STRENGTHENING INFORMATION FOR REGIONAL ASSESSMENTS OF THE **CONSERVATION STATUS AND DISTRIBUTION OF BIODIVERSITY** IN THE PACIFIC ISLANDS

21

CONSERVATION INTERNATIONAL
Pacific Islands

BIODIVERSITY CONSERVATION LESSONS LEARNED TECHNICAL SERIES

21 Strengthening Information for Regional Assessments of the Conservation Status and Distribution of Biodiversity in the Pacific Islands

Biodiversity Conservation Lessons Learned Technical Series is published by:

Critical Ecosystem Partnership Fund (CEPF) and Conservation International Pacific Islands Program (CI-Pacific)

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The Critical Ecosystem Partnership Fund is a joint initiative of l'Agence Française de Développement, Conservation International, the Global Environment Facility, the Government of Japan, the MacArthur Foundation and the World Bank. A fundamental goal is to ensure civil society is engaged in biodiversity conservation.

Conservation International Pacific Islands Program. 2013. Biodiversity Conservation Lessons Learned Technical Series 21: Strengthening Information for Regional Assessments of the Conservation Status and Distribution of Biodiversity in the Pacific Islands.

Conservation International, Apia, Samoa

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Cover photographs: Palau *helicarionid* snail © Rebecca Rundell and Jesse Czekanski-Moir; *Stihodon julieni* © E.Vigneux; *Geyhra oceanica*, © Bishop Museum

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ISBN 978-982-9130-21-1

This publication is available electronically from Conservation International's website: www.conservation.org or www.cepf.net

CONSERVATION INTERNATIONAL Pacific Islands

CRITICAL ECOSYSTEM PARTNERSHIP FUND

The Critical Ecosystem Partnership Fund is a joint initiative of l'Agence Française de Développement, Conservation International, the European Union, the Global Environment Facility, the Government of Japan, the MacArthur Foundation and the World Bank. A fundamental goal is to ensure civil society is engaged in biodiversity conservation.

ABOUT THE BIODIVERSITY CONSERVATION LESSONS LEARNED TECHNICAL SERIES

This document is part of a technical report series on conservation projects funded by the Critical Ecosystem Partnership Fund (CEPF) and the Conservation International Pacific Islands Program (CI-Pacific). The main purpose of this series is to disseminate project findings and successes to a broader audience of conservation professionals in the Pacific, along with interested members of the public and students. The reports are being prepared on an ad-hoc basis as projects are completed and written up.

In most cases the reports are composed of two parts, the first part is a detailed technical report on the project which gives details on the methodology used, the results and any recommendations. The second part is a brief project completion report written for the donor and focused on conservation impacts and lessons learned.

The CEPF fund in the Polynesia-Micronesia region was launched in September 2008 and will be active until 2013. It is being managed as a partnership between CI Pacific and CEPF. The purpose of the fund is to engage and build the capacity of non-governmental organizations to achieve terrestrial biodiversity conservation. The total grant envelope is approximately US$6 million, and focuses on three main elements: the prevention, control and eradication of invasive species in key biodiversity areas (KBAs); strengthening the conservation status and management of a prioritized set of 60 KBAs and building the awareness and participation of local leaders and community members in the implementation of threatened species recovery plans.

Since the launch of the fund, a number of calls for proposals have been completed for 14 eligible Pacific Island Countries and Territories (Samoa, Tonga, Kiribati, Fiji, Niue, Cook Islands, Palau, FSM, Marshall Islands, Tokelau Islands, French Polynesia, Wallis and Futuna, Eastern Island, Pitcairn and Tokelau). By late 2012 more than 90 projects in 13 countries and territories were being funded.

The Polynesia-Micronesia Biodiversity Hotspot is one of the most threatened of Earth's 34 biodiversity hotspots, with only 21 percent of the region's original vegetation remaining in pristine condition. The Hotspot faces a large number of severe threats including invasive species, alteration or destruction of native habitat and over exploitation of natural resources. The limited land area exacerbates these threats and to date there have been more recorded bird extinctions in this Hotspot than any other. In the future climate change is likely to become a major threat especially for low lying islands and atolls which could disappear completely.

For more information on the funding criteria and how to apply for a CEPF grant please visit:

- www.cepf.net/where_we_work/regions/asia_pacific/polynesia_micronesia/Pages/default.aspx
- www.cepf.net

For more information on Conservation International's work in the Pacific please visit:

- www.conservation.org/explore/asia-pacific/pacific_islands/pages/overview.aspx

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CRITICAL ECOSYSTEM PARTNERSHIP FUND

CONSERVATION INTERNATIONAL Pacific Islands

Location of the project in the Polynesia-Micronesia Biodiversity Hotspot

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IUCN

RED LIST©

THE IUCN RED LIST
OF THREATENED SPECIES™

Lessons Learned

IDENTIFICATION OF SPECIALISTS AND EXPERTS

A major problem encountered was the lack of sufficiently experienced assessors and experts willing and able to take on the task of carrying out species assessments. This was especially true for the reptile group. As well, certain individuals signed up to be part of the project but then failed to communicate with the implementation team, and were subsequently withdrawn from the project. This was a burden for the implementation team as far too much time was wasted chasing up on people. Unfortunately there is very little that can be done in this situation, but in the future it would be emphasized to utilize experts who have been involved in the process before, or who are recommended by trusted sources. Another, somewhat related point, is that the species lists were only compiled during the workshop – if this had been done prior to the workshop, it may have helped in identifying the dependable capacity to carry out the assessments.

MEETING DEADLINES AND TIME TAKEN

We under-estimated the amount of time it would take in almost all aspects of the project implementation – from identifying the experts, to planning and execution of the workshops, to the assessment and review process itself and finally the write-up of the project. The success of the project is so dependent on every variable that if any issues arise, this affects everything else in turn: for example, if someone does not complete their assessments on time, this impacts the assessment process, the creation of maps, the input and final quality control checks in the Species database and the final analysis. Related to this, the amount of staff time allocated for the Project Coordinator and other key staff was also inadequate given the extended time taken.

WRITING OF THE FINAL REPORT AND PUBLICATION OF RESULTS

As a result of trying to get as many of the accounts reviewed as possible, the writing of the analysis and publication of the results was delayed. The final report is currently in draft form but following peer-review it is hoped that this will be published very shortly, and hopefully to coincide with the publication of the results on the Red List website in October 2012. In addition, if more time allowed, it would have been preferable to produce a more detailed report by asking some of the assessors and evaluators to contribute to different chapters. Providing payment for this may be something to consider.

Project Design Process

Aspects of the project design that contributed to its success/shortcomings.

SHORTCOMINGS

We carried out this project using similar methodology to other components of IUCN which carry out Red List assessments – i.e. a training workshop where assessors were trained in IUCN processes, followed by the assessors going away and carrying out the assessments on their own and in their own time, and finally an evaluation workshop where experts peer-reviewed the compiled assessments. Not all components of IUCN work in this manner however, and for future assessments in the Pacific (where the majority of project participants are new to the Red Listing process), the following recommendations would be made:

1. IUCN/implementing staff compile the draft accounts prior to the training workshop
2. Identified experts complete IUCN's online Red List training in their own time
3. One (extended) workshop is held. At this workshop, participants are trained in person in the Red List Categories and Criteria and then review and populate the draft accounts with their own expert data
4. IUCN/implementing staff would then carry out post-workshop editing of the accounts

SUCCESSES

By involving assessors from the very beginning (i.e. from introducing them to the Red List process at the Training workshop), a strong sense of ownership was generated amongst the biodiversity specialists and experts.

Project Implementation

Aspects of the project execution that contributed to its success/shortcomings.

The main implementation aspect that contributed to the project's success was regular communication: by email and skype between different members of the implementation team, and with the assessors and reviewers.

Other lessons learned

relevant to the conservation community

This project has reinforced the importance of updating and strengthening our knowledge on Pacific Island species. Without such baseline data it is a huge challenge to effectively meet conservation objectives and implement biodiversity action plans. The project has also highlighted the existence of a great deal of capacity in the region, as well as the enthusiasm for networking. It is crucial that the project implementers and the other identified stakeholders commit to maintaining and strengthening the momentum that this project has produced.

Introduction

Prior to the start of this project "Strengthening Information for Regional Assessments of the Conservation Status and Distribution of Biodiversity in the Pacific Islands", very little information existed on the conservation status of many taxonomic groups in the Pacific Islands. The Ecosystem Profile for the Polynesia-Micronesia Hotspot prepared by CEPF found that: "*The current population and threat status of endangered species is particularly lacking, even for fairly well known species. Furthermore, there are many candidate threatened species for the Red List that urgently require assessment of population and conservation status".* In the absence of basic information on the distribution, ecology, and conservation status of species, it is difficult, if not impossible, to identify, recommend and monitor conservation outcomes and actions.

This project has started the process of filling some of the gaps in our knowledge of Pacific Island species. The distribution, ecology and conservation status of freshwater fishes, certain families of land snails and many reptiles in Polynesia, Micronesia and parts of Melanesia, has now been assessed according to the IUCN Red List Categories and Criteria. This baseline biodiversity data information can now be used to inform conservation planning in the Pacific, and assist governments and organizations with the development of species-specific recovery plans, and the establishment of any necessary protective measures and best practice management efforts.

This report summarizes the conservation status of 167 freshwater fishes, 166 land snails and 157 reptiles native to the Pacific Islands of Oceania (Micronesia, Polynesia and Melanesia). It identifies Pacific Island species that are threatened with extinction at the global level, according to the IUCN Red List Categories and Criteria – the world's most widely accepted methodology for measuring extinction risk. The status of species is based on evaluations made by a regional network of experts, who were trained to carry out biodiversity assessments according to the IUCN Red List Categories and Criteria. Complete assessments are freely available on the IUCN Red List website: http://www.iucnredlist.org. Major threats are identified for each taxonomic group, and recommendations for conservation action are suggested.

Land snails are found to be the most highly threatened group, with 70% of the assessed species threatened: half of all threatened species are listed as Critically Endangered, and many also qualify for Possibly Extinct, as no live or dead shells have been found in recent times. Whilst many fish species are not listed as threatened (due to their larger range and ability to occupy a variety of freshwater, estuarine and marine habitats), a large number (40%) are listed as Data Deficient. Almost one fifth of reptiles have been assessed as threatened, and are impacted by invasive mammals and plants, and by habitat degradation.

The project results are particularly important for guiding decision-making and conservation activities of Pacific Island governments, NGOs and the private sector, and for enabling direct action on the ground. The results must now be utilized to inform regional and national policies, to identify priority sites for biodiversity conservation and to prepare and implement species recovery plans for the identified threatened species.

Economic growth and a rising human population (now approximately 7 million people), is placing ever-increasing demands on the natural resources of Pacific Island countries. Resources are vulnerable to over-harvesting, deforestation, coastal development and agricultural expansion: habitats are being degraded, fragmented, or completely destroyed. Added to this are the increasing impacts of invasive alien species and climate change, which present serious threats to the many rare and endemic species found in the Pacific, and which in turn affect the livelihoods of the people who rely on these species for their livelihoods. There is therefore an urgent need to implement effective conservation measures to safeguard the ecosystem resources of the region. However, the lack of basic data on species, out-of-date information, and poorly studied areas means that very little is known about the majority of species in the region: without this baseline data, it is extremely difficult, if not impossible, to implement conservation plans.

In 2007, IUCN Oceania, in partnership with the Secretariat of the Pacific Regional Environment Programme (SPREP), and Conservation International, initiated a process to build capacity and improve knowledge and information on Pacific Island species. A species' conservation status is one of the most useful signs for assessing the condition of an ecosystem and its biodiversity, and this process would therefore provide much needed baseline data to enable governments, communities and other organizations to implement effective on-the-ground conservation planning and management. Funding was received from the Critical Ecosystem Partnership Fund (CEPF) and the Fonds Pacifique to begin this process, by carrying out biodiversity assessments for freshwater fishes, land snails and reptiles.

The project established a regional network of experts who were trained to carry out biodiversity assessments according to the IUCN Red List Categories and Criteria. The resulting species' accounts are based on evaluations made during two IUCN workshops held in Fiji in 2010, and contain information on each species' conservation status, distribution and relative risk of extinction. The accounts are available through the IUCN Red List of Threatened Species™ (IUCN Red List) website (www.iucnredlist.org). Major threats and recommendations for conservation action are also identified.

The current status and distribution of freshwater fishes in the Pacific Islands of Oceania

Assessments for freshwater fishes primarily focused on species found in the Polynesia-Micronesia Hotspot as defined by the Critical Ecosystem Partnership Fund, with a particular focus on endemic species. The Polynesia-Micronesia hotspot includes the following countries: American Samoa, Cook Islands, Federated States of Micronesia, Fiji, French Polynesia, Guam, Kiribati, Marshall Islands, Nauru, Niue, Northern Mariana Islands, Palau, Pitcairn Islands, Samoa, Tonga, Tokelau, Tuvalu, Wallis and Futuna. Where expertise was available, species found in Melanesia (Solomon Islands, Vanuatu, Papua New Guinea, New Caledonia and Norfolk Island) and wider-ranging species were also assessed. Freshwater fishes were defined as those species that spend all or a critical part of their life cycle in freshwaters.

Lentipes kaaea, LC . Originally thought to be endemic to New Caledonia, this species has recently been recorded from Solomon Islands, Vanuatu, Fiji, and Futuna. It is locally common in New Caledonia and Vanuatu and there are currently no major threats known. © E.Vigneux

RESULTS

Assessments were carried out for 167 species of freshwater fishes native to Micronesia, Polynesia and Melanesia. This summary presents the major results of the project and is intended to be read in conjunction with individual species' accounts available on the IUCN Red List website.

1. Conservation status of freshwater fishes

The majority of species (91 species, representing 53%) have been assessed as Least Concern (LC) (see Figure 1). Generally, these species are widely distributed with no known major threats impacting them and have a lower risk of extinction. Due to a lack of information, the extinction risk could not be evaluated for 63 species (39%), which have been categorized as Data Deficient. Of the species for which sufficient data are available, 12 species (8%) are considered to be threatened (in categories Critically Endangered, Endangered or Vulnerable – see Figure 1 and Table 1). Three species (2%) are assessed as Critically Endangered (CR) – the highest level of threat that can be assigned to a species in the wild; eight species (5%) have been assessed as Endangered (EN) and one species is assessed as Vulnerable (VU). A further two species almost meet the thresholds for threatened species and are listed as Near Threatened (NT). The Red List Category of threat assigned to each of the 167 species is given in Appendix 3.

Table 1: Freshwater fishes listed as threatened

ORDER	FAMILY	SPECIES	CATEGORY	CRITERIA	COUNTRY
OSMERIFORMES	GALAXIIDAE	*Galaxias neocaledonicus*	EN	B1ab(iii,v)+2ab(iii,v)	New Caledonia
PERCIFORMES	GOBIIDAE	*Akihito futuna*	CR	B1ab(ii,iii)	Wallis and Futuna
PERCIFORMES	GOBIIDAE	*Sicyopterus eudentatus*	EN	B1ab(ii,iii,iv)	Federated States of Micronesia
PERCIFORMES	GOBIIDAE	*Sicyopterus rapa*	EN	B1ab(iii)+2ab(iii)	French Polynesia (Tubuai Islands)
PERCIFORMES	GOBIIDAE	*Sicyopterus sarasini*	EN	B2ab(ii,iii)	New Caledonia
PERCIFORMES	GOBIIDAE	*Smilosicyopus sasali*	EN	B1ab(ii,iii)+2ab(ii,iii)	Wallis and Futuna
PERCIFORMES	GOBIIDAE	*Stenogobius keletaona*	VU	D2	Wallis and Futuna
PERCIFORMES	GOBIIDAE	*Stiphodon discotorquatus*	CR (PE)	B1ab(ii,iii)+2ab(ii,iii)	French Polynesia (Tubuai Islands)
PERCIFORMES	GOBIIDAE	*Stiphodon rubromaculatus*	CR	B1ab(ii,iii)	Wallis and Futuna
PERCIFORMES	GOBIIDAE	*Stiphodon julieni*	EN	B1ab(iii)+2ab(iii)	French Polynesia (Tubuai Islands)
PERCIFORMES	POMACENTRIDAE	*Neopomacentrus aquadulcis*	EN	B2ab(ii,iii)	Papua New Guinea and Solomon Islands
PERCIFORMES	RHYACICHTHYIDAE	*Protogobius attiti*	EN	B2ab(i,ii,iii)	New Caledonia

Stiphodon julieni, EN. Endemic to French Polynesia, this species is known from three locations (3 rivers) on the small island of Rapa. It is experiencing a continuing decline in the quality of its habitat, largely caused by deforestation. © E.Vigneux

Figure 1: All species assessed by conservation status

n=167

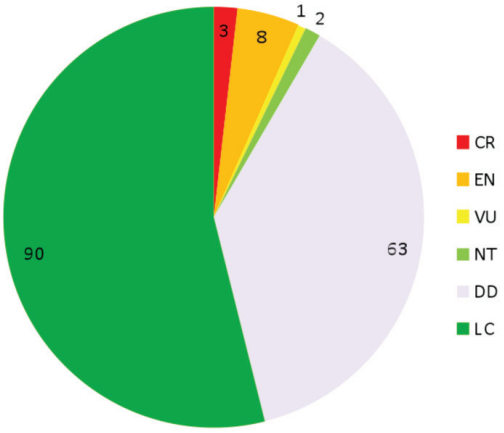


Figure 2: Endemic species assessed by conservation status

n=43

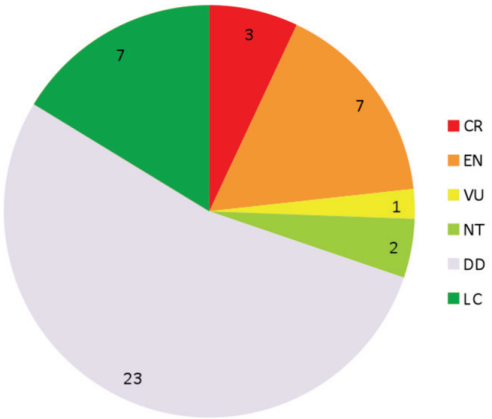
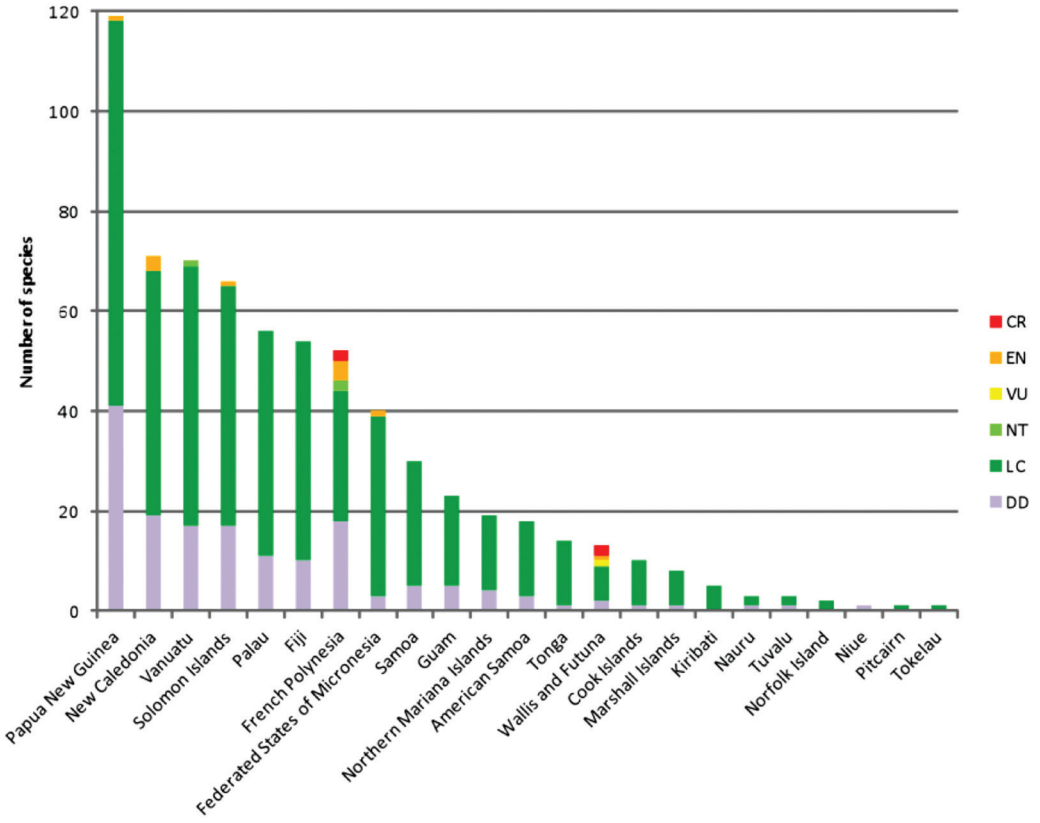


Figure 3: All species assessed by country and conservation status



2. Spatial distribution

Geographically, the highest diversity of freshwater fishes is seen in the west of the region (Melanesian countries) and generally declines eastwards from Micronesia into Polynesia. Some of the observed variation in species richness is a result of differences in sampling intensity: Melanesia, French Polynesia, Wallis and Futuna and the Samoan islands have been sampled more frequently in recent years and more data are therefore available. In addition, many of the islands in Micronesia and Polynesia are low-lying and contain fewer river systems, which means that fish diversity is skewed towards the high island countries of the western Pacific. Figure 3 shows the number of species assessed by country and conservation status and Figures 7 and 8 show species richness across the region.

Endemism

A quarter of assessed species are endemic to single countries, and indeed single islands within countries (see Figure 2). For example, *Stiphodon julieni* (EN) is only recorded from the island of Rapa in the Tubuai Islands of French Polynesia and *Akihito vanuatu* (LC) is restricted to two islands in Vanuatu: Ambae and Pentecost. By country, French Polynesia contains the highest number of assessed endemic species, whilst Wallis and Futuna contains the highest number of threatened endemic species. A further 40% of species are regionally endemic to the Pacific Islands region. In terms of threat status, the number of Least Concern species is far lower for endemics than for freshwater fishes as a whole – 16% of endemics compared to 90% for all assessed fishes. It should also be noted that (aside from *Neopomacentrus aquadulcis*, found in Solomon Islands and Papua

New Guinea) all fishes listed as threatened are endemic to a single country – see Figure 4 and Table 1. These figures are indicative of endemic/restricted range species being more susceptible to threats than wider-ranging species.

Distribution by habitat

The majority of species live in permanent freshwater rivers, and in estuarine and mangrove areas: 83% inhabit freshwater and/or estuarine habitats, 42% of which are confined solely to freshwaters, and 41% living in freshwater and estuarine habitats. Over half of all assessed species are migratory, moving from freshwater rivers to the sea for spawning. Figure 5 shows the habitat types within each major system that all species are recorded from. The twelve threatened species and most endemic species are also confined to freshwaters and/or estuarine area. As these are restricted range species, found in only a small number of river systems, it is not surprising that any major threats would impact them.

