP

There are some challenges interpreting the data in international databases for individual countries to prepare their NISSAP. For example, invasive species databases typically list species that have proved invasive somewhere in the world, which may not be invasive and may even be used as a food crop in your country. Such databases usually have Excel spreadsheets with a very large number of fields and categories, and these need sorting to be useful. For example, 'not invasive' is a category in some, and species with this tag need to be removed before the list is useful in preparing a NISSAP. If an expert such as ISSG staff prepares such material, then filtering out unnecessary information can be done by them. Alternatively, national staff need to be instructed how to use 'auto filter' to sort databases.

A second example is the use of the IUCN Red List. Again, this lists species on a global basis and includes any that have been recorded in a country or its waters, but some of the listed species may be of no relevance to that country. Niue's listing, for example, includes several threatened albatrosses that are occasionally seen in Niuean waters, but none of these are of any significance for Niue and the management of invasive species there nor is what happens on Niue of any real significance for their conservation. Instead, the Fourth National Report of Niue (2009) to the CBD ranks four native species as 'Endangered' in the country, including the Pacific pigeon and Tongan flying fox, which are of no concern elsewhere. Addressing the invasive species threats to these species is a priority for Niue and its NISSAP.

How do I develop the Action Plan for my NISSAP?

The Action Plan should be developed through wide consultation with stakeholders, and four elements can be identified:

1. Consultation with key agencies
2. Consultation with communities
3. Consultation with regional organisations
4. National endorsement

Who do I consult about the NISSAP?

Key agencies

The agencies for biosecurity, agriculture, environment, health, and marine issues are the key ones that may manage invasive species. Discussions should be held with them to identify what they see as the priority actions needed to allow them to do their current work better or to expand their work to tackle other issues. To expand their efforts, they will require additional funding, and the financing column of the table will often include a comment such as 'outside funding required' if no source can be identified.

Communities

This is a challenging issue, particularly in countries that are made up of several islands or island groups, and several approaches can be used. There may be nationally based NGOs, e.g. farmers' associations or environmental NGOs, and such NGOs may be able to represent community views or facilitate discussion with them. Questionnaires can be circulated to different communities through a government department responsible for community affairs. It may also be possible to hold consultations on more than one island/island group. Consultations with local communities will need to be held in the local language.

Photo : Cindy Wiryakusuma AusAID, Wiki Commons

Regional organisations

Organisations such as the Secretariat for the Pacific Regional Environment Programme (SPREP) www.sprep.org and the Secretariat of the Pacific Community (SPC) www.spc.int have significant regional responsibilities for invasive species management affecting the environment and agriculture, respectively. Their input can best be obtained by providing them a draft NISSAP with the first version of an action plan. Their staff can see what has been prioritised nationally, suggest gaps, and identify what assistance they can provide through programmes they are running.

How do I get national endorsement?

It is important that the NISSAP is endorsed by Cabinet or the equivalent in each country.

For Cabinet to do this, they need to see that the strategy has been signed off by stakeholders. This is typically done at a national workshop to which all key stakeholders are invited. Alternatively, the heads of the key government agencies can sign it off before it is sent to Cabinet.

Photo : Carlo Iacovino, SPREP

Your nationally endorsed NISSAP or TISSAP will support and guide your future actions on invasive species prevention and management. With your NISSAP, your colleagues in the Pacific Invasives Learning Network (PILN), and your use of regional resources, you will be well prepared to battle invasive species.

Additional Resources

The Battler Resource Base contains information materials and resources for battling invasive species: www.sprep.org/piln/resource-base

You can contact the Invasive Species Programme through the SPREP website: www.sprep.org/Invasive-Species/bem-invasive-species

National Invasive Species Strategies and Action Plans

NISSAP and invasive species reviews have been completed recently for the following countries in the region and can be sourced from the Battler Resource Base: Tonga, Vanuatu, Niue, Republic of Marshall Islands, Cook Islands, Federated States of Micronesia, Kiribati, and Wallis and Futuna.

Reports

SPREP. 2009. Guidelines for Invasive Species Management in the Pacific. Apia, Samoa: Secretariat of the Pacific Regional Environment Programme.

Reports from the Convention on Biological Diversity:

Guiding principles for the prevention, introduction, and mitigation of impacts of alien species that threaten ecosystems, Habitats and species. https://www.cbd.int/doc/decisions/cop-06-dec-23-en.pdf

National invasive alien species strategies and action plans. https://www.cbd.int/decision/cop/?id=7197

Join the Fight

Protect our islands from invasive species