‘Compilation and analysis of user requirements for invasive species in the context of the proposed BIOPAMA Regional Reference Information System, showing the core information needs and functional requirements for the specific assessment of threats of invasive species to protected areas’

An assessment was made of the priority data and information needs of protected area managers in their work related to conservtion of biodiversity and natural areas, in the review undertaken by Landcare Research and University of Auckland titled “Biodiversity and Protected Areas Data Resources in the Pacific: A review for IUCN in support of the BIOPAMA project”. This review was undertaken to inform participants at the Suva, Fiji BIOPAMA Inception workshop.

This is an extract from the review

***What are the priority data and information needs?***

*Our review covered decisions adopted by the Conference of the Parties (COP) to the CBD related to protected area and biodiversity issues; priorities identified in key regional strategies and action plans (e.g. Action Strategy for Nature Conservation in the Pacific islands, Regional Wetlands Action Plan for the Pacific Islands 2011–2013); recommendations resulting from conservation fora (e.g. Pacific Islands Species Forum (PISF), Pacific Islands Marine Protected Area Community (PIMPAC) and, priority needs identified in the national Programme of Work on Protected Areas (PoWPA) Action plans and National Biodiversity Startegies and Action Plans (NBSAPs).*

*The priority need for information varied at different levels: at the global level (CBD decisions) it was information on governance and social impacts and benefits of protected areas and, at the country and community level there is a critical need for baseline biodiversity data for informing management action, prioritising, and development of national indicators to monitor trends etc. There was a spectrum of information needs expressed by local biodiversity management practitioners, government agencies, NGOs, consultant and researchers. The different groups had commonalities and differences.*

*Limited availability of relevant information on activities of the PoWPA, including insufficient reporting was identified as a gap to be addressed at the CBD COP. Relevant information for evaluating progress in the implementation of the PoWPA and information on status and trends of, and threats to, protected areas as part of the reviews of the implementation of this thematic programme were identified as gaps.*

*At the regional level priority data and information needs included local and traditional knowledge and practices, consolidation of inventories, checklists, literature (including grey), addressing geographic and taxonomic gaps (especially huge gaps in knowledge of plants, fungi and invertebrates).*

*Eleven PICTS have submitted PoWPA Action Plans to the CBD in the past year. In a majority of them lack of baseline data were identified as a barrier to the effective implementation of the PoWPA. Identified baseline data includes species and their status, biological and ecological significance of sites, time series information to develop indicators to monitor trends and conditions of ecosystems, and associated scientific and technical information.*

*Here are some examples:*

***Solomon Islands***

*“Knowledge incomplete about what to protect, where to protect, and how to protect. The lack of data or information and the difficulties in even gathering what is currently known in biodiversity resources and all related subjects continues to be a major challenge for Solomon Islands”.*

***Tuvalu***

*“A management effectiveness assessment concluded that Tuvalu needs a 'Basic database of its biodiversity for effective management and conservation and most important to physically measure the effectiveness of the implementation of the NBSAP. For effective monitoring, biological indicators need to be established. Obviously, implementing the NBSAP will have an effect which can be seen in terms of changes in the biological indicators"*

***Kiribati***

*“Limited information and knowledge is recognised as a barrier for effective implementation. Currently, knowledge is lacking on the biodiversity of both the terrestrial and marine zones. Lack of baseline information on species and sites, shortage of and inaccessibility to scientific information related to species and sites, lack of time series data to develop indicators and trends are recognised as priority needs for better decision making on protected areas management and biodiversity conservation. Mapping the occurrence and status of critical biodiversity and status of protected areas using GIS was recognised as a need.*

Based on this review, and, in the context of the proposed BIOPAMA Regional Reference Information System, core information needs and functional requirements for the specific assessment of threats of invasive species to protected areas can be broadly classified under the following five broad headings

* Species information both alien and known invasive species, as well as endemic and native species
* Site / location information
* Prevention of introduction and spread of alien and invasive species information
* Eradication/ Control/ Management of alien and invasive species information
* Policy/ Legal/ Institutional information related to species protection, biosecurity and management of pathways of introduction and spread of alien and invasive species

A breakdown of the core information needs has been listed below to describe the information components that would assit and support protected area managers in the better management of this threat. In addition to protected area and conservation managers, these data and information will assit country Convention on Biological Diversity (CBD) and National Biodiversity Strategy and Action Plans (NBSAP) and Programme of Work on Protected Areas (PoWPA) work plan focal points, Ramsar nodes, Convention on Migratory Species (CMS) focal points to prioritise and develop targets to meet Aichi Target 9, 11, 12 and other related Targets 5 and 17[[1]](#footnote-1)

Species information both alien and known invasive species, as well as endemic and native species

* Identification and occurrence data for endemic and native species- both location and habitat and ecosystem types in designated areas as well as country wide data
* Knowledge of conservation status of native and endemic species in the global, regional and national context
* Occurrence data for established and potentially invasive alien species and – in some cases – native species at the national level (ideally - origin, historic, and recent movement of species)
* Taxonomic information for identification and classification of alien species
* Tools for species identification
* Basic biological information/species (esp. data used to analyze risks and impact)
* Known ecological and socio-economic impacts/species and broader taxonomic groups, including impacts on ecosystem services
* Information on interactions between invasive alien species and other drivers of change (e.g., climate change)
* Utilization – as it relates to potential pathways of spread, as well as control options

Site / location information

* Country, island-wise (at the action level) lists of endemic and native species with population details for conservation planning
* Country, island-wise (at the action level) lists of species documented as harmful – arranged by impact type and location (geographically and by ecosystem)
* National database of invasive alien species created and maintained

Prevention of introduction and spread of alien and invasive species information

* Best/good prevention practices (esp. with regard to risk analyses), including case studies of management of invasive species in designated areas
* Alerts for potential invasive alien species and associated data that could act as an early warning system
* Risk analyses for intentional imports, pathways or accidental introduction, prioritization for established species
* Predictive tools for risk analysis (e.g., climate matching)
* Pathways of introduction and spread (patterns, trends, rates)/species (generally at national level)
* Tools for prioritizing the risk of species and pathways especially movement of species from surrounding areas of areas of high biodiversity value
* Intercept data from ports of entry (by species and pathways – routes and conveyances)

Eradication/ Control/ Management of alien and invasive species information

* Best/good eradication and control practices, including restoration; case studies of both successful and unsuccessful eradication events and conservation outcomes
* Lessons learned from failed eradication attempts
* Cost-benefit analysis of response options (esp. biocontrol)
* Extent of invasive alien species establishment in freshwater, marine, and terrestrial ecosystems/country and protected areas
* Field monitoring protocols

Policy/ Legal/ Institutional information related to species protection, biosecurity and management of pathways of introduction and spread of alien and invasive species

* Critical situation analyses/country
* National Biodiversity Strategy and Action Plans/country
* National Invasive (Alien) Species Strategy and Action Plans/country
* Programme of Work for Protected Areas (PoWPA) Work Plan
* Management plans for protected and other designated areas
* Recovery plans for specific species
* Legal and institutional frameworks in other countries/regions
* List of sources of financing invasive alien species programmes
* Catalog of education/outreach programmes and materials by species and pathway
* List of invasive alien species activities in neighboring countries
* Directory of organizations that can provide assessment and implementation support

1. Aichi Targets < <http://www.cbd.int/sp/targets/>> [↑](#footnote-ref-1)