Figure 4: Endemic species by country and conservation status

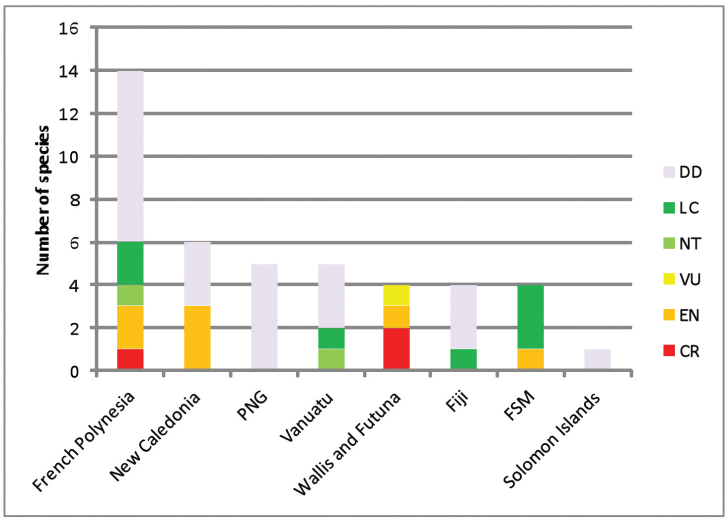
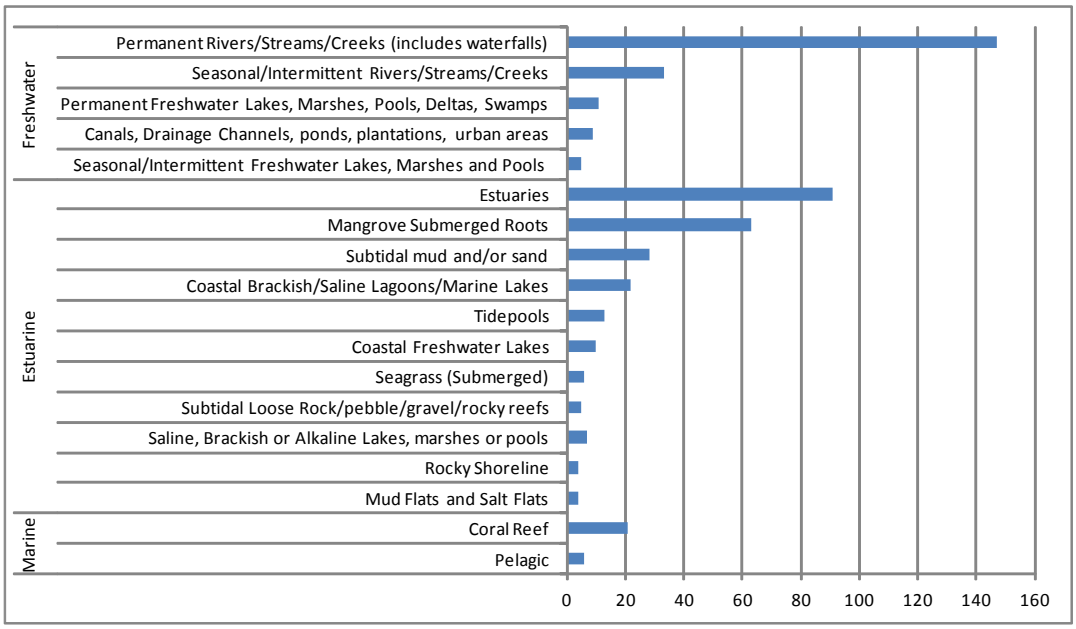


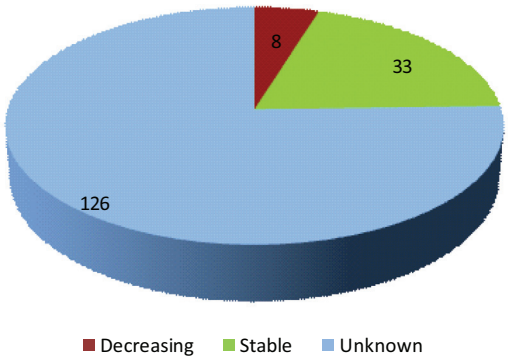
Figure 5: Major habitat types for freshwater fishes

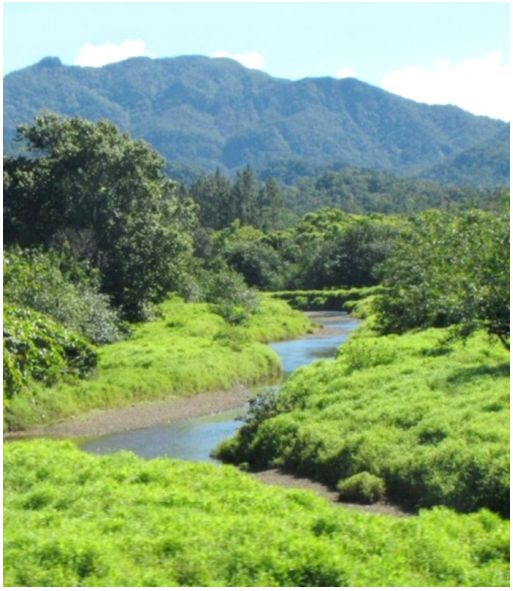


3. Population trends

Being able to determine a species' population trend is critical to assessing a species' conservation status. Approximately 5% of the freshwater fish species assessed are thought to be declining; 20% are considered stable, and no populations were thought to be increasing – see Figure 6. However, due to the large number of species for which there are no population data on size or trends, the trends for three quarters of the fishes assessed are unknown.

Figure 6: Population trends

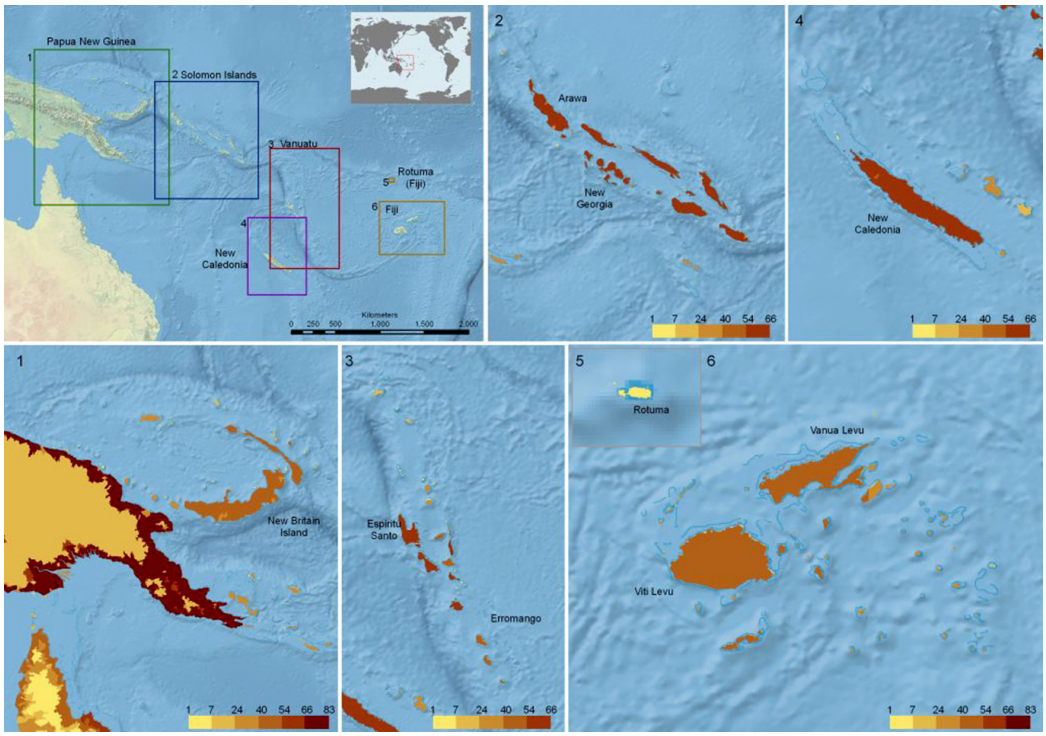




River system on the high island of Viti Levu, Fiji © Helen Pippard

Figure 7: Species Richness in Melanesia and Micronesia

MELANESIA



MICRONESIA

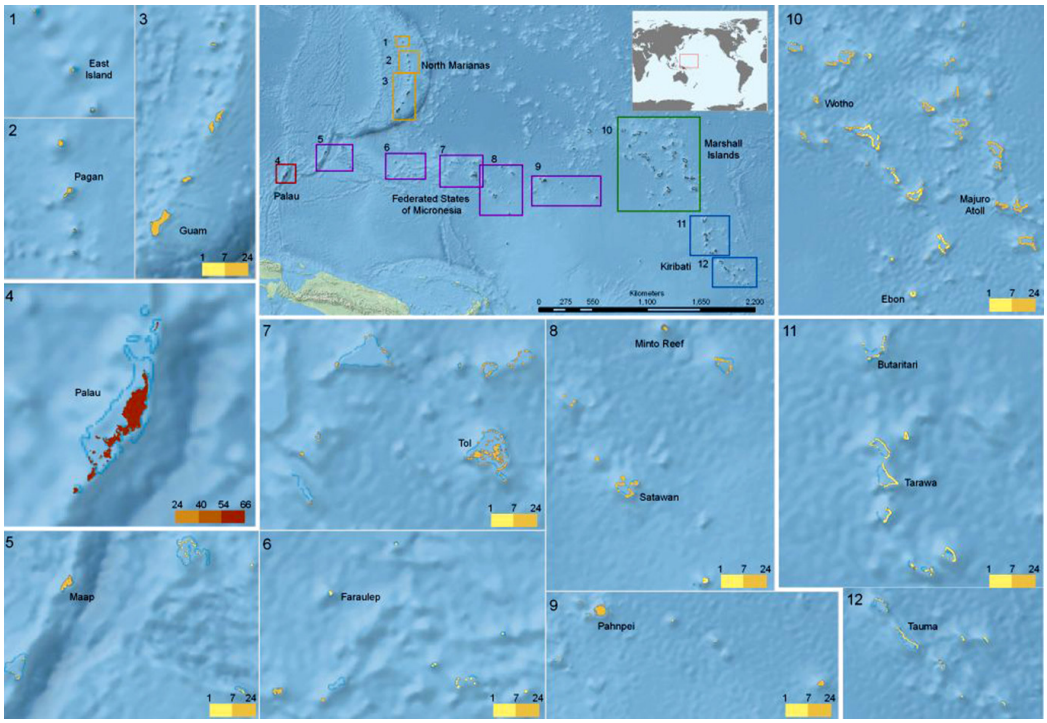
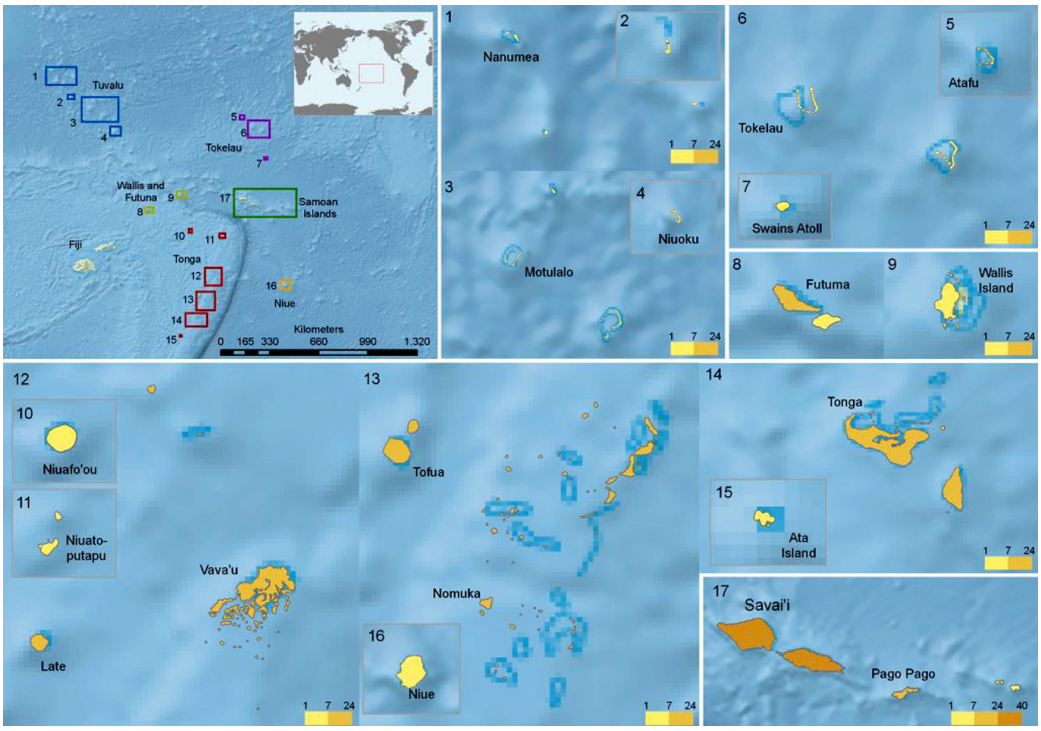
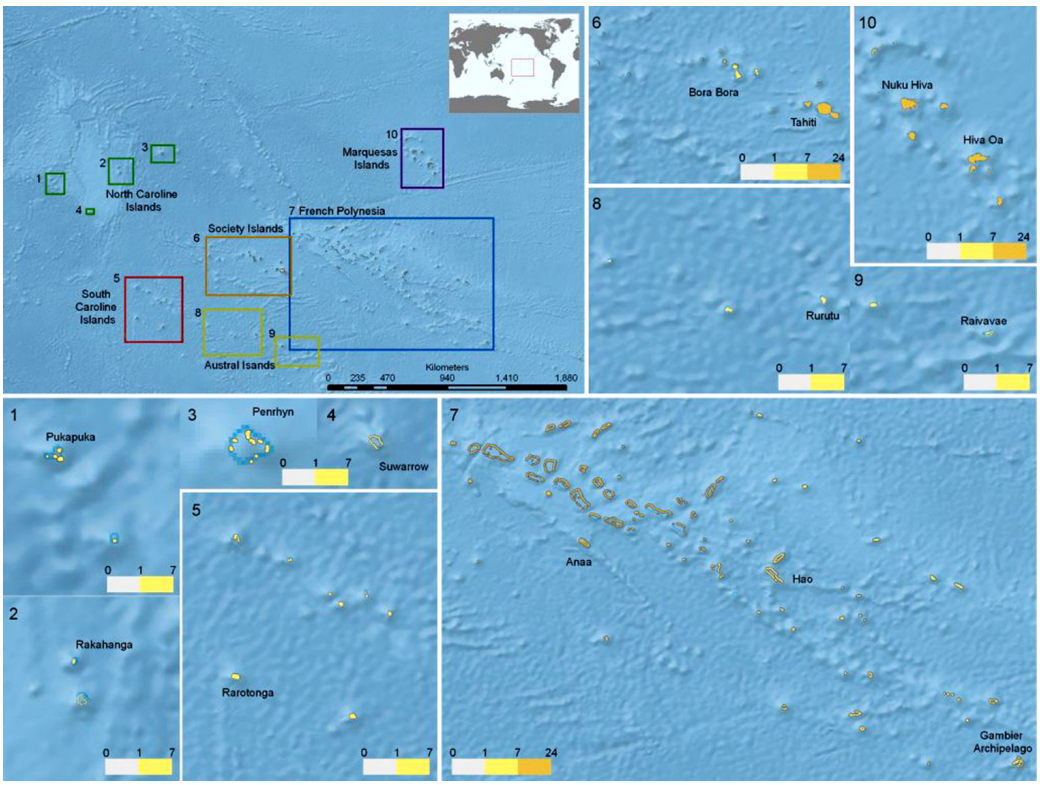


Figure 8: Species Richness in Western and Eastern Polynesia

WESTERN POLYNESIA



EASTERN POLYNESIA



4. Major threats

The major threats to each species were coded using the IUCN Threats Classification Scheme (see http://www.iucnredlist.org/technical-documents/classificationschemes) and are discussed in each species' account. Major threats identified include the following:

Sedimentation from deforestation and agriculture The removal of forest cover, and the conversion of land for agriculture (small and large scale), and farming, results in sedimentation which is a serious threat to many fish species. Many fishes are migratory and some (e.g. gobies) require clear rocks and river bottoms to physically move along the river bed – sedimentation interferes with this passage.

Pollution from agriculture and mining Pollution often results from the use of herbicides and pesticides in small holder farming and subsistence farming, for example in the production of Taro (Wallis and Futuna) and for Sakau (Federated States of Micronesia). The effects of this can have a detrimental impact on the overall health of river systems, and directly cause injury or mortality to fish populations. Some river systems (e.g. in New Caledonia) are currently at risk from mining: waste material can result in a rise in the level of river beds, clogging of stream beds, and cause flooding downstream.

The existence or construction of dams Many fishes require long distance migrations to fulfill their life cycle, and the existence of dams can block the movement down or upstream.

Overharvesting Although not seen as a major threat to many species, the harvesting of fishes for subsistence or for the aquarium trade is something that should be monitored in the future. A number of fishes are currently caught by humans for food, often as small fry during their upstream migration.

Introduction of alien invasive species Whilst alien fish species pose a major threat to indigenous fish populations in many parts of the world, their impacts are not well known in the Pacific. The invasive species most often seen in the Pacific are Tilapia (*Oreochromis spp)*, which have been introduced in order to enhance fisheries.

5. Research and conservation needs

As part of each species assessment, research and conservation actions were identified for each species: these are summarized in Figures 9 and 10. Almost every species requires further information on population size, distribution and trends (161 out of 167 species). Just over a quarter of all species require further taxonomic work. Improving our understanding of basic ecology, life history, and threats is vital to enable us to conserve and protect freshwater fishes and their habitats. The number of identified conservation actions is low, because it is difficult to assess such requirements without the existence of species-specific data.

Figure 9: Identified research and monitoring needs

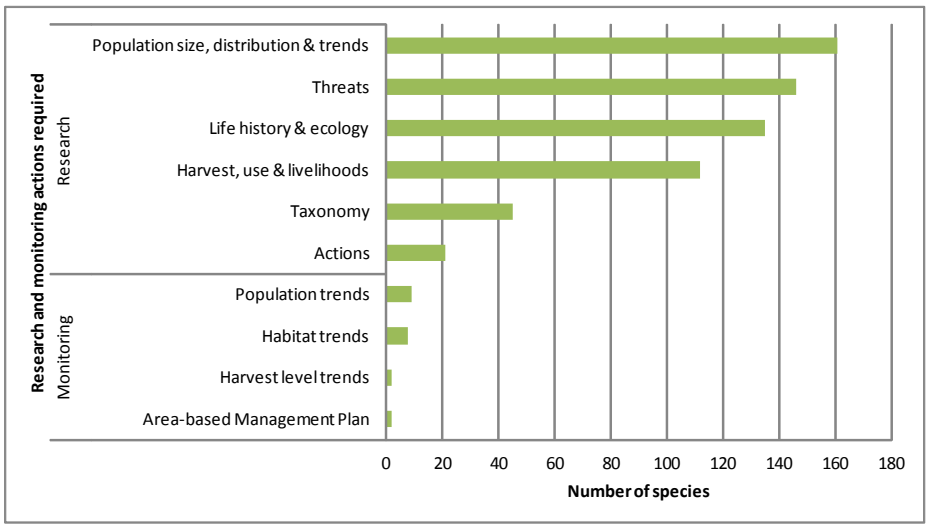
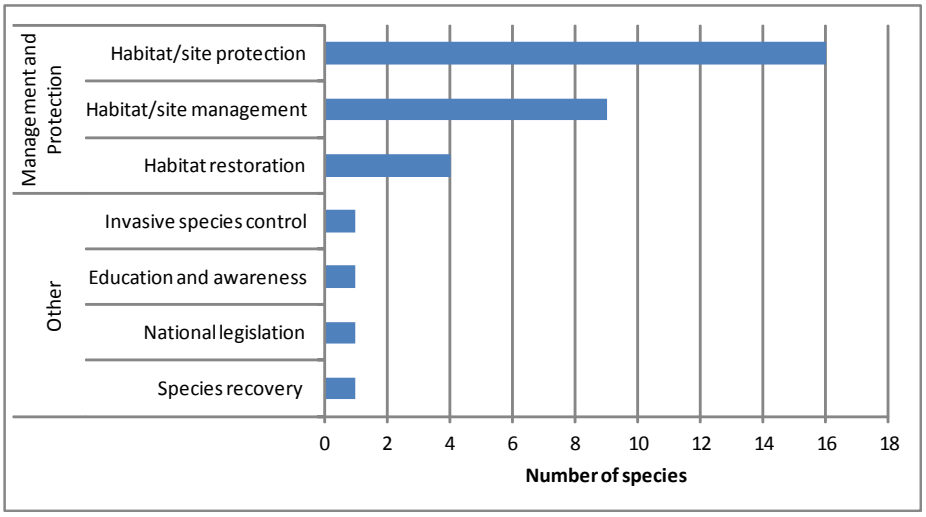


Figure 10: Conservation Actions identified from species assessments



6. Conclusions

Despite a lack of data for many species, by analyzing the identified threats, actions can be suggested to enable us to move towards better protection of freshwater fishes and their habitats in the Pacific. The following conservation recommendations are suggested:

- **Modification of habitat, including agriculture** To protect species and habitats from sedimentation, regeneration of vegetation should be promoted. Planting of natural vegetation adjacent to river systems will stabilize and protect river margins from run-off due to deforestation and agriculture.
- **Pollution from agriculture and mining** Pollution laws should be enacted and enforced, best agricultural practices should be adopted, and effluent treatment plants be constructed for industry such as mining.
- **Dams** Any new dam construction should be managed to ensure the provision of fish passage, and the option of fish ladders should be investigated for existing and new dams.
- **Overharvesting** Stakeholders should be educated in sustainable biological resource use, and relevant legislation to protect and conserve freshwater fishes and their habitats should be developed and implemented.
- **Invasive species** Future introductions of invasive species should be prevented by imposing strict legislation covering rivers and lakes where they are not native.

APPLICATION OF RESULTS AND FUTURE WORK

The information gathered for each species is freely available to download from the IUCN Red List website (www.iucnredlist.org). The data in each species account provides a key resource for decision-makers, policy-makers, resource managers, environmental planners and NGOs. It is anticipated that this information will be used to enable monitoring and conservation action at country, regional and international levels: data can be applied to inform legislation and policies, to identify priority sites for biodiversity conservation and to prepare and implement species recovery plans for threatened freshwater fishes.

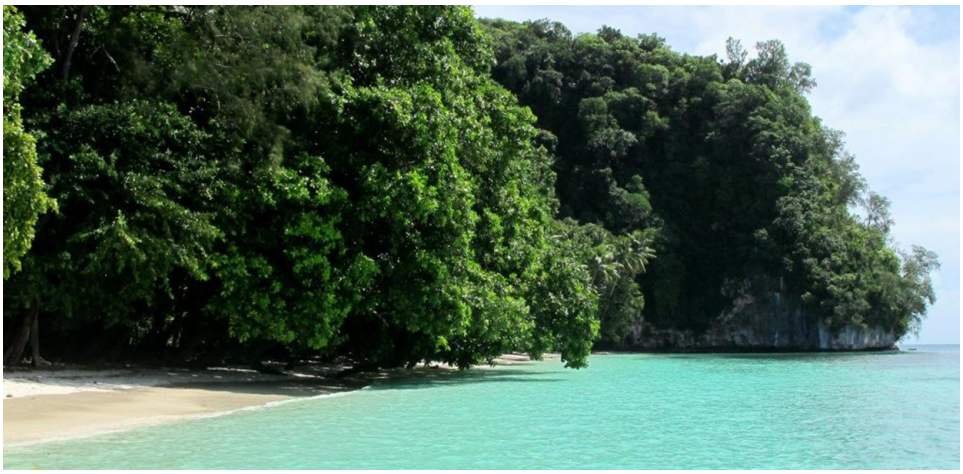
In the future, stakeholders should work to:

- Carry out further research on population, threats, ecological requirements and taxonomy, in order to complete assessments for fishes not included in this project and for threatened and Data Deficient species. This will enable the production of a comprehensive dataset for freshwater fishes across the Pacific Islands.
- Regularly revise the data for freshwater fishes assessed, in order to monitor the changing status of populations and to ascertain whether any recommended conservation measures put in place are working.
- Examine species' distributions in more detail in order to identify key priority areas for conservation and protection of freshwater fishes and their habitats.

This project is the beginning of a process that aims to comprehensively assess species of the Pacific Islands, according to the IUCN Red List Categories and Criteria. This first stage has focused on Red List assessments for freshwater fishes, land snails, and reptiles in the Pacific Islands of Oceania. Future work is planned on other taxonomic groups such as select invertebrates, plants and coral reef fishes in order to create a comprehensive dataset to guide conservation actions in the Pacific Islands.

The current status and distribution of land snails in the Pacific Islands of Oceania

Assessments for land snails focused on a mixture of taxon-based and geographic-based assessments, due to the limited but specialized expertise available. Assessments concentrated on Fiji and Palau geographically, and on completing assessments for as many wider ranging families in these two countries as expertise and data allowed. This dual strategy allowed a robust, unbiased assessment of extinction threat among land snails in Polynesia, Micronesia and Melanesia.



Ulong Island in Palau is impacted by tourism and invasive species such as rats, which is threatening native fauna and flora © Helen Pippard

Results

This project carried out assessments for 166 species of land snail native to Micronesia, Polynesia and Melanesia. This summary presents the major results of the project and is intended to be read in conjunction with individual species' accounts available on the IUCN Red List website.

1. Conservation status of land snails

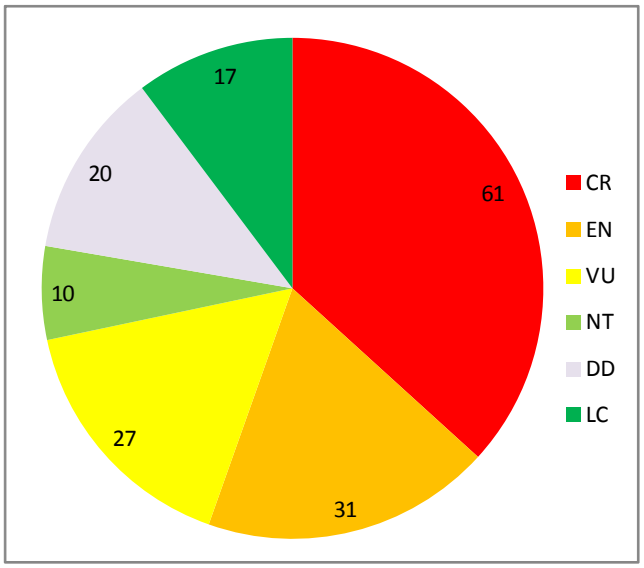
The majority of land snails (119 species or 72%) have been assessed as threatened (in categories Critically Endangered (CR), Endangered (EN) and Vulnerable (VU)) as shown in Figure 1. 61 (37%) have been assessed as Critically Endangered – the highest level of threat that can be assigned to a species in the wild. 31 species (19%) have been assessed as Endangered and 27 species (16%) have been assessed as Vulnerable. Disturbingly, a large number of Critically Endangered species have also been assigned the tag of Possibly Extinct (PE). No species are listed as Extinct or Extinct in the Wild, although as stated, some do carry the tag of Possibly Extinct.

A number of species have been assigned the Category of Vulnerable under criterion D2 – for example *Thaumatadon laddi* and *Fijianella cornucopia* from the Lau group in Fiji. These species are known from a single small location, and are at risk from plausible future threats such as invasive species that could impact the species and drive it towards extinction in a very short time.

A further ten species (6%) have been assigned the category of Near Threatened (NT). These species are close to qualifying for a threatened category. Seventeen species (10%) are listed in the lowest category of threat – Least Concern (LC). Generally, these species are widely distributed with no known major threats impacting them and have a lower risk of extinction. Due to a lack of information, (such as very few known records) the extinction risk could not be evaluated for 20 species (12%), and these have all been categorized as Data Deficient (DD).

The Red List category of threat assigned to each of the 166 assessed species is given in Appendix 4. This Appendix also lists other land snail species assessed prior to 2011 as part of other projects: in total, 395 species of terrestrial land snails have now been assessed for the IUCN Red List.

Figure 1: All species assessed by conservation status
n=166



2. Spatial distribution

Figure 2 shows the number of species assessed by country and by conservation status. However, as the majority of assessments focused on Fiji and Palau (95 and 56 species respectively), it is difficult to make generalizations for Melanesia, Micronesia or Polynesia: most other countries in the region have assessments for less than 10 species.

Maps of species richness have been produced for Fiji and Palau, as these are the countries where the majority of assessments focused – see Figure 4. In Fiji, the highest concentration of different species are seen on the island of Viti Levu (especially in the centre) and in the Lau group. Whilst this could be indicative of a natural higher diversity, these areas have also been sampled more frequently. In Palau, diversity is fairly uniform throughout the archipelago, although the large island of Babeldaob in the north and the island of Ulong to the west do contain a lower number of records. As the islands have been surveyed extensively in recent times, this lower diversity could be indicative of threats acting on snail populations there.

Endemism

Of the 166 land snails, 143 (86%) are endemic to a single country in the region: 72 of these are endemic to Fiji and 52 to Palau. Most species are endemic to single islands or even single ridges, especially on the high islands of the region. Snails recorded from low islands, coral atolls and the shore zone of higher islands tend to have a wider distribution. Figure 3 shows the total number of endemic species and their conservation status, and also compares the threat status for endemic species from Fiji and Palau.

Figure 2: All species assessed by country and conservation status.

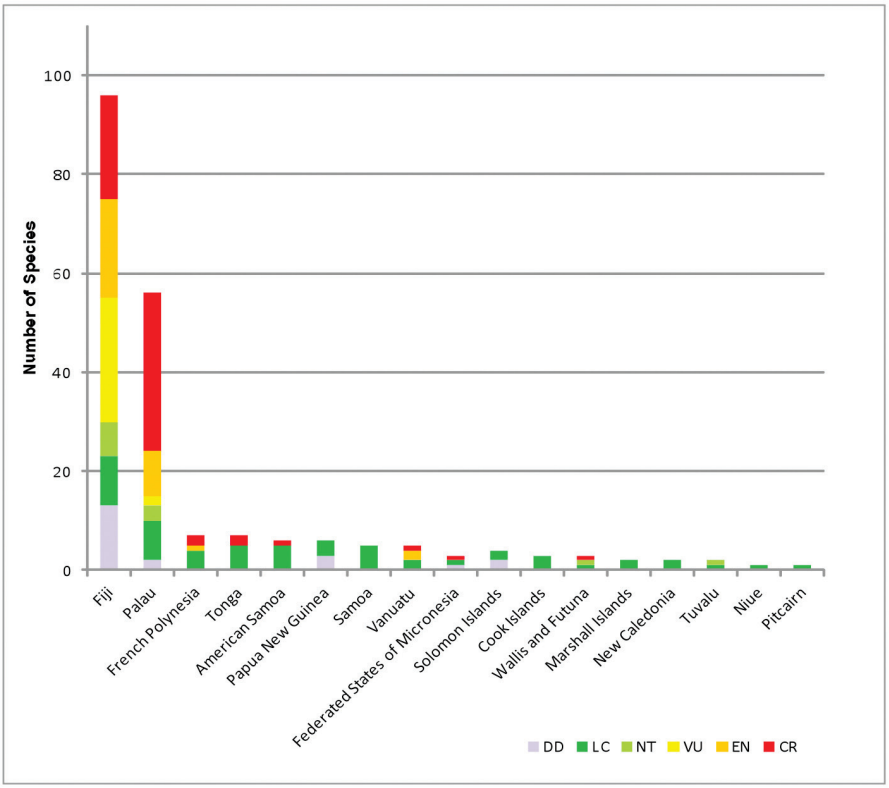
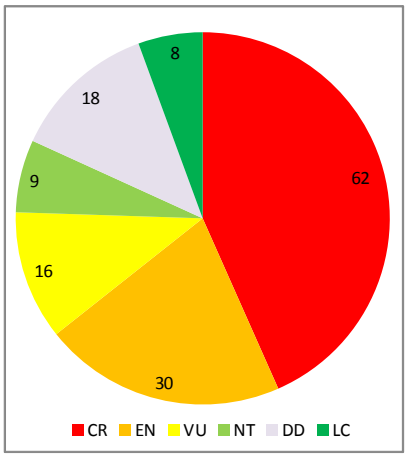


Figure 3: Number of endemic species assessed

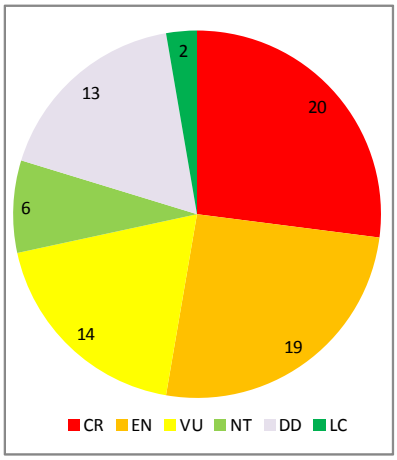
All endemic species assessed by conservation status

n=143



Conservation status of land snails endemic to Fiji

n=72 (75% endemicity)



Conservation status of land snails endemic to Palau

n=52 (92% endemicity)

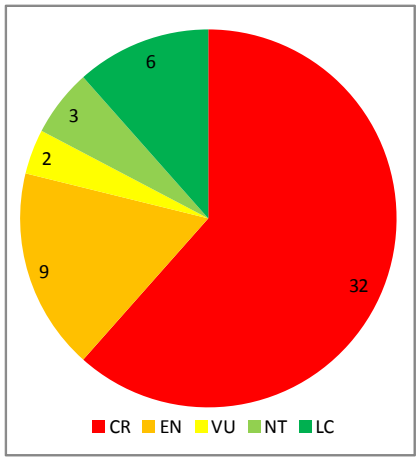
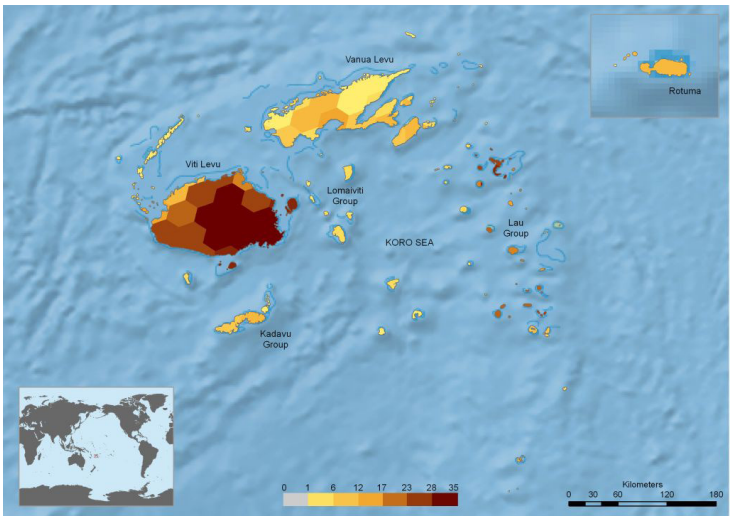
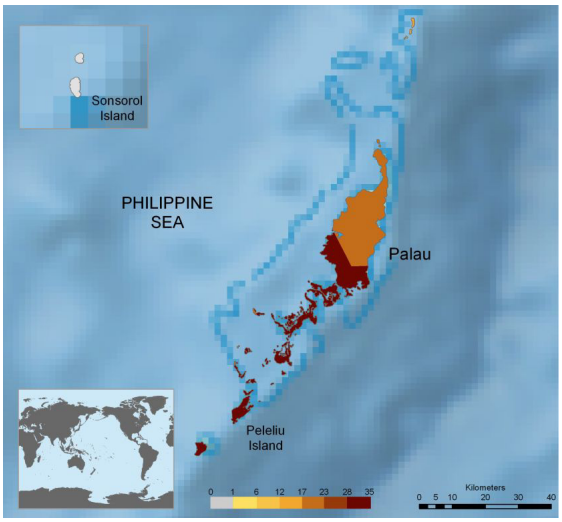


Figure 4: Species richness and endemic species distribution for Fiji and Palau

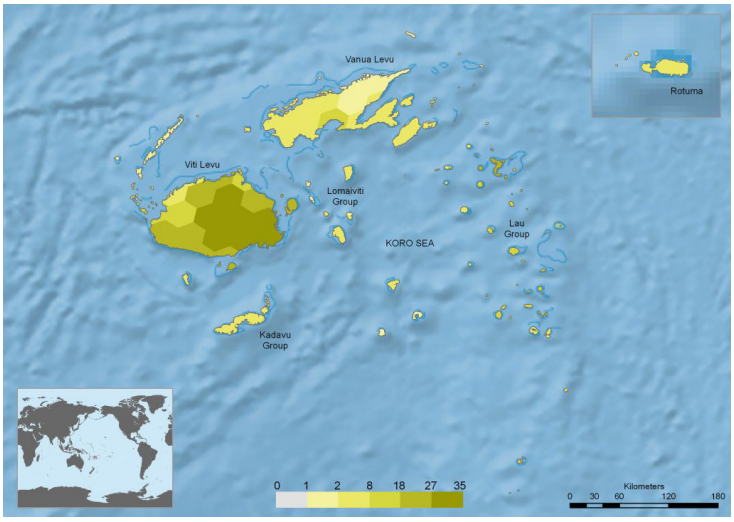
FIJI SPECIES RICHNESS



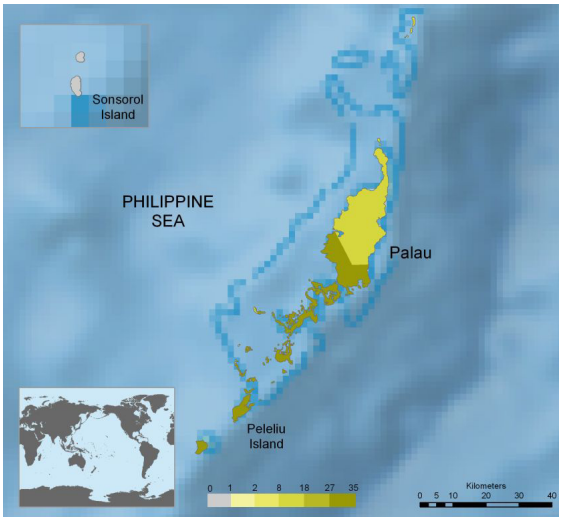
PALAU SPECIES RICHNESS



FIJI ENDEMIC SPECIES DISTRIBUTION



PALAU ENDEMIC SPECIES DISTRIBUTION



Distribution by habitat

Of the assessed species, the overwhelming majority are confined to tropical moist forest habitats, particularly lowland forests – see Figure 6. A small proportion of species are found in other habitats, such as shrublands, dry forests and other areas inhabited by humans (e.g. gardens and urban areas). These latter areas are generally inhabited by wider-ranging Least Concern species, which are more tolerant to habitat disturbance and therefore able to survive in a variety of habitats.

3. Population Trends

Being able to determine a species' population trend is critical to assessing a species' conservation status. Approximately 8% of species assessed are thought to be declining and 6% are considered stable as seen in Figure 5. No populations were thought to be increasing. However, due to the large number of species for which there are no population data on size or trends, the trends for over three quarters of the snail species assessed are unknown.

Figure 5: Population trends

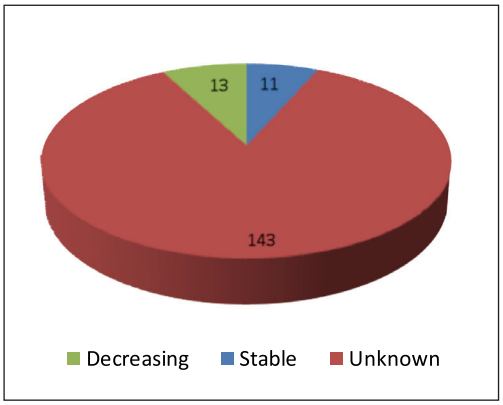
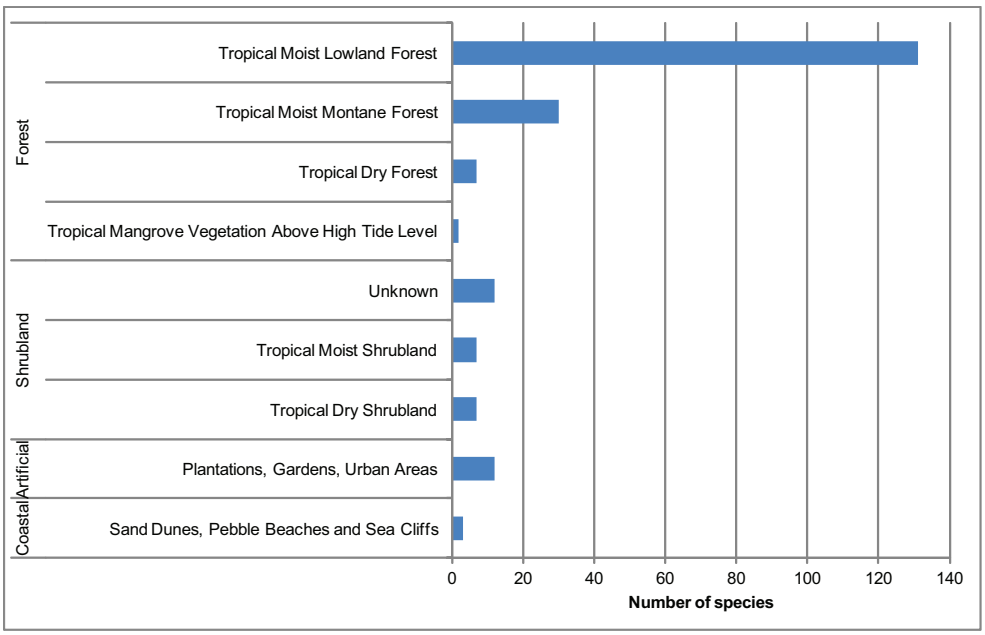


Figure 6: Major habitat types for land snails



4. Major threats to land snails

The major threats to each species were coded using the IUCN Threats Classification Scheme (see http://www.iucnredlist.org/technical-documents/classificationschemes) and are discussed in each species' account. The major threats are summarized in Figure 7 and include the following:

BIOLOGICAL RESOURCE USE

Many species of land snail are affected by the destruction, modification or loss of their native forest habitat. This destruction of forests for intentional or unintentional use of timber and forest products (including logging) is a major threat to land snails assessed by this project – just over half of all species (87 species) are affected by biological resource use resulting in a loss of their forest habitat.

AGRICULTURE (NON-TIMBER CROPS, LIVESTOCK)

Many species are subjected to habitat loss through deforestation for various agricultural activities. Some species are affected by the practice of shifting cultivation of non-timber crops for subsistence purposes; others are affected by the clearing of land for the raising of livestock.

INVASIVE SPECIES

The invasive Giant African snail (*Achatina fulica*) and the Rosy wolf snail (*Euglandina rosea – see Figure 8*) are threats to land snails throughout the Pacific. The Giant African snail breeds prolifically and has the potential to displace indigenous land snails. In an ill-conceived biological control programme initiated in the 1950s, the predatory Rosy wolf snail was introduced to many Pacific Islands to control the Giant African snail, with devastating consequences. Many islands have introduced predatory mammals: e.g. Pacific rat (*Rattus exulans*), black rat (*Rattus rattus*), mouse (*Mus musculus*) and mongooses (*Herpestes fuscus* and *H. auropunctatus*). The Yellow crazy ant, domestic fowl and domestic pigs are also of concern.

URBAN AND RESIDENTIAL DEVELOPMENT, INCLUDING TOURISM

For species that are found in the more densely human populated islands of the region, land clearance and alteration due to developmental pressures are a threat. The construction of roads, building of homes and businesses and associated services require the conversion and often destruction of native forest areas. In Palau, the construction of the paved Compact Road around the large island of Babeldaob has placed the habitat of many species' under direct threat from forest clearance or modification – this is especially so for species that are restricted to single or few localities. In coastal areas of some islands, the development of tourism services is also a threat.

OTHER THREATS: WARS

Land snails recorded from the Palauan islands of Koror (Oreor) and Peleliu (Beliliou) were impacted strongly during the World Wars. Much of the native forest on these islands was destroyed or substantially modified by human habitation during the World War II and post-WWII era, and these impacts were significantly accelerated by bomb-induced destruction.

5. Research and conservation needs

As part of each species assessment, research and conservation actions were identified for each species: these are summarized in Figures 9 and 10. The majority of species require further research and survey work to clarify their population size, distribution and trends. This is due in many cases to the lack of recent records of the species and the need to ascertain whether or not a species is in fact still extant – a third of all species assessed as Critically Endangered also carry the tag "Possibly Extinct".

In terms of conservation needs, monitoring of habitat trends and ensuring that habitats are protected are the major priorities. This is to be expected given the severe impacts experienced by the destruction, removal or modification of their forest habitats. The control and/or eradication of invasive species is also seen as a high priority. Again, this reflects the high proportion of land snails that are being negatively impacted by the presence of invasive species.

Figure 7: Major threats to land snail species

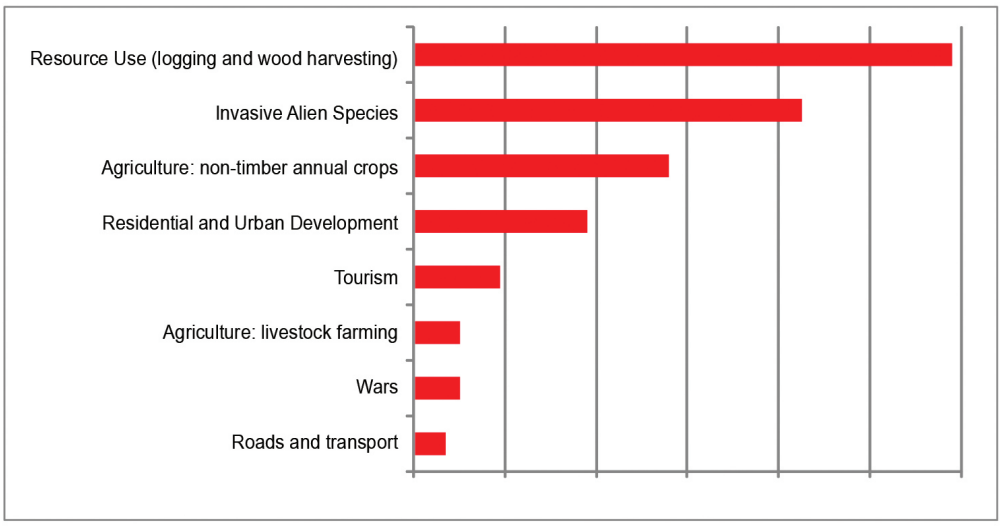


Figure 8: Examples of invasive species

Rattus exelans © LR Heaney, The Field Museum

H. auropunctatus (Indian mongoose) in Viti Levu, Fiji © Helen Pippard

Rosy Wolf Snail, Bill Frank www.biosecurity.govt.nz

Figure 9: Research and monitoring needs

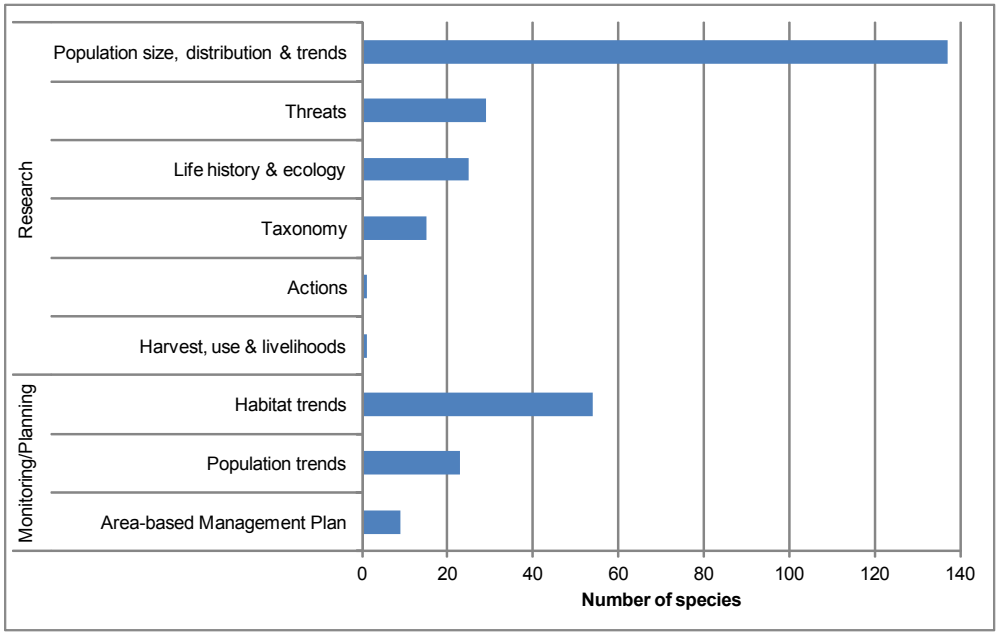
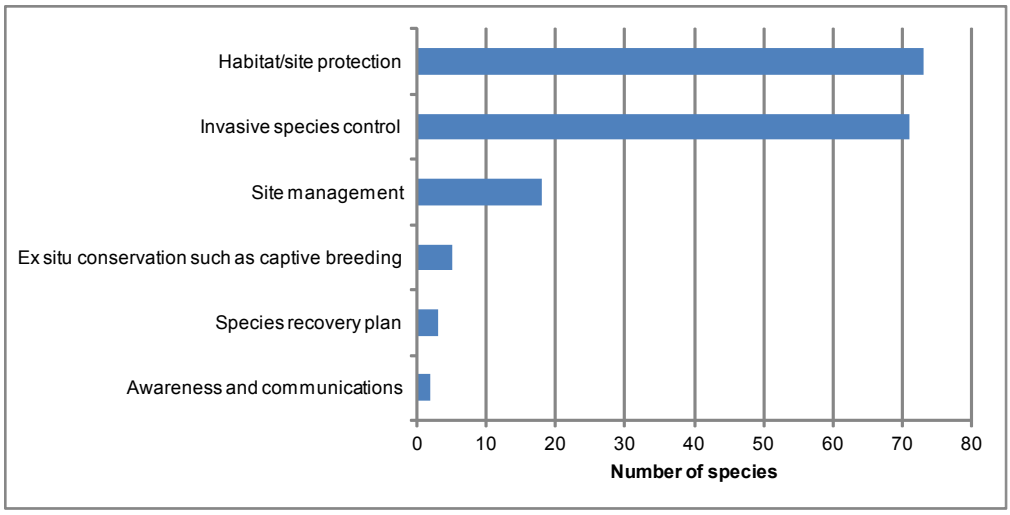


Figure 10: Conservation Actions identified



6. Conclusions

By analyzing the identified threats, actions can be suggested to enable us to move towards better protection of land snails and their habitats in the Pacific. The following conservation recommendations are suggested, which attempt to address the major threats identified:

Modification of habitat (including biological resource use and agriculture) To protect species from habitat modification and destruction, stakeholders should be educated in sustainable biological resource use and relevant legislation to protect, wisely utilize and conserve habitats should be developed and implemented

Invasive species Accidental introductions (and distribution to different localities) are increasingly likely throughout the Pacific, due to the transport of soil and organic debris (where snail eggs may be present), plants and produce. Future introductions of invasive species should be prevented by ensuring increased biosecurity vigilance at land, air and sea entry points throughout the Pacific.

Urban and residential development Relevant laws and policies, including environmental impact assessments, should be adopted to ensure best practice in any urban, tourism or large-scale residential developments.

Application of Results and Future Work

The information gathered for each species is freely available to download from the IUCN Red List website (www.iucnredlist.org). The data in each species account provides a key resource for decision-makers, policy- makers, resource managers, environmental planners and NGOs. It is anticipated that this information will be used to enable monitoring and conservation action at country, regional and international levels – for example, data can be applied to inform legislation and policies, to identify priority sites for biodiversity conservation and to prepare and implement species recovery plans for threatened land snail species.

In the future, stakeholders should work to:

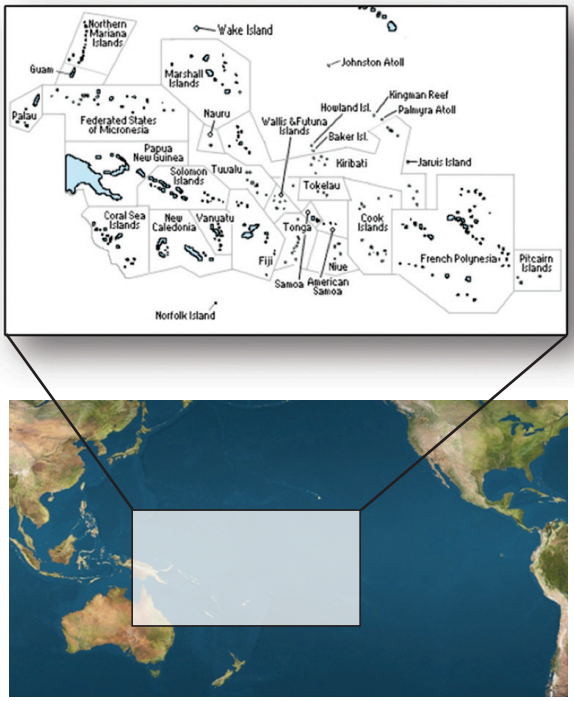
- Carry out further research on population, threats, ecological requirements, and taxonomy, for species not included in this project, and especially for Critically Endangered (Possibly Extinct) and Data Deficient species, and in areas less well studied. This will enable the production of a comprehensive dataset for land snails across the entire Pacific Islands region.
- Regularly revise the data for land snails assessed, in order to monitor the changing status of populations and to ascertain whether any recommended conservation measures put in place are working.
- Examine species' distributions in more detail in order to identify key priority areas for conservation and protection of land snails and their habitats.

This project is the beginning of a process that aims to comprehensively assess species of the Pacific Islands, according to the IUCN Red List Categories and Criteria. This first stage has focused on Red List assessments for freshwater fishes, land snails, and reptiles in the Pacific Islands of Oceania. Future work is planned on other taxonomic groups such as select invertebrates, plants and coral reef fishes in order to create a comprehensive dataset to guide conservation actions in the Pacific Islands.

The current status and distribution of reptiles in the Pacific Islands of Oceania

Assessments for reptiles focused on species found throughout Oceania (see Figure 1), with particular attention to endemic species. The majority of accounts concentrated on the Melanesian countries (especially Papua New Guinea and Solomon Islands) where a greater amount of expertise was available and where more known records exist. Species recorded from Polynesia and Micronesia were also assessed, as were some wider-ranging species.

Figure 1: Countries of Melanesia, Micronesia and Polynesia



Results

This project carried out assessments for 157 species of reptiles native to Micronesia, Polynesia and Melanesia. This summary presents the major results of the project and is intended to be read in conjunction with individual species' accounts once published on the IUCN Red List website. In the Red List update of October 2012, twenty of the assessed reptile species have been included – these are highlighted in Appendix 5. For the remaining reptiles, no major changes are envisaged, however it must be noted that the assigned Categories and Criteria presented here are still provisional and could potentially change prior to their publication on the Red List (expected in 2013).

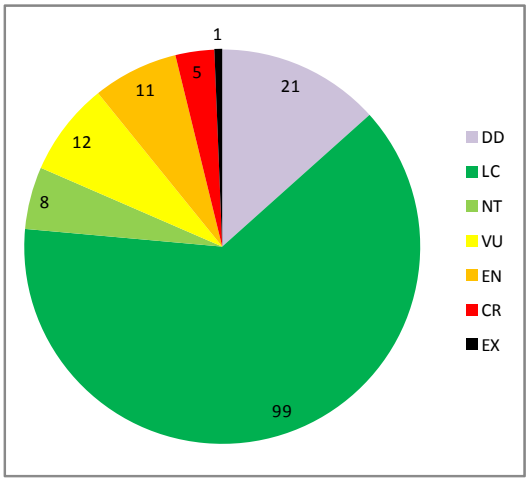
1. Conservation status of reptiles

The majority of reptiles (99 species or 63%) have been assessed as Least Concern (LC) – see Figure 2. Generally, these species are widely distributed with no known major threats, and therefore have a lower risk of extinction. 28 species (17%) have been classified as threatened (in categories Critically Endangered (CR), Endangered (EN) and Vulnerable (VU)). Five species have been assessed as Critically Endangered – the highest level of threat that can be assigned to a species in the wild; 11 species have been assessed as Endangered and 12 species have been assessed as Vulnerable. One species (*Tachygyia microlepis* from Tonga) has been listed as Extinct. A further eight species (5%) have been assigned the category of Near Threatened (NT). These species are close to qualifying for a threatened category.

Due to a lack of information (such as very few known records, or little data available on population size and distribution), the extinction risk could not be evaluated for 21 species (13%), and these have been categorized as Data Deficient (DD).

The Red List Category of threat assigned to each assessed species (for all 157 species) is given in Appendix 5. This table highlights the species that have been published on the Red List by October 2012, as well as indicating those for which assessments are still in draft form.

Figure 2: All species assessed by conservation status
n=157



2. Spatial distribution

Figure 3 shows the number of species assessed by country and by conservation status. Geographically, the highest diversity of reptiles is seen in the west of the region (Melanesian countries) and generally declines eastwards from Micronesia into Polynesia. Some of the observed variation in species richness is a result of differences in sampling intensity and expertise: more data are available for the Melanesian islands.

DISTRIBUTION BY HABITAT

Of the assessed species, the overwhelming majority are confined to tropical moist forest habitats, particularly lowland forests – see Figure 4. Many species are found in more disturbed areas inhabited by humans, such as gardens, plantations, degraded forests and urban areas – these areas generally contain wider-ranging Least Concern species, which are more tolerant to habitat disturbance and therefore able to survive in a variety of different environments – Figure 4 displays the number of species recorded in each habitat type, and shows that some species are found in more than one ecosystem.

Figure 3: All species assessed by country and conservation status

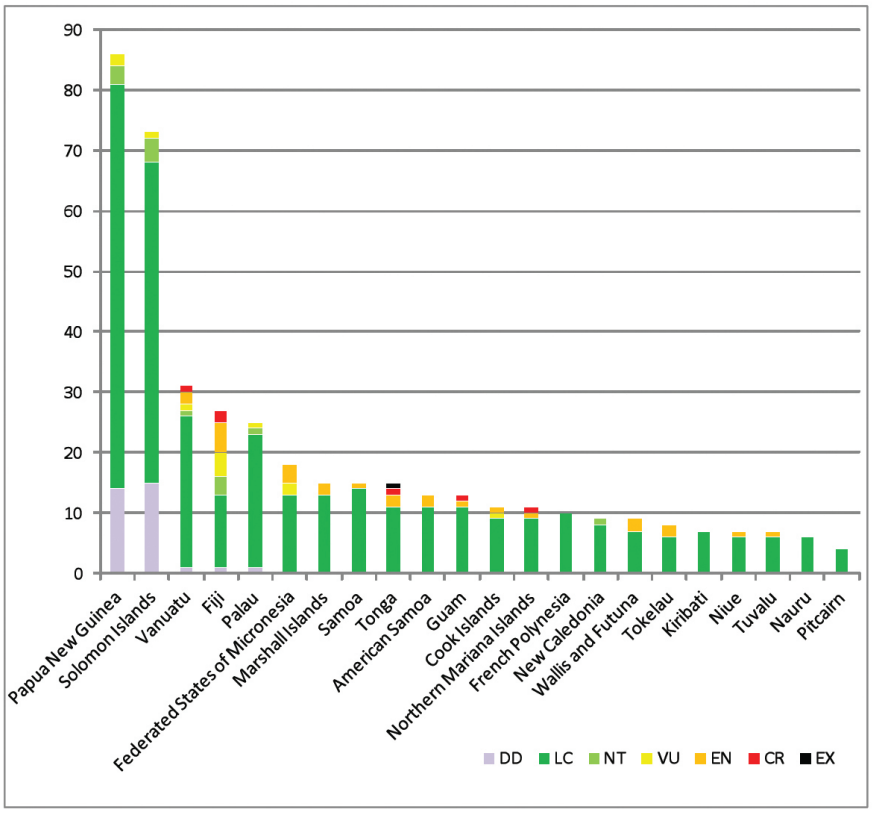
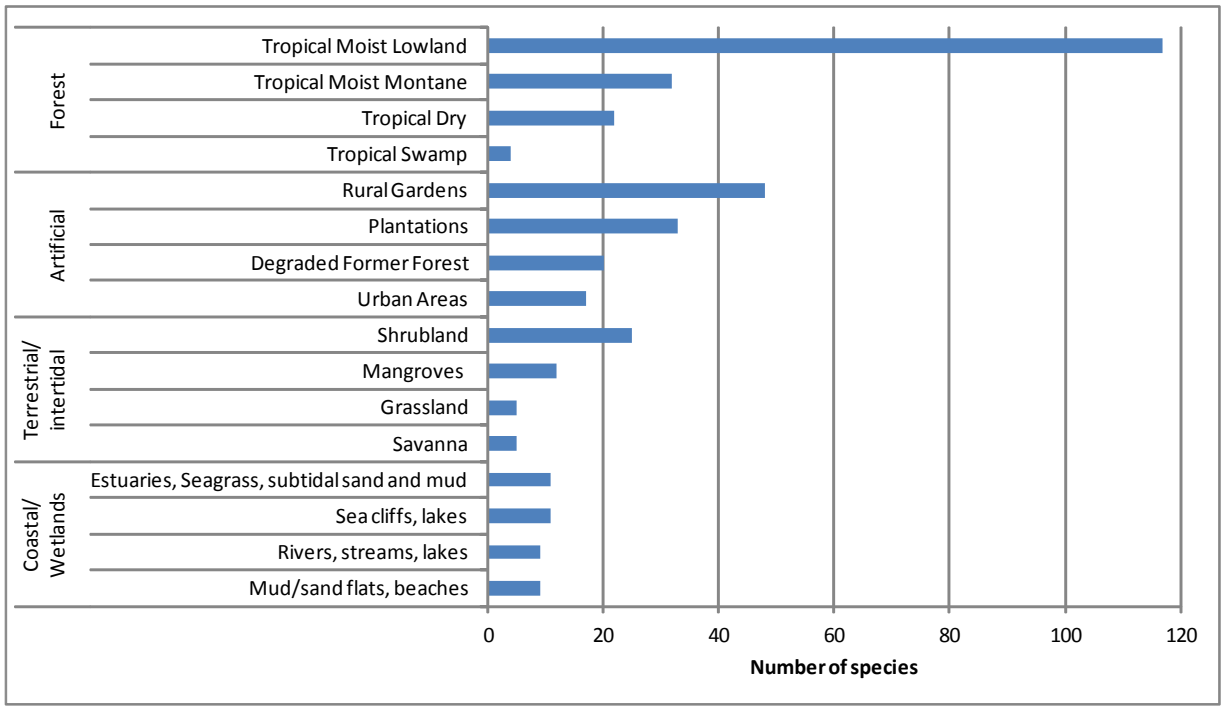


Figure 4: Species distribution by major habitat

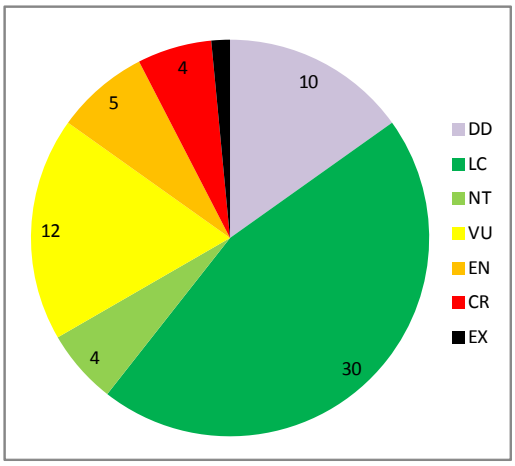


ENDEMISM

Of the 157 assessed reptiles, 66 (42%) are endemic to a single country in the region. Figure 5 shows the assessed endemic species by conservation status, whilst Figure 6 shows the number of assessed endemic species by country and conservation status. By country, Papua New Guinea contains the highest number of assessed endemic species, whilst Fiji, Vanuatu and Tonga contain the highest number of endemic threatened species. A further 50 species (31%) are regionally endemic to the Pacific Islands.

Figure 5: Number of endemic species assessed by conservation status

n=66



3. Population Trends

Being able to determine a species' population trend is critical to assessing a species' conservation status. The majority of species (54%) are thought to have fairly stable populations, as seen in Figure 7. These are generally Least Concern species, and their stability is extremely encouraging. Approximately 15% of species assessed are thought to be declining in numbers (generally those in threatened categories). For 30% of species there are no population data and the trends are therefore unknown.

Figure 6: Number of endemic species by country and conservation status

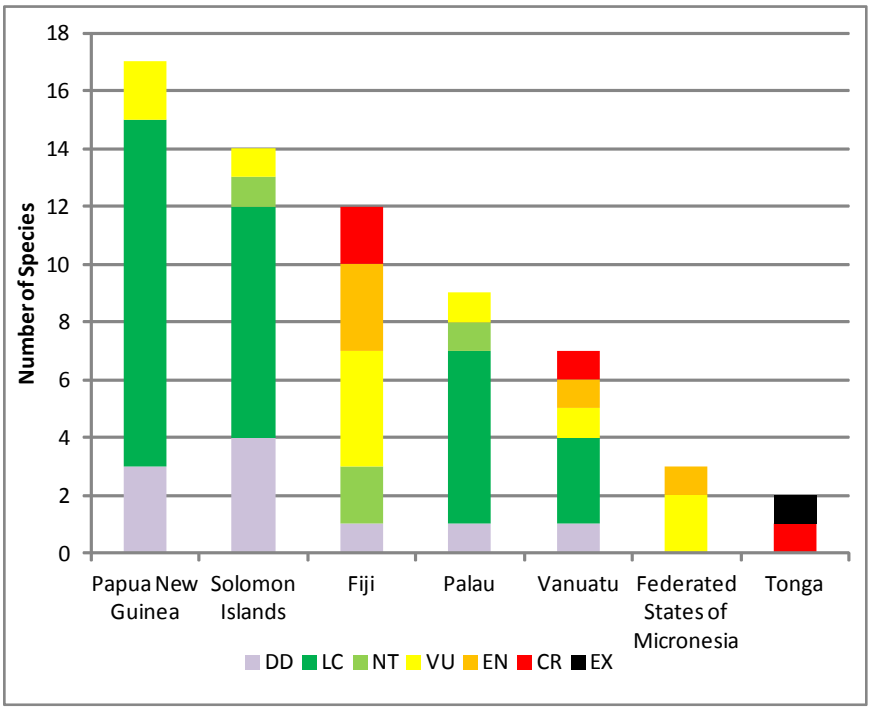
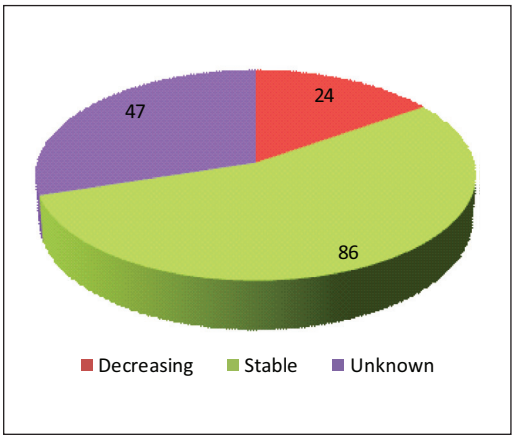


Figure 7: Population trends



4. Major threats to reptiles

The major threats to each species were coded using the IUCN Threats Classification Scheme (see http://www.iucnredlist.org/technical-documents/classificationschemes) and are summarized in Figure 8.

INVASIVE SPECIES

Island ecosystems are especially vulnerable to the impacts of invasive alien species due to being highly specialized, small, and defenceless against introduced species. Many islands have introduced predatory mammals: e.g. Pacific rat (*Rattus exulans*), black rat (*Rattus rattus*), mouse (*Mus musculus*) and mongooses (*Herpestes fuscus* and *H. auropunctatus*). Domestic pigs, goats and feral cats are also of concern, especially to small reptiles. The spread of invasive plants can also have a detrimental impact on preferred forest habitats.

BIOLOGICAL RESOURCE USE – LOGGING

Many species are affected by the destruction, modification or loss of their native forest habitats. This destruction of forests for intentional or unintentional use of timber and forest products (including logging) is a major threat – approximately one third of all species (53 species) are affected by humans utilizing timber and consequently causing loss or degradation to forest habitats.

BIOLOGICAL RESOURCE USE – HUNTING

Some reptiles are sought after in the pet trade (e.g. snakes such as the Pacific Island Boa, *Candoia bibroni* (LC). Often animals are exported but sometimes they are held captive in their country of origin – for instance the Fijian Crested Iguana, *Bracylophus vitiensis* (CR), which has been seen at resorts in Fiji. Other reptiles are persecuted by humans, who are frightened of them – this is especially true of snakes such as the Palau bevel-nosed Boa, *Candoia superciliosa* (LC).

AGRICULTURE

Many species are subjected to habitat loss through deforestation for various agricultural activities. Some species are affected by the practice of shifting cultivation of non-timber crops for subsistence purposes; others are affected by the clearing of land for the raising of livestock, and by the burning and conversion of land for plantations.

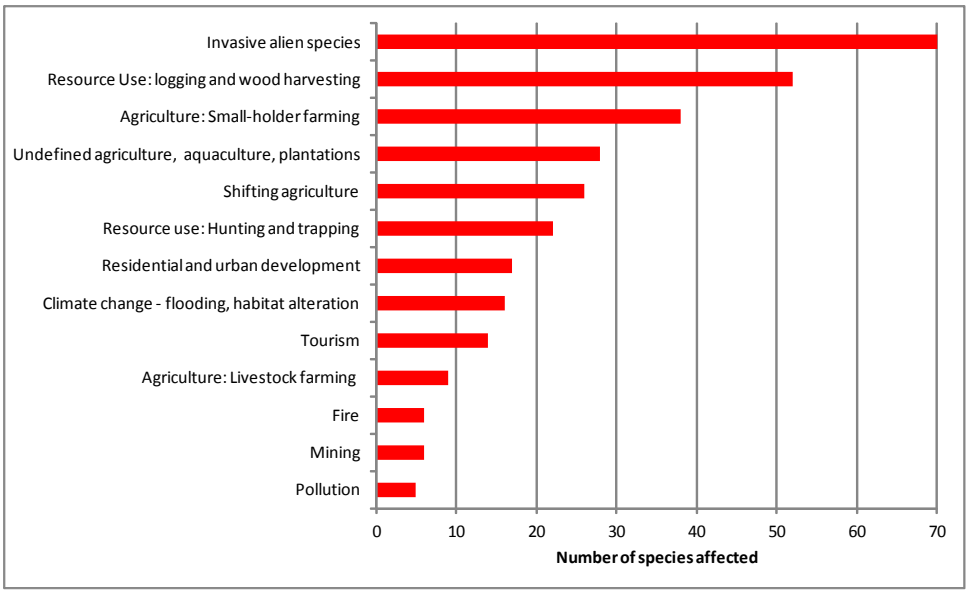
URBAN, RESIDENTIAL AND TOURISM DEVELOPMENT

For reptiles found in the more densely human populated islands of the region, land clearance due to developmental pressures is a threat. The construction of roads, building of homes and village expansion, requires the conversion and often destruction of native forest areas. In coastal areas of higher islands and on smaller islands, the development of tourism services is also a threat.

CLIMATE CHANGE

Reptiles may be affected by alteration of habitats or flooding as a result of climatic changes. As reptiles are so temperature-dependent, any changes in climate and air temperature could negatively impact populations: for instance, temperature increases could affect reproductive biology and thermo-regulation, thus impacting reptile distribution, physiology and behaviour.

Figure 8: Major threats to reptiles



5. Research and conservation needs

As part of each species assessment, research and conservation actions were identified for each species: these are summarized in Figures 9 and 10. Many species require further research and survey work to clarify their population size, distribution, trends, ecological requirements and potential threats. This is due in many cases to a lack of recent survey work either for the species itself or in-country – for example, parts of Melanesia have been studied more extensively.

In terms of conservation needs, monitoring population and habitat trends and ensuring that habitats are protected are the major priorities. This is to be expected given the severe impacts experienced by the destruction, removal or modification of many species' forest habitats. The control and/or eradication of invasive species is also seen as a high priority. Again, this reflects the high proportion of island reptiles that are being negatively affected by the presence of invasive species.

Figure 9: Research and monitoring needs

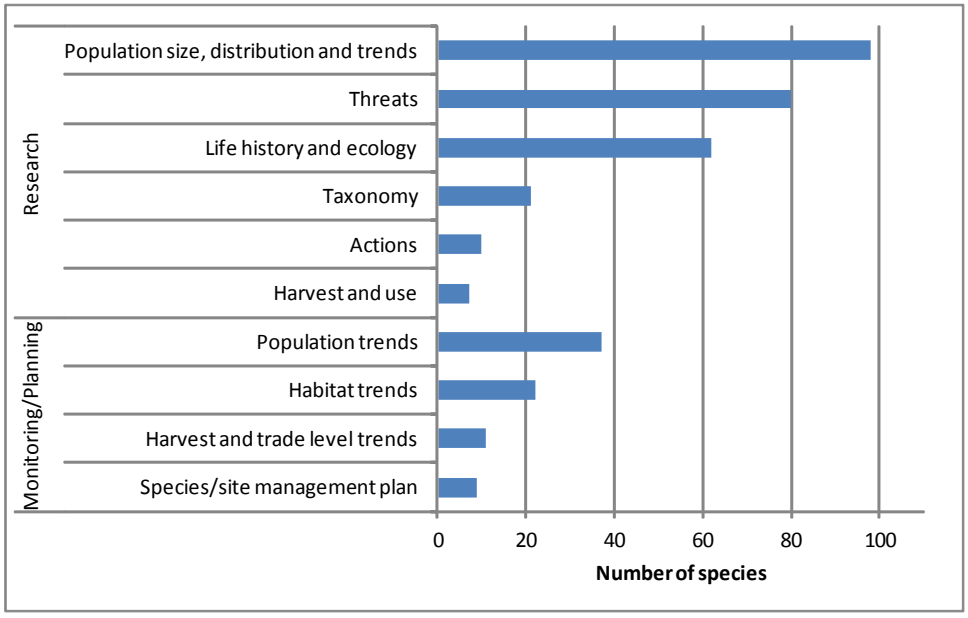
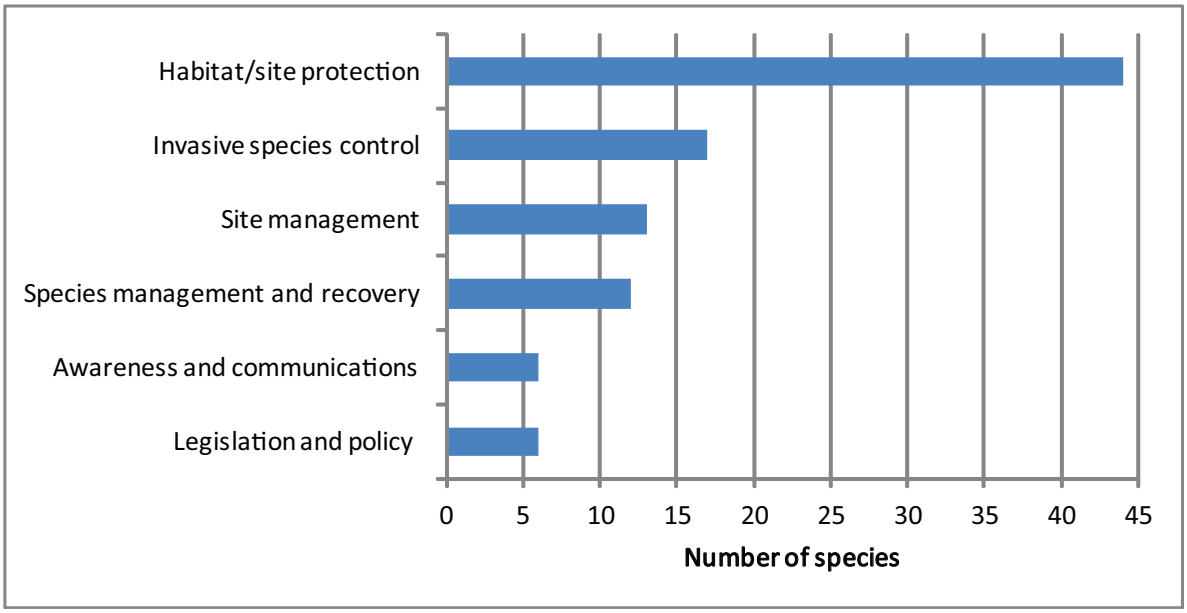


Figure 10: Conservation Actions identified from species assessments



6. Conclusions

By analyzing the identified threats, actions can be suggested to enable us to move towards better protection of reptiles and their habitats in the Pacific. The following conservation recommendations are suggested, which attempt to address the major threats identified:

Modification of habitat (including biological resource use and agriculture) To protect species from habitat modification and destruction, stakeholders should be educated in sustainable biological resource use and relevant legislation to protect, wisely utilize and conserve habitats should be developed and implemented.

Invasive species Accidental introductions (and distribution to different localities) are increasingly likely throughout the Pacific, due to the observed movement of animals and plants. Future introductions of invasive species should be prevented by ensuring increased biosecurity vigilance at land, air and sea entry points throughout the Pacific.

Urban and residential development Relevant laws and policies, including environmental impact assessments, should be adopted to ensure best practice in any urban, tourism or large-scale residential developments.

APPLICATION OF RESULTS AND FUTURE WORK

The information gathered for each species will be freely available to download from the IUCN Red List website (www.iucnredlist.org). The data in each species account provides a key resource for decision-makers, policy-makers, resource managers, environmental planners and NGOs. It is anticipated that this information will be used to enable monitoring and conservation action at country, regional and international levels – for example, data can be applied to inform legislation and policies, to identify priority sites for biodiversity conservation and to prepare and implement species recovery plans for threatened reptiles.

In the future, stakeholders should work to:

- Carry out further research on population, threats, ecological requirements and taxonomy, in order to complete assessments for reptiles not included in this project and for the threatened and Data Deficient species. This will enable the production of a comprehensive dataset for reptiles across the entire Pacific Islands region.
- Regularly revise the data for reptiles assessed, in order to monitor the changing status of populations and to ascertain whether any recommended conservation measures put in place are working.
- Examine species' distributions in more detail in order to identify key priority areas for conservation and protection of reptiles and their habitats.

This project is the beginning of a process that aims to comprehensively assess species of the Pacific Islands, according to the IUCN Red List Categories and Criteria. This first stage has focused on Red List assessments for freshwater fishes, land snails, and reptiles in the Pacific Islands of Oceania. Future work is planned on other taxonomic groups such as select invertebrates, plants and coral reef fishes in order to create a comprehensive dataset to guide conservation actions in the Pacific Islands.

The Fijian Crested Iguana, Brachylophus vitiensis (CR) © Stuart Chape

APPENDICES

Appendix 1

Stakeholders identified to receive Red List results

Organization	Country
Governments	
Department of Environment/CBD focal points	All PI Countries and Territories (24 in total)
Ministry of Foreign Affairs	All PI Countries and Territories (24 in total)
INGOs/CROPs	
SPREP	Regional
SPC	Regional
Pacific Islands Forum	Regional
University of the South Pacific	Regional
NGOs/Research Institutions	
American Museum of Natural History	USA
Birdlife International and country partners	Fiji and throughout region
Bishop Museum	USA
Conservation International	Samoa
EastWest Center	USA
Econesian Society	Fiji
FSPI	Fiji
GLISPA	Regional
Greenpeace	Fiji
IRD	New Caledonia
Island Conservation	USA
IUCN Species Survival Commission	Global
James Cook University	Australia
Kolombangara Island Biodiversity Conservation Association	Solomon Islands
Landcare Research	New Zealand
Massey University	New Zealand
Micronesia Conservation Trust	FSM
National Trust for Fiji	Fiji
NatureFiji	Fiji

Organization	Country
Pacific Invasives Partnership	Samoa
Pacific Islands Roundtable for Nature Conservation	Regional
PACINET	Regional
Palau Conservation Society	Palau
RARE	Micronesia
Solomon Islands College of Higher Education	Solomon Islands
Solomon Islands Community Conservation Partnership	Solomon Islands
South Pacific Regional Herbarium	Fiji
Te Ipukarea Society	Cook Islands
Te Mana o te Moana	French Polynesia
Tetapare Descendant's Association	Solomon Islands
TNC	Australia
Tonga Community Development Trust	Tonga
UCLA	USA
UNDP	Regional
UNEP-WCMC	UK
University of Auckland	New Zealand
University of Canterbury	New Zealand
University of Hawaii	USA
University of Kansas Biodiversity Institute	USA
University of Michigan	USA
University of Queensland	Australia
US Geological Society	USA
Wan Smolbag	Vanuatu
WCS	Fiji
Wetlands International	Australia
WWF	Melanesia, New Caledonia, Fiji

Appendix 2

List of Workshop Participants

Name	Organization	Training Workshop	Evaluation Workshop
Freshwater Fishes			
Mr David Boseto	Texas A and M University, USA/Solomon Islands	Assessor	
Mr Kinikoto Mailautoka	Wildlife Conservation Society, Fiji	Assessor	
Dr Helen Larson	Consultant, Australia	Assessor	Evaluator
Dr Philippe Keith	Museum of Natural History, Paris, France		Evaluator
Dr Doug Hoese	Consultant, Australia		Evaluator
Dr Philippe Gerbeaux	Department of Conservation, New Zealand		Participant
Aaron Jenkins	Wetlands International – Oceania, Fiji	Participant	
Land snails			
Rebecca Rundell	University of BC, Canada	Assessor	
Diarmaid O'Foighil	University of Michigan, USA	Assessor	
Gilianne Brodie	University of the South Pacific, Fiji	Assessor	
Gary Barker	Landcare Research, New Zealand	Assessor	Evaluator
Robert Cowie	University of Hawaii		Evaluator
Kostas Triantis	Consultant, Greece		Evaluator
Reptiles			
Robert Fisher	US Geological Survey, USA	Assessor	
Oliver Tallowin	Consultant, UK	Assessor	Participant
Peter Harlow	Taronga Zoo, Australia	Participant	
Nunia Thomas	NatureFiji, Fiji	Participant	
Allen Allison	Bishop Museum, Hawaii		Evaluator
Alison Hamilton	UCLA, USA		Evaluator
Other Participants			
Caroline Pollock	IUCN	Facilitator	
Emma Brooks	IUCN	Facilitator	
Neil Cox	IUCN		Facilitator
Nieves Garcia	IUCN		Facilitator
Mereseini Raiwalui	University of the South Pacific, Fiji	GIS student	GIS student
Lia Bogitini	University of the South Pacific, Fiji	GIS student	GIS student
Jeremy Bird	Birdlife International	Participant	
Lekima Copeland	University of the South Pacific, Fiji	Participant	
Hilda Sakitiwaqa	University of the South Pacific, Fiji	Participant	
Richard Singh	University of the South Pacific, Fiji	Participant	

Appendix 3

Freshwater Fishes assessed as part of this project

Order	Family	Species	Red List Category	Criteria	Endemic to region	Endemic to single country
Anguilliformes	Muraenidae	*Gymnothorax polyuranodon*	LC			
Anguilliformes	Ophichthidae	*Lamnostoma orientalis*	LC			
Anguilliformes	Ophichthidae	*Lamnostoma polyophthalma*	LC			
Atheriniformes	Atherinidae	*Bleheratherina pierucciae*	DD			New Caledonia
Beloniformes	Hemiramphidae	*Zenarchopterus caudovittatus*	DD		Yes	
Beloniformes	Hemiramphidae	*Zenarchopterus dispar*	LC			
Beloniformes	Hemiramphidae	*Zenarchopterus gilli*	LC			
Elopiformes	Megalopidae	*Megalops cyprinoides*	DD			
Mugiliformes	Mugilidae	*Cestraeus goldiei*	DD			
Mugiliformes	Mugilidae	*Cestraeus oxyrhyncus*	DD			
Mugiliformes	Mugilidae	*Cestraeus plicatilis*	DD			
Mugiliformes	Mugilidae	*Chelon macrolepis*	LC			
Mugiliformes	Mugilidae	*Chelon melinopterus*	LC			
Mugiliformes	Mugilidae	*Crenimugil crenilabis*	LC			
Mugiliformes	Mugilidae	*Crenimugil heterocheilos*	LC			
Mugiliformes	Mugilidae	*Liza tade*	DD			
Mugiliformes	Mugilidae	*Mugil cephalus*	LC			
Osmeriformes	Galaxiidae	*Galaxias neocaledonicus*	EN	B1ab(iii,v)+2ab(iii,v)		New Caledonia
Perciformes	Ambassidae	*Ambassis interrupta*	LC			
Perciformes	Ambassidae	*Ambassis macracanthus*	DD			
Perciformes	Ambassidae	*Ambassis miops*	LC			
Perciformes	Ambassidae	*Ambassis nalua*	LC			
Perciformes	Ambassidae	*Ambassis urotaenia*	LC			
Perciformes	Ambassidae	*Ambassis vachellii*	LC			
Perciformes	Apogonidae	*Apogon amboinensis*	DD			

Order	Family	Species	Red List Category	Criteria	Endemic to region	Endemic to single country
Perciformes	Apogonidae	*Apogon hyalosoma*	LC			
Perciformes	Apogonidae	*Ostorhinchus lateralis*	LC			
Perciformes	Blenniidae	*Meiacanthus anema*	DD			
Perciformes	Blenniidae	*Omobranchus ferox*	LC			
Perciformes	Blenniidae	*Omox biporos*	DD			
Perciformes	Eleotridae	*Belobranchus belobranchus*	DD			
Perciformes	Eleotridae	*Bostrychus sinensis*	LC			
Perciformes	Eleotridae	*Bostrychus zonatus*	DD			
Perciformes	Eleotridae	*Bunaka gyrinoides*	LC			
Perciformes	Eleotridae	*Butis amboinensis*	LC			
Perciformes	Eleotridae	*Butis butis*	LC			
Perciformes	Eleotridae	*Eleotris acanthopoma*	LC			
Perciformes	Eleotridae	*Eleotris fusca*	LC			
Perciformes	Eleotridae	*Eleotris melanosoma*	LC			
Perciformes	Eleotridae	*Giuris margaritacea*	LC			
Perciformes	Eleotridae	*Hypseleotris cyprinoides*	DD			
Perciformes	Eleotridae	*Ophiocara porocephala*	LC			
Perciformes	Gerreidae	*Gerres filamentosus*	LC			
Perciformes	Gobiidae	*Akihito futuna*	CR	B1ab(ii,iii)+2ab(ii,iii)		Wallis and Futuna
Perciformes	Gobiidae	*Akihito vanuatu*	LC			Vanuatu
Perciformes	Gobiidae	*Awaous acritosus*	LC		Yes	
Perciformes	Gobiidae	*Awaous guamensis*	LC		Yes	
Perciformes	Gobiidae	*Awaous ocellaris*	LC		Yes	
Perciformes	Gobiidae	*Caragobius urolepis*	LC			
Perciformes	Gobiidae	*Drombus halei*	LC		Yes	
Perciformes	Gobiidae	*Exyrias puntang*	LC			
Perciformes	Gobiidae	*Glossogobius aureus*	LC			
Perciformes	Gobiidae	*Glossogobius bicirrhosus*	LC			
Perciformes	Gobiidae	*Glossogobius celebius*	DD			
Perciformes	Gobiidae	*Glossogobius giurus*	LC			
Perciformes	Gobiidae	*Lentipes kaaea*	LC		Yes	
Perciformes	Gobiidae	*Lentipes rubrofasciatus*	DD			French Polynesia

Order	Family	Species	Red List Category	Criteria	Endemic to region	Endemic to single country
Perciformes	Gobiidae	*Lentipes solomonensis*	DD			Solomon Islands
Perciformes	Gobiidae	*Lentipes venustus*	DD		Yes	
Perciformes	Gobiidae	*Mangarinus waterousi*	DD			
Perciformes	Gobiidae	*Mugilogobius cavifrons*	LC			
Perciformes	Gobiidae	*Mugilogobius fusculus*	DD			Papua New Guinea
Perciformes	Gobiidae	*Mugilogobius notospilus*	LC		Yes	
Perciformes	Gobiidae	*Mugilogobius platystoma*	LC			
Perciformes	Gobiidae	*Oligolepis acutipennis*	DD			
Perciformes	Gobiidae	*Oligolepis stomias*	DD			
Perciformes	Gobiidae	*Psammogobius biocellatus*	LC			
Perciformes	Gobiidae	*Pseudogobius poicilosoma*	LC			
Perciformes	Gobiidae	*Redigobius balteatus*	LC			
Perciformes	Gobiidae	*Redigobius bikolanus*	LC			
Perciformes	Gobiidae	*Redigobius chrysosoma*	LC			
Perciformes	Gobiidae	*Redigobius lekutu*	DD			Fiji
Perciformes	Gobiidae	*Redigobius leveri*	DD			Fiji
Perciformes	Gobiidae	*Redigobius oyensi*	DD			
Perciformes	Gobiidae	*Redigobius tambujon*	LC			
Perciformes	Gobiidae	*Schismatogobius fuligimentus*	DD			New Caledonia
Perciformes	Gobiidae	*Schismatogobius vanuatuensis*	DD			Vanuatu
Perciformes	Gobiidae	*Schismatogobius vitiensis*	LC			Fiji
Perciformes	Gobiidae	*Sicyopterus aiensis*	NT			Vanuatu
Perciformes	Gobiidae	*Sicyopterus cynocephalus*	DD			
Perciformes	Gobiidae	*Sicyopterus eudentatus*	EN	B1ab(ii,iii,iv)		Federated States of Micronesia
Perciformes	Gobiidae	*Sicyopterus lagocephalus*	LC			
Perciformes	Gobiidae	*Sicyopterus lividus*	LC			Federated States of Micronesia
Perciformes	Gobiidae	*Sicyopterus longifilis*	DD			
Perciformes	Gobiidae	*Sicyopterus marquesensis*	DD			French Polynesia
Perciformes	Gobiidae	*Sicyopterus micrurus*	DD			

Order	Family	Species	Red List Category	Criteria	Endemic to region	Endemic to single country
Perciformes	Gobiidae	*Sicyopterus ouwensi*	DD			
Perciformes	Gobiidae	*Sicyopterus pugnans*	LC			
Perciformes	Gobiidae	*Sicyopterus rapa*	EN	B1ab(iii)+2ab(iii)		French Polynesia
Perciformes	Gobiidae	*Sicyopterus sarasini*	EN	B2ab(ii,iii)		New Caledonia
Perciformes	Gobiidae	*Sicyopus discordipinnis*	DD			
Perciformes	Gobiidae	*Sicyopus fehlmanni*	LC			
Perciformes	Gobiidae	*Sicyopus leprurus*	DD			
Perciformes	Gobiidae	*Sicyopus nigriradiatus*	LC			Federated States of Micronesia
Perciformes	Gobiidae	*Sicyopus zosterophorus*	LC			
Perciformes	Gobiidae	*Smilosicyopus bitaeniatus*	DD			French Polynesia
Perciformes	Gobiidae	*Smilosicyopus chloe*	LC		Yes	
Perciformes	Gobiidae	*Smilosicyopus pentecost*	DD		Yes	
Perciformes	Gobiidae	*Smilosicyopus sasali*	EN	B1ab(ii,iii)+2ab(ii,iii)		Wallis and Futuna
Perciformes	Gobiidae	*Stenogobius alleni*	DD			Papua New Guinea
Perciformes	Gobiidae	*Stenogobius beauforti*	LC		Yes	
Perciformes	Gobiidae	*Stenogobius caudimaculosus*	DD			French Polynesia
Perciformes	Gobiidae	*Stenogobius fehlmanni*	LC			
Perciformes	Gobiidae	*Stenogobius genivittatus*	LC			French Polynesia
Perciformes	Gobiidae	*Stenogobius hoesei*	LC		Yes	
Perciformes	Gobiidae	*Stenogobius keletaona*	VU	D2		Wallis and Futuna
Perciformes	Gobiidae	*Stenogobius laterisquamatus*	LC		Yes	
Perciformes	Gobiidae	*Stenogobius marqueti*	DD			French Polynesia
Perciformes	Gobiidae	*Stenogobius psilosinionus*	DD		Yes	
Perciformes	Gobiidae	*Stenogobius randalli*	DD			French Polynesia
Perciformes	Gobiidae	*Stenogobius squamosus*	DD			French Polynesia

Order	Family	Species	Red List Category	Criteria	Endemic to region	Endemic to single country
Perciformes	Gobiidae	*Stenogobius watsoni*	DD			Papua New Guinea
Perciformes	Gobiidae	*Stenogobius yateiensis*	LC		Yes	
Perciformes	Gobiidae	*Stiphodon astilbos*	DD			Vanuatu
Perciformes	Gobiidae	*Stiphodon atratus*	LC		Yes	
Perciformes	Gobiidae	*Stiphodon birdsong*	LC		Yes	
Perciformes	Gobiidae	*Stiphodon caeruleus*	LC			Federated States of Micronesia
Perciformes	Gobiidae	*Stiphodon discotorquatus*	CR	B1ab(ii,iii)+2ab(ii,iii)		French Polynesia
Perciformes	Gobiidae	*Stiphodon elegans*	LC			
Perciformes	Gobiidae	*Stiphodon hydroreibatus*	DD			
Perciformes	Gobiidae	*Stiphodon julieni*	EN	B1ab(iii)+2ab(iii)		French Polynesia
Perciformes	Gobiidae	*Stiphodon kalfatak*	DD			Vanuatu
Perciformes	Gobiidae	*Stiphodon larson*	DD			Papua New Guinea
Perciformes	Gobiidae	*Stiphodon mele*	DD		Yes	
Perciformes	Gobiidae	*Stiphodon oatea*	NT			French Polynesia
Perciformes	Gobiidae	*Stiphodon pelewensis*	DD			
Perciformes	Gobiidae	*Stiphodon percnopterygionus*	DD			
Perciformes	Gobiidae	*Stiphodon rubromaculatus*	CR	B1ab(ii,iii)+2ab(ii,iii)		Wallis and Futuna
Perciformes	Gobiidae	*Stiphodon rutilaureus*	LC		Yes	
Perciformes	Gobiidae	*Stiphodon sapphirinus*	LC		Yes	
Perciformes	Gobiidae	*Stiphodon semoni*	DD			
Perciformes	Gobiidae	*Stiphodon tuivi*	LC			French Polynesia
Perciformes	Gobiidae	*Taenioides cirratus*	DD			
Perciformes	Haemulidae	*Plectorhinchus gibbosus*	LC			
Perciformes	Haemulidae	*Pomadasys argenteus*	LC			
Perciformes	Kuhliidae	*Kuhlia malo*	DD			French Polynesia
Perciformes	Kuhliidae	*Kuhlia marginata*	LC			
Perciformes	Kuhliidae	*Kuhlia mugil*	LC			

Order	Family	Species	Red List Category	Criteria	Endemic to region	Endemic to single country
Perciformes	Kuhliidae	*Kuhlia munda*	DD			
Perciformes	Kuhliidae	*Kuhlia rupestris*	LC			
Perciformes	Kuhliidae	*Kuhlia salelea*	DD			
Perciformes	Leiognathidae	*Aurigequula fasciata*	LC			
Perciformes	Leiognathidae	*Eubleekeria splendens*	LC			
Perciformes	Leiognathidae	*Gazza minuta*	LC			
Perciformes	Leiognathidae	*Leiognathus equulus*	LC			
Perciformes	Pomacentridae	*Neopomacentrus aquadulcis*	EN	B2ab(ii,iii)	Yes	
Perciformes	Pomacentridae	*Neopomacentrus taeniurus*	DD			
Perciformes	Ptereleotridae	*Parioglossus formosus*	LC			
Perciformes	Ptereleotridae	*Parioglossus lineatus*	DD			
Perciformes	Ptereleotridae	*Parioglossus neocaledonicus*	DD			New Caledonia
Perciformes	Ptereleotridae	*Parioglossus palustris*	LC			
Perciformes	Ptereleotridae	*Parioglossus rainfordi*	LC			
Perciformes	Ptereleotridae	*Parioglossus raoi*	LC			
Perciformes	Ptereleotridae	*Parioglossus taeniatus*	LC			
Perciformes	Ptereleotridae	*Parioglossus triquetrus*	DD			Fiji
Perciformes	Rhyacichthyidae	*Protogobius attiti*	EN	B2ab(i,ii,iii)		New Caledonia
Perciformes	Rhyacichthyidae	*Rhyacichthys aspro*	DD			
Perciformes	Rhyacichthyidae	*Rhyacichthys guilberti*	DD		Yes	
Perciformes	Siganidae	*Siganus vermiculatus*	LC			
Perciformes	Terapontidae	*Mesopristes argenteus*	LC			
Perciformes	Terapontidae	*Mesopristes cancellatus*	LC			
Perciformes	Toxotidae	*Toxotes jaculatrix*	LC			
Pleuronectiformes	Soleidae	*Pardachirus poropterus*	DD			
Scorpaeniformes	Tetrarogidae	*Tetraroge niger*	LC			
Syngnathiformes	Syngnathidae	*Hippichthys spicifer*	LC			
Syngnathiformes	Syngnathidae	*Microphis leiaspis*	LC			
Syngnathiformes	Syngnathidae	*Microphis spinachioides*	DD			Papua New Guinea

Appendix 4

Terrestrial land snails assessed as part of this project

Order	Family	Species	Most recent assessment	Red List Category	Criteria	Endemic to region	Endemic to single country
Stylommatophora	Achatinellidae	*Elasmias apertum*	2011	**LC**			**Fiji**
Stylommatophora	Achatinellidae	*Elasmias ovatulum*	2011	**EN**	**B2ab(iii)**		**Palau**
Stylommatophora	Achatinellidae	*Lamellidea oblonga*	2011	**LC**		**Yes**	
Stylommatophora	Achatinellidae	*Lamellidea pusilla*	2011	**LC**		**Yes**	
Littorinimorpha	Assimineidae	*Fijianella calciphila*	2011	**VU**	**D2**		**Fiji**
Littorinimorpha	Assimineidae	*Fijianella cornucopia*	2011	**VU**	**D2**		**Fiji**
Littorinimorpha	Assimineidae	*Fijianella laddi*	2011	**VU**	**B2ab(ii,iii)**		**Fiji**
Littorinimorpha	Assimineidae	*Kubaryia pilikia*	2011	**CR**	**B1ab(iii)**		**Palau**
Littorinimorpha	Assimineidae	*Omphalotropis bifilaris*	2011	**LC**		**Yes**	
Littorinimorpha	Assimineidae	*Omphalotropis cheynei*	2011	**LC**			**Palau**
Littorinimorpha	Assimineidae	*Omphalotropis circumlineata*	2011	**NT**			**Fiji**
Littorinimorpha	Assimineidae	*Omphalotropis costulata*	2011	**VU**	**B1ab(ii,iii)+2ab(ii,iii)**		**Fiji**
Littorinimorpha	Assimineidae	*Omphalotropis hispida*	2011	**DD**			**Fiji**
Littorinimorpha	Assimineidae	*Omphalotropis ingens*	2011	**CR**	**B1ab(ii)+2ab(ii)**		**Fiji**
Littorinimorpha	Assimineidae	*Omphalotropis layardiana*	2011	**DD**			**Fiji**
Littorinimorpha	Assimineidae	*Omphalotropis longula*	2011	**VU**	**B2ab(ii,iii)**		
Littorinimorpha	Assimineidae	*Omphalotropis moussoni*	2011	**LC**		**Yes**	
Littorinimorpha	Assimineidae	*Omphalotropis parva*	2011	**LC**		**Yes**	

Order	Family	Species	Most recent assessment	Red List Category	Criteria	Endemic to region	Endemic to single country
Littorinimorpha	Assimineidae	*Omphalotropis rosea*	2011	**VU**	**B1ab(ii,iii)+2ab(ii,iii)**		**Fiji**
Littorinimorpha	Assimineidae	*Omphalotropis subsoluta*	2011	**EN**	**B1ab(ii,iii)+2ab(ii,iii)**		**Fiji**
Littorinimorpha	Assimineidae	*Omphalotropis zelriolata*	2011	**NT**		**Yes**	
Stylommatophora	Charopidae	*Ba humbugi*	2011	**EN**	**B1ab(ii,iii)+2ab(ii,iii)**		**Fiji**
Stylommatophora	Charopidae	*Discocharopa aperta*	2011	**LC**			**Tonga**
Stylommatophora	Charopidae	*Lagivala minusculus*	2011	**VU**	**B1ab(ii,iii)**		**Fiji**
Stylommatophora	Charopidae	*Lagivala vivus*	2011	**VU**	**B1ab(ii,iii)**		**Fiji**
Stylommatophora	Charopidae	*Lauopa mbalavuana*	2011	**CR**	**B1ab(ii,iii)**		**Fiji**
Stylommatophora	Charopidae	*Maafu thaumasius*	2011	**CR**	**B1ab(iii)**		**Fiji**
Stylommatophora	Charopidae	*Microcharopa mimula*	2011	**VU**	**B2ab(ii,iii)**		**Fiji**
Stylommatophora	Charopidae	*Palline notera*	2011	**CR**	**B1ab(i,iii)+2ab(i,iii)**		**Palau**
Stylommatophora	Charopidae	*Semperdon kororensis*	2011	**CR**	**B1ab(iii)+2ab(iii)**		**Palau**
Stylommatophora	Charopidae	*Semperdon uncatus*	2011	**EN**	**B1ab(i,ii,iii)+2ab(i,ii,iii)**		**Palau**
Stylommatophora	Charopidae	*Semperdon xyleborus*	2011	**CR**	**D**		**Palau**
Stylommatophora	Charopidae	*Sinployea adposita*	2011	**VU**	**B2ab(ii,iii)**		**Fiji**
Stylommatophora	Charopidae	*Sinployea angularis*	2011	**CR**	**B1ab(ii,iii)**		**Fiji**
Stylommatophora	Charopidae	*Sinployea godeffroyana*	2011	**VU**	**B1ab(ii,iii)**		
Stylommatophora	Charopidae	*Sinployea inermis*	2011	**VU**	**B2ab(ii,iii)**		**Fiji**
Stylommatophora	Charopidae	*Sinployea lauenis*	2011	**VU**	**B1ab(ii,iii)+2ab(ii,iii); D2**		
Stylommatophora	Charopidae	*Sinployea monstrosa*	2011	**VU**	**B1ab(ii,iii)**		
Stylommatophora	Charopidae	*Sinployea navutuenis*	2011	**CR**	**B1ab(iii)+2ab(iii)**		**Fiji**
Stylommatophora	Charopidae	*Sinployea princei*	2011	**EN**	**B1ab(iii)+2ab(iii)**		**Fiji**

Order	Family	Species	Most recent assessment	Red List Category	Criteria	Endemic to region	Endemic to single country
Stylommatophora	Charopidae	*Sinployea recursa*	2011	**VU**	**D2**		**Fiji**
Stylommatophora	Charopidae	*Sinployea rotumana*	2011	**EN**	**B1ab(ii,iii)+2ab(ii,iii)**		**Fiji**
Stylommatophora	Charopidae	*Vatusila kondoi*	2011	**CR**	**B1ab(iii)**		**Fiji**
Stylommatophora	Charopidae	*Vatusila nayauana*	2011	**CR**	**B1ab(iii)**		**Fiji**
Architaenioglossa	Diplommatinidae	*Diancta macrostoma*	2011	**VU**	**B1ab(iii)**		**Fiji**
Architaenioglossa	Diplommatinidae	*Diplommatina alata*	2011	**CR**	**B1ab(i,ii,iii)+2ab(i,ii,iii)**		**Palau**
Architaenioglossa	Diplommatinidae	*Diplommatina aurea*	2011	**CR**	**B1ab(iii)+2ab(iii)**		**Palau**
Architaenioglossa	Diplommatinidae	*Diplommatina crassilabris*	2011	**CR**	**B2ab(iii)**		**Palau**
Architaenioglossa	Diplommatinidae	*Diplommatina gibboni*	2011	**CR**	**B1ab(i,ii,iii)+2ab(i,ii,iii)**		**Palau**
Architaenioglossa	Diplommatinidae	*Diplommatina inflatula*	2011	**EN**	**B2ab(iii)**		**Palau**
Architaenioglossa	Diplommatinidae	*Diplommatina lamellata*	2011	**NT**			**Palau**
Architaenioglossa	Diplommatinidae	*Diplommatina lutea*	2011	**NT**			**Palau**
Architaenioglossa	Diplommatinidae	*Diplommatina pyramis*	2011	**EN**	**B1ab(iii)+2ab(iii)**		**Palau**
Architaenioglossa	Diplommatinidae	*Diplommatina ringens*	2011	**CR**	**B1ab(iii)+2ab(iii)**		**Palau**
Architaenioglossa	Diplommatinidae	*Hungerfordia pelewensis*	2011	**EN**	**B1ab(ii,iii)+2ab(ii,iii)**		**Palau**
Architaenioglossa	Diplommatinidae	*Macropalaina pomatiaeformis*	2011	**EN**	**B1ab(ii,iii)+2ab(ii,iii)**		**Fiji**
Architaenioglossa	Diplommatinidae	*Moussonia fuscula*	2011	**NT**			**Fiji**
Architaenioglossa	Diplommatinidae	*Palaina albata*	2011	**CR**	**B1ab(ii,iii)+2ab(ii,iii)**		**Palau**
Architaenioglossa	Diplommatinidae	*Palaina chrysalis*	2011	**DD**			
Architaenioglossa	Diplommatinidae	*Palaina dimorpha*	2011	**NT**			**Palau**
Architaenioglossa	Diplommatinidae	*Palaina dohrni*	2011	**not valid**			
Architaenioglossa	Diplommatinidae	*Palaina godeffroyana*	2011	**VU**	**B1ab(ii,iii)**		**Fiji**
Architaenioglossa	Diplommatinidae	*Palaina graeffei*	2011	**DD**			**Fiji**

Order	Family	Species	Most recent assessment	Red List Category	Criteria	Endemic to region	Endemic to single country
Architaenioglossa	Diplommatinidae	*Palaina martensi*	2011	**NT**			**Fiji**
Architaenioglossa	Diplommatinidae	*Palaina moussoni*	2011	**CR**	**B1ab(ii,iii)+2ab(ii,iii)**		**Palau**
Architaenioglossa	Diplommatinidae	*Palaina patula*	2011	**CR**	**D**		**Palau**
Architaenioglossa	Diplommatinidae	*Palaina platycheilus*	2011	**CR**	**B1ab(iii)+2ab(iii); D**		**Palau**
Architaenioglossa	Diplommatinidae	*Palaina pupa*	2011	**CR**	**B1ab(iii); D**		**Palau**
Architaenioglossa	Diplommatinidae	*Palaina pusilla*	2011	**not valid**			
Architaenioglossa	Diplommatinidae	*Palaina quadrata*	2011	**DD**			**Fiji**
Architaenioglossa	Diplommatinidae	*Palaina rubella*	2011	**CR**	**B1ab(iii)+2ab(iii); D**		**Palau**
Architaenioglossa	Diplommatinidae	*Palaina strigata*	2011	**VU**	**B1ab(iii)+2ab(iii)**		**Palau**
Architaenioglossa	Diplommatinidae	*Palaina striolata*	2011	**CR**	**B1ab(iii)+2ab(iii)**		**Palau**
Architaenioglossa	Diplommatinidae	*Palaina subregularis*	2011	**VU**	**B1ab(ii,iii)**		**Fiji**
Architaenioglossa	Diplommatinidae	*Palaina taviensis*	2011	**EN**	**B2ab(ii,iii)**		**Fiji**
Architaenioglossa	Diplommatinidae	*Palaina tuberosa*	2011	**DD**			**Fiji**
Architaenioglossa	Diplommatinidae	*Palaina wilsoni*	2011	**EN**	**B1ab(iii)+2ab(iii)**		**Palau**
Architaenioglossa	Diplommatinidae	*Pseudopalaina ascendens*	2011	**DD**			**Fiji**
Architaenioglossa	Diplommatinidae	*Pseudopalaina polymorpha*	2011	**CR**	**B1ab(iii)+2ab(iii)**		**Palau**
Stylommatophora	Endodontidae	*Aaadonta angaurana*	2011	**CR**	**B1ab(iii)+2ab(iii)**		**Palau**
Stylommatophora	Endodontidae	*Aaadonta constricta*	2011	**EN**	**B1ab(i,ii,iii)+2ab(i,ii,iii)**		**Palau**
Stylommatophora	Endodontidae	*Aaadonta constricta ssp. babelthuapi*	2011	**CR**	**B1ab(i,ii,iii)+2ab(i,ii,iii)**		**Palau**
Stylommatophora	Endodontidae	*Aaadonta constricta ssp. constricta*	2011	**CR**	**B1ab(i,ii,iii)+2ab(i,ii,iii)**		**Palau**
Stylommatophora	Endodontidae	*Aaadonta constricta ssp. komakanensis*	2011	**CR**	**B1ab(i,ii,iii)+2ab(i,ii,iii)**		**Palau**
Stylommatophora	Endodontidae	*Aaadonta fuscozonata*	2011	**EN**	**B1ab(ii,iii)+2ab(ii,iii)**		**Palau**
Stylommatophora	Endodontidae	*Aaadonta fuscozonata ssp. depressa*	2011	**CR**	**B1ab(i,ii,iii)+2ab(i,ii,iii)**		**Palau**

Order	Family	Species	Most recent assessment	Red List Category	Criteria	Endemic to region	Endemic to single country
Stylommatophora	Endodontidae	*Aaadonta fuscozonata ssp. fuscozonata*	2011	**CR**	**D**		**Palau**
Stylommatophora	Endodontidae	*Aaadonta irregularis*	2011	**CR**	**B2ab(ii,iii)**		**Palau**
Stylommatophora	Endodontidae	*Aaadonta kinlochi*	2011	**CR**	**B2ab(ii,iii)**		**Palau**
Stylommatophora	Endodontidae	*Aaadonta pelewana*	2011	**CR**	**D**		**Palau**
Stylommatophora	Endodontidae	*Priceconcha tuvuthaensis*	2011	**CR**	**B1ab(iii)**		**Fiji**
Stylommatophora	Endodontidae	*Thaumatodon corrugata*	2011	**CR**	**B1ab(iii)**		**Fiji**
Stylommatophora	Endodontidae	*Thaumatodon laddi*	2011	**VU**	**D2**		**Fiji**
Stylommatophora	Endodontidae	*Thaumatodon spirrhymatum*	2011	**CR**	**B1ab(ii,iii)+2ab(ii,iii)**		**Fiji**
Stylommatophora	Endodontidae	*Thaumatodon subdaedalea*	2011	**EN**	**B1ab(ii,iii)**		**Fiji**
Stylommatophora	Endodontidae	*Zyzzyxdonta alata*	2011	**VU**	**D2**		
Stylommatophora	Euconulidae	*Palaua minor*	2011	**LC**			**Palau**
Stylommatophora	Helicarionidae	*Coneuplecta turrita*	2011	**CR**	**D**		**Palau**
Stylommatophora	Helicarionidae	*Kororia palaensis*	2011	**LC**			**Palau**
Cycloneritimorpha	Helicinidae	*Palaeohelicina heterochroa*	2011	**LC**			**Palau**
Cycloneritimorpha	Helicinidae	*Pleuropoma pelewensis*	2011	**LC**			**Palau**
Architaenioglossa	Neocyclotidae	*Fijiopoma diatreta*	2011	**VU**	**B2ab(ii,iii)**		**Fiji**
Architaenioglossa	Neocyclotidae	*Fijiopoma liberata*	2011	**EN**	**B1ab(ii,iii)+2ab(ii,iii)**		**Fiji**
Architaenioglossa	Neocyclotidae	*Gonatorhaphe intercostata*	2011	**EN**	**B1ab(ii,iii)+2ab(ii,iii)**		**Fiji**
Architaenioglossa	Neocyclotidae	*Gonatorhaphe lauensis*	2011	**CR**	**B1ab(ii,iii)**		**Fiji**
Architaenioglossa	Neocyclotidae	*Gonatorhaphe stricta*	2011	**EN**	**B2ab(ii,iii)**		**Fiji**
Stylommatophora	Orthalicidae	*Placostylus elobatus*	2011	**VU**	**B1ab(iii)**		**Fiji**
Stylommatophora	Orthalicidae	*Placostylus fulguratus*	2011	**LC**			**Fiji**

Order	Family	Species	Most recent assessment	Red List Category	Criteria	Endemic to region	Endemic to single country
Stylommatophora	Orthalicidae	*Placostylus garretti*	2011	**DD**			**Fiji**
Stylommatophora	Orthalicidae	*Placostylus graeffei*	2011	**EN**	**B1ab(iii)**		**Fiji**
Stylommatophora	Orthalicidae	*Placostylus guanensis*	2011	**EN**	**B1ab(iii)+2ab(iii)**		**Fiji**
Stylommatophora	Orthalicidae	*Placostylus hoyti*	2011	**EN**	**B1ab(iii)**		**Fiji**
Stylommatophora	Orthalicidae	*Placostylus kantavuensis*	2011	**EN**	**B1ab(iii)+2ab(iii)**		**Fiji**
Stylommatophora	Orthalicidae	*Placostylus koroensis*	2011	**CR**	**B1ab(ii,iii)**		**Fiji**
Stylommatophora	Orthalicidae	*Placostylus malleatus*	2011	**VU**	**B1ab(ii,iii)**		**Fiji**
Stylommatophora	Orthalicidae	*Placostylus mbengensis*	2011	**CR**	**B1ab(iii)**		**Fiji**
Stylommatophora	Orthalicidae	*Placostylus morosus*	2011	**LC**			**Fiji**
Stylommatophora	Orthalicidae	*Placostylus ochrostoma*	2011	**EN**	**B1ab(iii)**		**Fiji**
Stylommatophora	Orthalicidae	*Placostylus seemanni*	2011	**EN**	**B1ab(iii)+2ab(iii)**		**Fiji**
Stylommatophora	Orthalicidae	*Placostylus subroseus*	2011	**DD**			**Fiji**
Stylommatophora	Partulidae	*Partula affinis*	2007	**CR**	**B1ab(ii,iv)+2ab(ii,iv)**		
Stylommatophora	Partulidae	*Partula arguta*	2007	**EX**			
Stylommatophora	Partulidae	*Partula atilis*	2007	**EX**			
Stylommatophora	Partulidae	*Partula aurantia*	2007	**EX**			
Stylommatophora	Partulidae	*Partula auriculata*	2007	**EX**			
Stylommatophora	Partulidae	*Partula bilineata*	2007	**EX**			
Stylommatophora	Partulidae	*Partula callifera*	2007	**EX**			
Stylommatophora	Partulidae	*Partula candida*	2007	**EX**			
Stylommatophora	Partulidae	*Partula cedista*	2007	**EX**			
Stylommatophora	Partulidae	*Partula citrina*	2007	**EX**			
Stylommatophora	Partulidae	*Partula clara*	2007	**CR**	**B2ab(ii,iv)**		
Stylommatophora	Partulidae	*Partula crassilabris*	2007	**EX**			
Stylommatophora	Partulidae	*Partula cuneata*	2007	**EX**			

Order	Family	Species	Most recent assessment	Red List Category	Criteria	Endemic to region	Endemic to single country
Stylommatophora	Partulidae	*Partula cytherea*	2007	**EX**			
Stylommatophora	Partulidae	*Partula dentifera*	2007	**EW**			
Stylommatophora	Partulidae	*Partula dolichostoma*	2007	**EX**			
Stylommatophora	Partulidae	*Partula dolorosa*	2007	**EX**			
Stylommatophora	Partulidae	*Partula eremita*	2007	**EX**			
Stylommatophora	Partulidae	*Partula exigua*	2007	**EX**			
Stylommatophora	Partulidae	*Partula faba*	2007	**EW**			
Stylommatophora	Partulidae	*Partula filosa*	2007	**EX**			
Stylommatophora	Partulidae	*Partula formosa*	2007	**EX**			
Stylommatophora	Partulidae	*Partula fusca*	2007	**EX**			
Stylommatophora	Partulidae	*Partula garretti*	2007	**EX**			
Stylommatophora	Partulidae	*Partula hebe*	2007	**EW**			
Stylommatophora	Partulidae	*Partula hyalina*	2007	**VU**	**B2ab(ii,iv)**		
Stylommatophora	Partulidae	*Partula imperforata*	2007	**EX**			
Stylommatophora	Partulidae	*Partula labrusca*	2007	**EX**			
Stylommatophora	Partulidae	*Partula leptochila*	2007	**EX**			
Stylommatophora	Partulidae	*Partula levilineata*	2007	**EX**			
Stylommatophora	Partulidae	*Partula levistriata*	2007	**EX**			
Stylommatophora	Partulidae	*Partula lugubris*	2007	**EX**			
Stylommatophora	Partulidae	*Partula lutea*	2007	**EX**			
Stylommatophora	Partulidae	*Partula mirabilis*	2007	**EW**			
Stylommatophora	Partulidae	*Partula mooreana*	2007	**EW**			
Stylommatophora	Partulidae	*Partula navigatoria*	2007	**EX**			
Stylommatophora	Partulidae	*Partula nodosa*	2007	**EW**			
Stylommatophora	Partulidae	*Partula otaheitana*	2007	**CR**	**B2ab(ii,iii)**		
Stylommatophora	Partulidae	*Partula ovalis*	2007	**EX**			
Stylommatophora	Partulidae	*Partula planilabrum*	2007	**EX**			
Stylommatophora	Partulidae	*Partula producta*	2007	**EX**			
Stylommatophora	Partulidae	*Partula protracta*	2007	**EX**			

Order	Family	Species	Most recent assessment	Red List Category	Criteria	Endemic to region	Endemic to single country
Stylommatophora	Partulidae	*Partula radiata*	2007	**EX**			
Stylommatophora	Partulidae	*Partula remota*	2007	**EX**			
Stylommatophora	Partulidae	*Partula robusta*	2007	**EX**			
Stylommatophora	Partulidae	*Partula rosea*	2007	**EW**			
Stylommatophora	Partulidae	*Partula rustica*	2007	**EX**			
Stylommatophora	Partulidae	*Partula sagitta*	2007	**EX**			
Stylommatophora	Partulidae	*Partula suturalis*	2007	**EW**			
Stylommatophora	Partulidae	*Partula taeniata*	2007	**CR**	**B2ab(ii,iv)**		
Stylommatophora	Partulidae	*Partula thalia*	2007	**EX**			
Stylommatophora	Partulidae	*Partula tohiveana*	2007	**EW**			
Stylommatophora	Partulidae	*Partula tristis*	2007	**EW**			
Stylommatophora	Partulidae	*Partula turgida*	2007	**EX**			
Stylommatophora	Partulidae	*Partula umbilicata*	2007	**EX**			
Stylommatophora	Partulidae	*Partula varia*	2007	**EW**			
Stylommatophora	Partulidae	*Partula vittata*	2007	**EX**			
Stylommatophora	Partulidae	*Samoana attenuata*	2007	**CR**	**A2e;B2ab(ii,iv)**		
Stylommatophora	Partulidae	*Samoana bellula*	2007	**CR**	**B2ab(ii,iv)**		
Stylommatophora	Partulidae	*Samoana decussatula*	2007	**CR**	**B2ab(ii,iv)**		
Stylommatophora	Partulidae	*Samoana dryas*	2007	**CR**	**B2ac(ii,iii)**		
Stylommatophora	Partulidae	*Samoana hamadryas*	2007	**CR**	**B2ab(ii,iii)**		
Stylommatophora	Partulidae	*Samoana inflata*	2007	**EX**			
Stylommatophora	Partulidae	*Samoana jackieburchi*	2007	**EX**			
Stylommatophora	Partulidae	*Samoana magdalinae*	2007	**DD**			
Stylommatophora	Partulidae	*Samoana margaritae*	2007	**VU**	**D2**		
Stylommatophora	Partulidae	*Samoana oreas*	2007	**CR**	**B2ab(ii,iii)**		
Stylommatophora	Partulidae	*Samoana strigata*	2007	**CR**	**B2ab(ii,iv)**		
Stylommatophora	Partulidae	*Eua globosa*	2011	**CR**	**B2ab(iii); D**		**Tonga**
Stylommatophora	Partulidae	*Partula auraniana*	2011	**EN**	**B1ab(iii)**		**Vanuatu**
Stylommatophora	Partulidae	*Partula calypso*	2011	**CR**	**B2ab(iii); D**		**Palau**

Order	Family	Species	Most recent assessment	Red List Category	Criteria	Endemic to region	Endemic to single country
Stylommatophora	Partulidae	*Partula carteriensis*	2011	**DD**			**PNG**
Stylommatophora	Partulidae	*Partula coxi*	2011	**DD**			**Solomon Islands**
Stylommatophora	Partulidae	*Partula cramptoni*	2011	**DD**			**Solomon Islands**
Stylommatophora	Partulidae	*Partula dorseyi*	2011	**DD**			**PNG**
Stylommatophora	Partulidae	*Partula emersoni*	2011	**CR**	**D**		**FSM**
Stylommatophora	Partulidae	*Partula guamensis*	2011	**EX**			**FSM**
Stylommatophora	Partulidae	*Partula leucothoe*	2011	**CR**	**B2ab(iii); D**		**Palau**
Stylommatophora	Partulidae	*Partula micans*	2011	**LC**		**Yes**	
Stylommatophora	Partulidae	*Partula milleri*	2011	**CR**	**B1ab(i,ii)+2ab(i,ii); D**		**Vanuatu**
Stylommatophora	Partulidae	*Partula similaris*	2011	**DD**			**PNG**
Stylommatophora	Partulidae	*Partula subgonochila*	2011	**CR**	**B1ab(iii)**		**Wallis and Futuna**
Stylommatophora	Partulidae	*Partula thetis*	2011	**CR**	**B2ab(iii)**		**Palau**
Stylommatophora	Partulidae	*Samoana abbreviata*	2011	**CR**	**B2ab(iii)**		**Solomon Islands**
Stylommatophora	Partulidae	*Samoana burchi*	2011	**CR**	**B2ab(iii)**		**French Polynesia**
Stylommatophora	Partulidae	*Samoana cramptoni*	2011	**CR**	**D**		**Tonga**
Stylommatophora	Partulidae	*Samoana diaphana*	2011	**EN**	**B2ab(i,ii,iii)**		**French Polynesia**
Stylommatophora	Partulidae	*Samoana meyeri*	2011	**CR**	**B2ab(ii,iii)**		**French Polynesia**
Architaenioglossa	Pupinidae	*Pupina difficilis*	2011	**LC**			**Palau**
Stylommatophora	Rhytididae	*Delos gardineri*	2011	**CR**	**B1ab(i,ii,iii)+2ab(i,ii,iii)**		**Fiji**
Stylommatophora	Rhytididae	*Ouagapia perryi*	2011	**EN**	**B2ab(ii,iii)**	**Yes**	
Stylommatophora	Rhytididae	*Ouagapia ratusukuni*	2011	**CR**	**B1ab(ii,iii)**		**Fiji**
Stylommatophora	Succineidae	*Succinea philippinica*	2011	**DD**			
Stylommatophora	Succineidae	*Succinea rotumana*	2011	**CR**	**B1ab(ii,iii)**		
Stylommatophora	Trochomorphidae	*Videna electra*	2011	**VU**	**B1ab(iii)+2ab(iii)**		**Palau**

Order	Family	Species	Most recent assessment	Red List Category	Criteria	Endemic to region	Endemic to single country
Stylommatophora	Trochomorphidae	*Videna oleacina*	2011	**EN**	**B1ab(iii)+2ab(iii)**		**Palau**
Stylommatophora	Trochomorphidae	*Videna pagodula*	2011	**CR**	**B1ab(ii,iii)+2ab(ii,iii)**		**Palau**
Stylommatophora	Trochomorphidae	*Videna pumila*	2011	**CR**	**D**		**Palau**
Littorinimorpha	Truncatellidae	*Truncatella guerinii*	2011	**LC**			
Stylommatophora	Zonitidae	*Trochomorpha abrochroa*	2011	**VU**	**B1ab(ii,iii)**		**Fiji**
Stylommatophora	Zonitidae	*Trochomorpha accurata*	2011	**VU**	**B1ab(ii,iii)**		**Fiji**
Stylommatophora	Zonitidae	*Trochomorpha albostriata*	2011	**EN**	**B1ab(ii,iii)+2ab(ii,iii)**		**Fiji**
Stylommatophora	Zonitidae	*Trochomorpha corallina*	2011	**NT**			**Fiji**
Stylommatophora	Zonitidae	*Trochomorpha depressostriata*	2011	**DD**			**Fiji**
Stylommatophora	Zonitidae	*Trochomorpha fessonia*	2011	**NT**			**Fiji**
Stylommatophora	Zonitidae	*Trochomorpha kambarae*	2011	**CR**	**B1ab(ii,iii)**		**Fiji**
Stylommatophora	Zonitidae	*Trochomorpha kantavuensis*	2011	**DD**			**Fiji**
Stylommatophora	Zonitidae	*Trochomorpha latimarginata*	2011	**DD**			**Fiji**
Stylommatophora	Zonitidae	*Trochomorpha lüdersi*	2011	**NT**			**Fiji**
Stylommatophora	Zonitidae	*Trochomorpha merzianoides*	2011	**DD**			**Fiji**
Stylommatophora	Zonitidae	*Trochomorpha moalensis*	2011	**CR**	**B1ab(ii,iii)**		**Fiji**
Stylommatophora	Zonitidae	*Trochomorpha planoconus*	2011	**CR**	**B1ab(ii,iii)+2ab(ii,iii)**		**Fiji**
Stylommatophora	Zonitidae	*Trochomorpha tavinniensis*	2011	**EN**	**B1ab(ii,iii)+2ab(ii,iii)**		**Fiji**
Stylommatophora	Zonitidae	*Trochomorpha transarata*	2011	**EN**	**B1ab(ii,iii)+2ab(ii,iii)**		**Fiji**
Stylommatophora	Zonitidae	*Trochomorpha tumulus*	2011	**DD**			**Fiji**
Stylommatophora	Zonitidae	*Trochomorpha tuvuthae*	2011	**CR**	**B1ab(iii)**		**Fiji**

Appendix 5

Reptiles assessed as part of this project

Order	Family	Genus	Species	Red List Category	Assessment requires clarification
Squamata	Acrochordidae	*Acrochordus*	*granulatus*	LC	Yes
Squamata	Agamidae	*Hypsilurus*	*godeffroyi*	EX	
Squamata	Agamidae	*Hypsilurus*	*modestus*	LC	
Squamata	Agamidae	*Hypsilurus*	*longii*	LC	
Squamata	Agamidae	*Hypsilurus*	*macrolepis*	VU	Yes
Squamata	Agamidae	*Hypsilurus*	*schoedei*	LC	Yes
Squamata	Boidae	*Candoia*	*bibroni*	LC	
Squamata	Boidae	*Candoia*	*carinata*	LC	Yes
Squamata	Boidae	*Candoia*	*superciliosa*	LC	
Squamata	Boidae	*Candoia*	*aspera*	LC	Yes
Squamata	Boidae	*Candoia*	*paulsoni*	LC	
Squamata	Colubridae	*Boiga*	*irregularis*	LC	Yes
Squamata	Colubridae	*Dendrelaphis*	*calligastra*	LC	Yes
Squamata	Colubridae	*Dendrelaphis*	*punctulatus*	LC	Yes
Squamata	Colubridae	*Dendrelaphis*	*salomonis*	LC	
Squamata	Colubridae	*Stegonotus*	*heterurus*	LC	
Squamata	Colubridae	*Stegonotus*	*modestus*	LC	
Squamata	Elapidae	*Ogmodon*	*vitianus*	VU	
Squamata	Elapidae	*Aspidomorphus*	*muelleri*	LC	
Squamata	Elapidae	*Loveridgelaps*	*elapoides*	VU	
Squamata	Elapidae	*Parapistocalamus*	*hedigeri*	DD	
Squamata	Elapidae	*Salomonelaps*	*par*	LC	
Squamata	Gekkonidae	*Hemidactylus*	*frenatus*	LC	Yes
Squamata	Gekkonidae	*Gehyra*	*insulensis*	LC	Yes
Squamata	Gekkonidae	*Gehyra*	*oceanica*	LC	Yes
Squamata	Gekkonidae	*Gehyra*	*vorax*	NT	Yes
Squamata	Gekkonidae	*Gekko*	*vittatus*	LC	Yes
Squamata	Gekkonidae	*Hemidactylus*	*garnotii*	LC	Yes
Squamata	Gekkonidae	*Hemiphyllodactylus*	*typus*	LC	Yes
Squamata	Gekkonidae	*Lepidodactylus*	*lugubris*	LC	Yes
Squamata	Gekkonidae	*Nactus*	*pelagicus*	LC	

Order	Family	Genus	Species	Red List Category	Assessment requires clarification
Squamata	Gekkonidae	*Gehyra*	*brevipalmata*	LC	
Squamata	Gekkonidae	*Hemiphyllodactylus*	*ganoklonis*	LC	
Squamata	Gekkonidae	*Lepidodactylus*	*manni*	VU	Yes
Squamata	Gekkonidae	*Lepidodactylus*	*euaensis*	CR	Yes
Squamata	Gekkonidae	*Lepidodactylus*	*gardineri*	VU	
Squamata	Gekkonidae	*Lepidodactylus*	*paurolepis*	VU	Yes
Squamata	Gekkonidae	*Lepidodactylus*	*tepukapili*	LC	Yes
Squamata	Gekkonidae	*Perochirus*	*ateles*	EN	Yes
Squamata	Gekkonidae	*Perochirus*	*scutellatus*	VU	Yes
Squamata	Gekkonidae	*Lepidodactylus*	*moestus*	LC	
Squamata	Gekkonidae	*Cyrtodactylus*	*louisiadensis*	LC	
Squamata	Gekkonidae	*Cyrtodactylus*	*salomensis*	NT	Yes
Squamata	Gekkonidae	*Cyrtodactylus*	*biordinis*	LC	
Squamata	Gekkonidae	*Lepidodactylus*	*woodfordi*	DD	
Squamata	Gekkonidae	*Lepidodactylus*	*buleli*	DD	
Squamata	Gekkonidae	*Lepidodactylus*	*flaviocularis*	DD	
Squamata	Gekkonidae	*Lepidodactylus*	*guppyi*	LC	
Squamata	Gekkonidae	*Lepidodactylus*	*mutahi*	DD	
Squamata	Gekkonidae	*Lepidodactylus*	*oligoporus*	VU	Yes
Squamata	Gekkonidae	*Lepidodactylus*	*pulcher*	DD	
Squamata	Gekkonidae	*Lepidodactylus*	*shebae*	DD	
Squamata	Gekkonidae	*Lepidodactylus*	*vanuatuensis*	LC	
Squamata	Gekkonidae	*Nactus*	*multicarinatus*	LC	
Squamata	Gekkonidae	*Perochirus*	*guentheri*	CR	Yes
Squamata	Homalopsidae	*Cerberus*	*rynchops*	LC	
Squamata	Iguanidae	*Brachylophus*	*bulabula*	EN	
Squamata	Iguanidae	*Brachylophus*	*fasciatus*	EN	
Squamata	Iguanidae	*Brachylophus*	*vitiensis*	CR	
Squamata	Natricidae	*Tropidonophis*	*dahlii*	LC	
Squamata	Natricidae	*Tropidonophis*	*hypomelas*	LC	
Squamata	Pygopodidae	*Lialis*	*jicari*	LC	
Squamata	Pythonidae	*Bothrochilus*	*boa*	LC	
Squamata	Pythonidae	*Leiopython*	*albertisii*	LC	Yes
Squamata	Pythonidae	*Morelia*	*amethistina*	LC	Yes
Squamata	Scincidae	*Lamprolepis*	*smaragdina*	LC	Yes

Order	Family	Genus	Species	Red List Category	Assessment requires clarification
Squamata	Scincidae	*Cryptoblepharus*	*poecilopleurus*	LC	
Squamata	Scincidae	*Emoia*	*impar*	LC	
Squamata	Scincidae	*Emoia*	*atrocostata*	LC	Yes
Squamata	Scincidae	*Emoia*	*caeruleocauda*	LC	
Squamata	Scincidae	*Emoia*	*cyanura*	LC	Yes
Squamata	Scincidae	*Emoia*	*jakati*	LC	Yes
Squamata	Scincidae	*Emoia*	*nigra*	LC	
Squamata	Scincidae	*Emoia*	*tongana*	LC	
Squamata	Scincidae	*Eutropis*	*multicarinata*	LC	Yes
Squamata	Scincidae	*Lipinia*	*noctua*	LC	Yes
Squamata	Scincidae	*Cryptoblepharus*	*eximius*	NT	
Squamata	Scincidae	*Cryptoblepharus*	*rutilus*	LC	
Squamata	Scincidae	*Emoia*	*adspersa*	EN	Yes
Squamata	Scincidae	*Emoia*	*arnoensis*	LC	
Squamata	Scincidae	*Emoia*	*boettgeri*	EN	Yes
Squamata	Scincidae	*Emoia*	*campbelli*	EN	Yes
Squamata	Scincidae	*Emoia*	*concolor*	NT	
Squamata	Scincidae	*Emoia*	*lawesi*	EN	Yes
Squamata	Scincidae	*Emoia*	*mokosariniveikau*	EN	Yes
Squamata	Scincidae	*Emoia*	*parkeri*	VU	Yes
Squamata	Scincidae	*Emoia*	*ponapea*	EN	
Squamata	Scincidae	*Emoia*	*samoensis*	LC	Yes
Squamata	Scincidae	*Emoia*	*slevini*	CR	Yes
Squamata	Scincidae	*Emoia*	*trossula*	EN	Yes
Squamata	Scincidae	*Emoia*	*tuitarere*	VU	Yes
Squamata	Scincidae	*Leiolopisma*	*alazon*	CR	Yes
Squamata	Scincidae	*Lipinia*	*leptosoma*	NT	
Squamata	Scincidae	*Sphenomorphus*	*scutatus*	LC	
Squamata	Scincidae	*Tachygia*	*microlepis*	EX	
Squamata	Scincidae	*Caledoniscincus*	*atropunctatus*	LC	Yes
Squamata	Scincidae	*Carlia*	*ailanpalai*	LC	Yes
Squamata	Scincidae	*Carlia*	*mysi*	LC	Yes
Squamata	Scincidae	*Corucia*	*zebrata*	NT	Yes
Squamata	Scincidae	*Cryptoblepharus*	*novohebridicus*	LC	
Squamata	Scincidae	*Emoia*	*aneityumensis*	EN	

Order	Family	Genus	Species	Red List Category	Assessment requires clarification
Squamata	Scincidae	*Emoia*	*bismarckensis*	LC	
Squamata	Scincidae	*Emoia*	*cyanogaster*	LC	
Squamata	Scincidae	*Emoia*	*erronan*	VU	
Squamata	Scincidae	*Emoia*	*flavigularis*	LC	
Squamata	Scincidae	*Emoia*	*isolata*	LC	
Squamata	Scincidae	*Emoia*	*kordoana*	LC	Yes
Squamata	Scincidae	*Emoia*	*maculata*	LC	
Squamata	Scincidae	*Emoia*	*nigromarginata*	LC	
Squamata	Scincidae	*Emoia*	*pseudocyanura*	LC	
Squamata	Scincidae	*Emoia*	*rennellensis*	LC	
Squamata	Scincidae	*Emoia*	*rufilabialis*	LC	
Squamata	Scincidae	*Emoia*	*sanfordi*	LC	
Squamata	Scincidae	*Emoia*	*schmidti*	LC	
Squamata	Scincidae	*Emoia*	*taumakoensis*	LC	
Squamata	Scincidae	*Geomyersia*	*coggeri*	VU	
Squamata	Scincidae	*Geomyersia*	*glabra*	NT	
Squamata	Scincidae	*Lipinia*	*rouxi*	LC	
Squamata	Scincidae	*Prasinohaema*	*virens*	LC	Yes
Squamata	Scincidae	*Sphenomorphus*	*bignelli*	LC	
Squamata	Scincidae	*Sphenomorphus*	*concinnatus*	LC	
Squamata	Scincidae	*Sphenomorphus*	*cranei*	LC	
Squamata	Scincidae	*Sphenomorphus*	*fragosus*	DD	
Squamata	Scincidae	*Sphenomorphus*	*pratti*	LC	Yes
Squamata	Scincidae	*Sphenomorphus*	*solomonis*	LC	
Squamata	Scincidae	*Sphenomorphus*	*tanneri*	LC	
Squamata	Scincidae	*Sphenomorphus*	*taylori*	LC	
Squamata	Scincidae	*Sphenomorphus*	*transversus*	DD	
Squamata	Scincidae	*Sphenomorphus*	*woodfordi*	LC	
Squamata	Scincidae	*Tribolonotus*	*annectens*	DD	
Squamata	Scincidae	*Tribolonotus*	*blanchardi*	LC	Yes
Squamata	Scincidae	*Tribolonotus*	*brongersmai*	DD	
Squamata	Scincidae	*Tribolonotus*	*ponceleti*	DD	
Squamata	Scincidae	*Tribolonotus*	*pseudoponceleti*	LC	
Squamata	Scincidae	*Tribolonotus*	*schmidti*	LC	
Squamata	Scincidae	*Cryptoblepharus*	*novaeguineae*	LC	Yes

Order	Family	Genus	Species	Red List Category	Assessment requires clarification
Squamata	Scincidae	*Emoia*	*mivarti*	VU	Yes
Squamata	Scincidae	*Eugongylus*	*albofasciolatus*	LC	Yes
Squamata	Scincidae	*Eugongylus*	*rufescens*	LC	Yes
Squamata	Scincidae	*Sphenomorphus*	*jobiensis*	LC	Yes
Squamata	Scincidae	*Sphenomorphus*	*simus*	LC	
Squamata	Scincidae	*Tiliqua*	*gigas*	LC	Yes
Squamata	Typhlopidae	*Ramphotyphlops*	*'aluensis'*	DD	
Squamata	Typhlopidae	*Ramphotyphlops*	*braminus*	LC	Yes
Squamata	Typhlopidae	*Ramphotyphlops*	*depressus*	LC	
Squamata	Typhlopidae	*Ramphotyphlops*	*acuticauda*	LC	
Squamata	Typhlopidae	*Acutotyphlops*	*infralabialis*	LC	Yes
Squamata	Typhlopidae	*Acutotyphlops*	*kunuaensis*	DD	
Squamata	Typhlopidae	*Acutotyphlops*	*solomonis*	DD	Yes
Squamata	Typhlopidae	*Acutotyphlops*	*subocularis*	LC	
Squamata	Typhlopidae	*Ramphotyphlops*	*angusticeps*	DD	Yes
Squamata	Typhlopidae	*Ramphotyphlops*	*becki*	DD	Yes
Squamata	Typhlopidae	*Ramphotyphlops*	*mansuetus*	DD	Yes
Squamata	Typhlopidae	*Typhlops*	*depressiceps*	LC	Yes
Squamata	Varanidae	*Varanus*	*indicus*	LC	Yes
Squamata	Varanidae	*Varanus*	*finschi*	LC	Yes
Squamata	Varanidae	*Varanus*	*juxtindicus*	LC	
Squamata	Varanidae	*Varanus*	*spinulosus*	LC	

Appendix 6

Summary Report on IUCN Red List Training workshop

LAMI, FEBRUARY 14 – 18 2011

WORKSHOP OBJECTIVES

- To introduce the Pacific islands Red Listing biodiversity assessment Project and the purpose of IUCN Red List assessments.
- To develop an understanding of the IUCN Red List Categories and Criteria.
- To provide training on how to apply the IUCN Red List Categories and Criteria to produce high-quality assessments suitable for inclusion in the IUCN Red List of Threatened Species™.
- To provide practical experience of carrying out Red List assessments and assign Red List categories.

Participant List

Name	Organisation	Taxonomic Group
Gilianne Brodie	University of the South Pacific, Fiji	Snails
Gary Barker	Landcare Research, New Zealand	Snails
Diarmaid Ó Foighil	University of Michigan, USA	Snails
Rebecca Rundell	University of BC, Canada	Snails
Aaron Jenkins	Wetlands International Oceania, Fiji	Freshwater Fishes
David Boseto	Texas A and M University, USA	Freshwater Fishes
Helen Larson	former Curator of Fishes at the Museum of the NT, Australia	Freshwater Fishes
Nunia Thomas	NatureFiji, Fiji	Reptiles
Peter Harlow	Taronga Zoo, Sydney Australia	Reptiles
Robert Fisher	USGS, USA	Reptiles
Oliver Tallowin	Consultant, associated with the Bishop Museum, Hawaii	Reptiles
Caroline Pollock	IUCN Red List Unit, UK	Red List
Emma Brooks	IUCN Red List Unit, UK	Red List
Helen Pippard	IUCN Oceania, Fiji	Red List
Jeremy Bird	Birdlife International, Fiji	Red List, Birds
Kinikoto Mailautoka	Wetlands International Oceania, Fiji	Freshwater Fishes
Lia Bogitini	University of the South Pacific	Snails
Lekima Copeland	University of the South Pacific	Freshwater fishes
Hilda Sakitiwaqa	University of the South Pacific	Reptiles
Richard Singh	University of the South Pacific	Snails

PRESENTATIONS

The following presentations were made during the workshop:

- Introduction to IUCN Oceania
- Introduction to the Pacific islands Red List project, including timeframe and roles
- Introduction to the Red List
- The Role of the Red List Assessor
- Red List Categories – essential tools, Categories, data quality and uncertainty
- Definition of Red List terms
- Red List criteria: A, B, C, D, E theory
- Regional and National Red List process
- Documentation standards
- Common mistakes made during assessments
- SIS Demo
- Mapping standards and requirements

PRACTICAL SESSIONS

Practical sessions were held on the following topics:

- Definition of Red List terms
- Red List criteria: A, B, C, D, E practice
- Assessing species using case studies
- Assessing species using participant data (See Annex 1 for photos of this session)
- Species Information Practical
- Mapping standards
- Threat mapping of the region
- To publish or not to publish – identifying good and bad assessments
- Exam

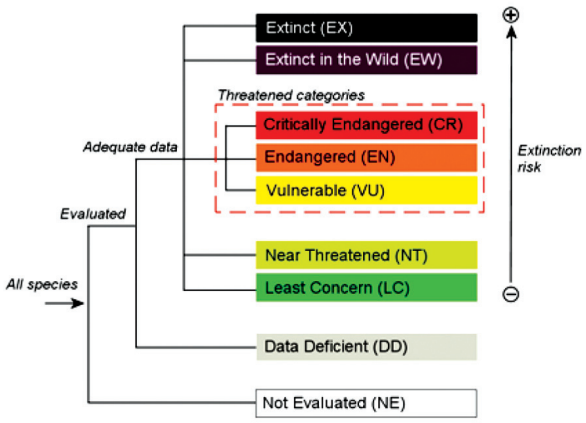
BACKGROUND INFORMATION

The following documents provide useful background information on the Red List assessment process.

- IUCN Red List Categories and Criteria version 3.1
- Guidelines for using IUCN Red List Categories and Criteria
- Guidelines for the application of IUCN Categories and Criteria at the Regional and National Level
- Documentation standards and consistency
- Red List Categories and Criteria Summary sheet
- Summary of the Red List Process
- Regional Process and Flow Chart
- Mapping attributes
- Mapping Point Locality Template

KEY POINTS TO REMEMBER

The Red List categories are:



Species Information Service

Workshop participants were granted access to the IUCN Red List SIS Training Site: https://train.iucnsis.org/SIS/index.html to gain experience and confidence carrying out assessments and using the SIS, later having the opportunity to carry out some trial assessments on this training site, prior to the actual assessments being completed.

MAPPING

A distribution map must be created for every species that is assessed under the Red List Criteria during this project. The extent of the distribution for each species can be based on point data from collected specimens, published journal articles and books, museum collections, and other scientific data.

The species distribution maps can be produced using the software ArcView (which was installed for each of you at the workshop) or ArcGIS 9.1. ArcView can be used to create polygons and shapefiles to represent species distribution range, especially for endemic or narrow range species.

Species-specific distribution maps are converted to .tiff files with a resolution of 600 dpi for review purpose for the Red List process.

If you cannot produce a GIS map, provide a drawn distribution map that we can digitise.

You can also supply point locality data using the template .

Choose a useful scale.

Remember, attributes must be written on the map!

- Species name
- Your name
- Presence (is this the known or inferred range?)
- Any other details that are relevant. If nothing else is provided, we will assume it is the default attributes (e.g. Origin – 1, Seasonality – 1…)

Google maps can also be converted into range maps.

http://speciesmapping.pbworks.com has links to Species Mapping Tools for the IUCN Red List, including: ArcGIS mapping, creating maps from Google Earth, mapping resources such as shapefiles, base layers, point attributes.

SPECIES LISTS

The final day was set aside for each taxonomic group to begin discussions on species lists for Polynesia/Micronesia countries. Where possible/practicable, the lists can extend to cover Eastern Melanesian species.

By the end of March, the species lists should have been circulated amongst peers and colleagues (especially Experts who will be involved in the Evaluation process).

Using this compiled species list, the species shall be grouped so that each specialist assessor has a batch of assessments for which (s)he is responsible for conducting.

THE RED LIST METHODOLOGY FOR THIS PROJECT

Part One: Assessment process carried out by the Specialists

(i) Training Workshop

Held to provide Specialists with an introduction to the IUCN Red List, how to apply the IUCN Red List Categories and Criteria for global (and regional) Red List assessments, and to understand the types of data that are required to carry out Red List Assessments. Participants were also introduced to IUCN's species database – the Species Information Service (SIS), as well as going over information required to create distribution and threat maps.

(ii) Species Lists

During and in the month after the workshop, Specialists will work in their taxonomic groups to compile species lists for Polynesia-Micronesia and Eastern Melanesia.

Polynesia-Micronesia includes: American Samoa, Cook Islands, Federated States of Micronesia, Fiji, French Polynesia, Guam, Kiribati, Marshall Islands, Nauru, Niue, Northern Mariana Islands, Palau, Pitcairn Islands, Samoa, Tonga, Tokelau, Tuvalu, Wallis and Futuna.

East Melanesian Islands include Bismarcks, Solomons and Vanuatu.

The minimal aim is to complete assessments for the Poly/Micro hotspot defined by CEPF, and then to include additional distribution data for:

(i) eastern Melanesia

(ii) the rest of the Pacific (e.g. Norfolk Island, Hawaii, New Caledonia)

(iii) globally wherever possible (e.g. species that stretch to the greater Indo-Pacific)

(iii) Data collection

Following the training workshop, Specialists will gather all recent data on the status of each individual species, and enter this information into the IUCN SIS. The data required to make the assessments is outlined below:

- **Taxonomy:** Information on any taxonomic issues related to the species.
- **Distribution:** A summary of the global distribution of the species. A GIS shapefile is created for every species.
- **Population:** Anything known on population sizes, abundance (rare, scarce, common, etc), and the degree of fragmentation. Trends in abundance over time.
- **Habitat and ecology:** Anything relating to the species' biology that is relevant to the assessment. Habitat preferences, size, reproductive biology, age at maturity, growth, diet and life history.
- **Threats:** Any known, probable or potential threats – e.g. fisheries, trade, habitat destruction, pollution, climate change.
- **Conservation actions:** Those in existence, (e.g. protected species status, protected areas that encompass part or all of a species' range), and those required in the future (within 5 years).

The identified experts who will attend the evaluation workshop will also be asked to assist with the initial data collection by helping to provide published information.

Part two: Evaluation workshop

Once the initial data collection and assessments are done, the species accounts and maps will be posted in secure password-protected web pages. Experts attending the evaluation workshop will then be able to review the assessments prior to the workshop, and will have an idea of what additional information they may need to bring with them.

Each species account and distribution map in the database will be reviewed individually by the experts. This is when the expert participants supply additional data (otherwise impossible to retrieve) and work through the compiled assessments in order to peer-review what has been done, and apply the finalised Red List Criteria to the data. The result for each species is an assigned Red List Category.

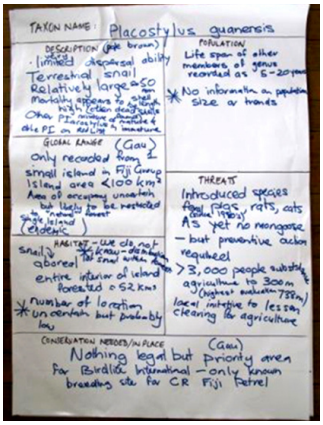
TIMELINE, ROLES AND RESPONSIBILITIES FOR SPECIALISTS

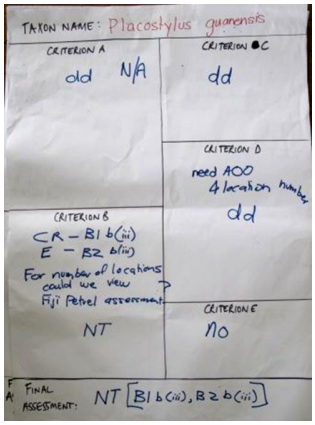
MONTH	ACTIVITY
FEBRUARY	**TRAINING WORKSHOP, Suva, Fiji 14–18 FEBRUARY** **Specialists trained in:** 1) The use of IUCN's Species Information Service (SIS) and species database; 2) Digital mapping techniques for creating species distribution maps; 3) Applying the Red List Categories and Criteria to evaluate a species risk of extinction. Specialists also created a draft version of the regional map of threats to focal species and ecosystems in the Pacific islands
MARCH	**COMPILATION OF SPECIES LISTS** During and following the training workshop, Specialists compile lists of the focal species for assessment within the countries of the Polynesia-Micronesia Hotspot and Eastern Melanesia where practicable. The species lists will also be checked by the identified experts. **TEST BATCHES** Using the SIS training site, Specialists will practice conducting biodiversity assessments. This will include compiling information and completing Red List assessments, and where possible creating maps. The assessments will be submitted for review by IUCN staff who will return comments to the specialists. **SIGNING OF CONTRACTS** Specialists shall sign contracts with IUCN Oceania which state that they shall be paid $33USD per species assessed.
APRIL – AUGUST	**UNDERTAKING BIODIVERSITY ASSESSMENTS** Specialists will gather data in order to undertake biodiversity assessments for all the species included in the compiled species lists: (i) compiling data from literature surveys, existing databases, the regional threat map prepared at the training workshop and through consultation with experts (especially for unpublished information); (ii) entering relevant data into the IUCN species database (via the online Species Information Service) on the distribution, ecology, livelihood values, taxonomy, threats, utilisation, conservation measures (in place and/or needed), and associated bibliographic citations for freshwater fishes, land snails and reptiles of the Polynesia-Micronesia Hotspot and Eastern Melanesia. (iii) converting distribution data for each species into GIS-based distribution maps (iv) using the data and distribution maps in the Species Database to evaluate the risk of extinction of all species according to the IUCN Red List Categories and Criteria.
MAY	Monthly update to IUCN Oceania on progress made in completing assessments
JUNE	Monthly update to IUCN Oceania on progress made in completing assessments
JULY	Monthly update to IUCN Oceania on progress made in completing assessments
AUGUST	Biodiversity assessments should be completed by the first week of August

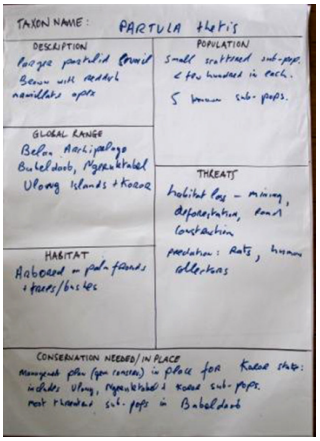
TIMELINE, ROLES AND RESPONSIBILITIES FOR EXPERTS

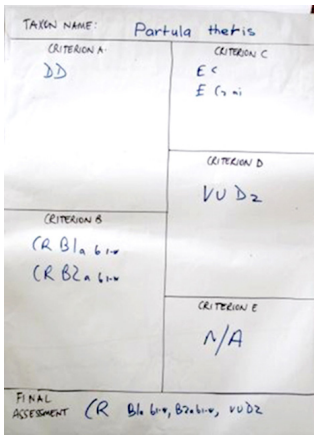
MONTH	ACTIVITY
SEPTEMBER	**REVIEWING OF ASSESSMENTS** The biodiversity assessment data, distribution maps and Red List assessments complied by the specialists will be circulated to the Expert peer-reviewers. Each reviewer will receive data for the species for which he/she has appropriate expertise. The reviewers will have one month to check the biodiversity assessments in preparation for the Evaluation workshop **EVALUATION ASSESSMENTS** The Expert reviewers are convened at a workshop to review the biodiversity assessment data and Red List assessments compiled by the specialists for all species. The evaluation workshop will provide the opportunity for the expert reviewers to discuss the biodiversity assessments and Red List assessments completed by the specialists. At the workshop, expert reviewers will work in small groups, each with a specific taxonomic focus, in order to review the relevant biodiversity assessment data. This peer review workshop is a required part of the IUCN Red Listing procedure, ensuring transparency and independent review of each biodiversity and Red List assessment.
OCTOBER ONWARDS	**ADDING INFORMATION TO THE RED LIST** Comments and corrections made by the Reviewers at the Evaluation workshop will be directly incorporated into the IUCN species database. The evaluated assessments can be submitted for inclusion in the IUCN Red List.

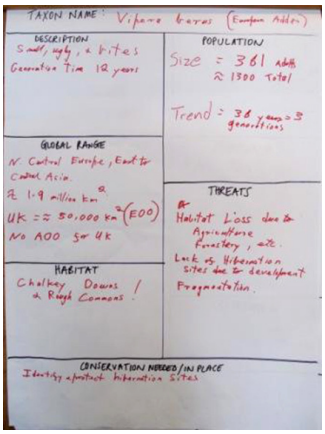
Annex 1:
Assessments using participants' own data

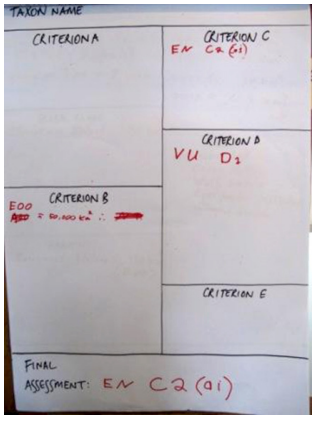


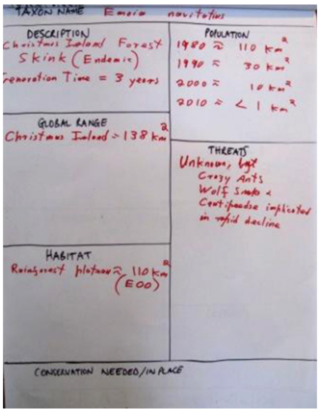








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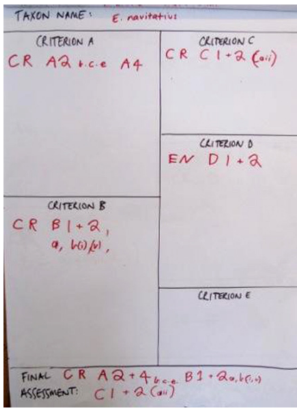
DESCRIPTION
POPULATION
GLOBAL RANGE
THREATS
HABITAT
CONSERVATION NEEDED/IN PLACE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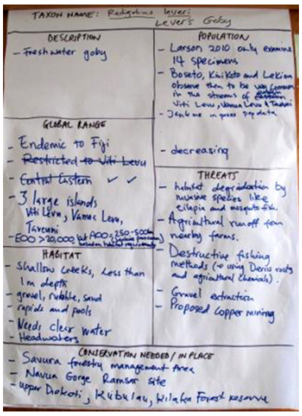
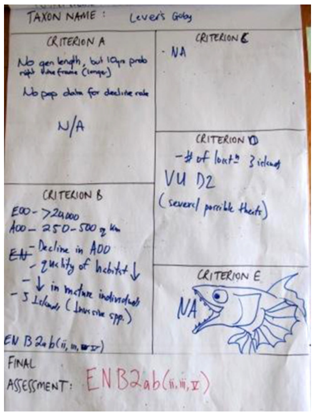
CRITERION A
CR A2 i.e. A4
CRITERION C
CR C1+2
CRITERION D
EN D1+2
CRITERION B
CR B1+2,
CRITERION E
FINAL ASSESSMENT:


TAXON NAME:
Lever's Goby
DESCRIPTION
- Freshwater goby
POPULATION
GLOBAL RANGE
- Endemic to Fiji
- decreasing
THREATS
HABITAT
- Needs clear water
CONSERVATION NEEDED/IN PLACE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CRITERION A
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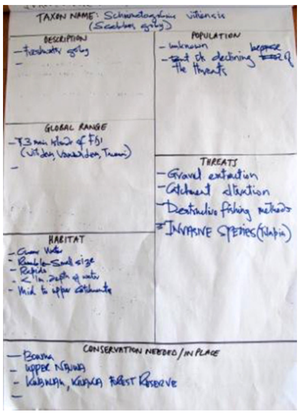
CRITERION C
NA
CRITERION D
VU D2
CRITERION B
CRITERION E
NA
FINAL ASSESSMENT: EN B2ab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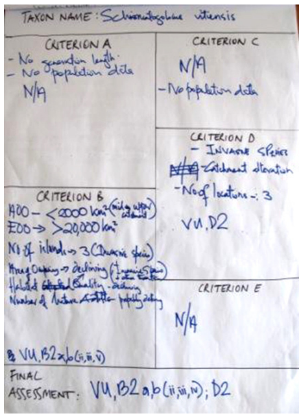
DESCRIPTION
POPULATION
GLOBAL RANGE
THREATS
HABITAT
CONSERVATION NEEDED/IN PLACE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N/A
CRITERION C
N/A
CRITERION D
VU, D2
CRITERION B
CRITERION E
N/A
FINAL ASSESSMENT:

75

Appendix 7

IUCN Red Listing workshop

IUCN MEDIA RELEASE, FEBRUARY 2011

Pacific Islands Red List – Identifying Threatened Species

Suva, Fiji 14 February 2011 (IUCN) – 28% of plant and animal species from the Pacific Islands are threatened with extinction. This is the latest figure identified under IUCN's Red List of Threatened Species™ (2008). The report also states that of the species assessed, 14% are listed under the data deficient category illustrating the lack of information to determine their threat status.

In the process of improving and strengthening our knowledge of species in the region, the International Union for Conservation of Nature (IUCN) together with regional partners has brought together local and international experts for a training workshop this week in Lami, Fiji to train them to assess species according to globally recognized criteria in order to determine whether or not a species is threatened with extinction.

"Evidence from the 2008 Red List clearly shows that either information is limited in accuracy, out of date or poorly documented," says Helen Pippard, Species Officer for the IUCN Oceania Regional Office. "*Pacific Islands are perhaps one of the least known regions of the world in terms of known species".*

The scientists at this workshop are those whose works focus on reptiles, land snails and freshwater fishes. These groups of animals have been identified as those in which our knowledge for assessment is lacking in the region.

"We will train these experts to use IUCN's globally recognized sets of criteria so that they can properly document their findings in the field and ensure that we improve our knowledge of these three animal groups," says Helen Pippard. *"Results will feed into the global Red List and will also allow us to produce a regional Red List for the Pacific Islands".*

The IUCN Red List currently provides the most up-to-date collated information for the Pacific Islands. This widely used tool plays an increasingly prominent role in guiding conservation activities of governments, NGOs and scientific institutions.

"The Pacific Islands Red List of Threatened Species once developed will be the most significant tool that will help prioritize and shape conservation planning and inform Pacific Islanders of the real threats to our biodiversity ," says Taholo Kami, Regional Director for the IUCN Oceania Regional Office. *"This tool will ensure that up to date species information is available and can be used by decision makers as well as assist countries to monitor trends in biodiversity at the regional level. Fast tracking this process will give leverage to all conservation efforts across the region"*

This workshop is coordinated by IUCN with support from the Critical Ecosystem Partnership Fund, the Fonds Pacifique and Conservational International.

Appendix 8

Data evaluation begins for Pacific Islands reptiles, land snails and freshwater fishes

IUCN MEDIA RELEASE, SEPTEMBER 2011

As part of the ongoing process to improve and strengthen our knowledge of Pacific Island species, a group of 12 local, regional and international scientists came together on 12 – 16 September to attend an IUCN Red List evaluation workshop at the IUCN Oceania Regional Office in Suva, Fiji.

The evaluation workshop is a follow up from the training workshop held in February this year, specifically for specialists on reptiles, land snails and freshwater fishes.

Over the last six months, these specialists have carried out draft assessments by gathering data on population, distribution, ecology, habitat requirements, threats and utilisation of the species' concerned.

The evaluation process is being led by Helen Pippard, Species Programme Officer for IUCN Oceania Regional Office; staff from IUCN and Conservation International's joint Biodiversity Assessment Unit based in Washington DC helped to facilitate the workshop. The draft assessments were reviewed and amended, and a provisional Red List category assigned to each species.

Following the workshop, the species shall go under a final review process, and results from the assessments will eventually feed into the IUCN Red List. The type of information being generated and collated will be used to guide decision-making and conservation activities of governments, NGOs and private sector in the Pacific Islands region.

The IUCN Red List is a comprehensive and objective approach for evaluating the conservation status of plants and animals. Essentially it is a database of taxa that have undergone an extinction risk assessment using IUCN's Red List Categories and Criteria.

The Red Listing Project to carry out assessments on land snails, freshwater fishes and reptiles in the Pacific region is supported by funding from the Critical Ecosystem Partnership Fund, the Fonds Pacifique, and from other regional organizations in Oceania.

For more information, please contact:

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Or visit http://www.iucnredlist.org

About IUCN

IUCN, International Union for Conservation of Nature, helps the world find pragmatic solutions to our most pressing environment and development challenges. IUCN works on biodiversity, climate change, energy, human livelihoods and greening the world economy by supporting scientific research, managing field projects all over the world, and bringing governments, NGOs, the UN and companies together to develop policy, laws and best practice. IUCN is the world's oldest and largest global environmental organization, with more than 1,000 government and NGO members and almost 11,000 volunteer experts in some 160 countries. IUCN's work is supported by over 1,000 staff in 60 offices and hundreds of partners in public, NGO and private sectors around the world. IUCN's Regional Office for Oceania is located in Suva, Fiji.
www.iucn.org ; IUCN on Facebook ; IUCN on Twitter

Appendix 9

New species from the Pacific added to IUCN Red List

IUCN MEDIA RELEASE, OCTOBER 2011

New information for Pacific Island freshwater fishes, land snails and reptiles is part of the latest update of the IUCN Red List of Threatened Species™ released today by the International Union for Conservation of Nature (IUCN). These data indicate that 32% of these species are threatened with extinction.

This is an important milestone for understanding the challenges of managing plant and animal life in the Pacific Islands. IUCN Oceania, in partnership with the IUCN Red List Unit and other regional partners, is currently expanding the assessment of Pacific Island species for the IUCN Red List.

"The Pacific Islands of Melanesia, Micronesia and Polynesia are home to an astonishingly diverse range of terrestrial species, many of which are found nowhere else on earth," says Helen Pippard, Species Programme Officer for IUCN's Oceania Regional Office in Suva Fiji. "But in order to conserve the species that are so vital for the health, culture and livelihoods of Pacific Islanders, we must improve our knowledge of these species".

In the most comprehensive assessment of its kind in the Pacific, an expert team evaluated 167 freshwater fishes, 166 species of land snail and 157 reptiles for inclusion in the IUCN Red List of Threatened Species™ (IUCN Red List). This two-year project is the first step in a process that aims to systematically address different Pacific Island species groups over the next 10 years.

Although these species may not be seen as "charismatic", they are extremely important in maintaining general ecosystem health: land snails play a vital role in nutrient-cycling, especially of calcium; reptiles can take on the role of predator or prey and often act as seed dispersers; and in the freshwater realm, fishes recycle nutrients, purify water and provide an important food source for many Pacific Islanders.

Land snails are found to be the most highly threatened group, with 70% of the assessed species threatened: half of all threatened species are listed as Critically Endangered, and many, including Aaadonta angaurana from Angaur island in Palau and Lauopa mbalavuana from Vanua Balavu in Fiji, also qualify for Possibly Extinct, as no live or dead shells have been found in recent times. Land snails also have the highest number of species found nowhere else, with 86% of species recorded from a single country. In Fiji, three quarters of all assessed species are endemic, and in Palau, over 90% of species are unique to the archipelago. These restricted range species are especially vulnerable to the presence of invasive species such as the giant African snail, Rosy wolf snail and predatory mammals like rats and mongooses, which are decimating these snail populations. Habitat destruction for logging, agriculture and development has also been identified as a major threat.

The threatened freshwater fishes are confined to single or few river systems and are severely impacted by the existence of dams (e.g. Futuna's emperor, *Akihito futuna (CR)* from the island

of Futuna) and by pollution from deforestation, agriculture and mining effluents – for example, *Stiphodon discotorquatus (CR)* from the Tubuai Islands in French Polynesia is affected by land clearance, pesticides and the construction of dams, and *Sicyopterus eudentatus (EN)* from the Federated States of Micronesia is threatened by agricultural run-off devastating its habitat. Whilst many fish species are not listed as threatened (due to their larger range and ability to occupy a variety of freshwater, estuarine and marine habitats), a large number (40%) are listed as Data Deficient. We urgently need information on these species in order to evaluate their conservation status, protect them and ensure that people's livelihoods are safeguarded.

Almost one fifth of reptiles have been assessed as threatened, and are impacted by invasive mammals and plants, and by habitat degradation (e.g. the Pohnpei Forest skink, Emoia ponapea (EN) and the Fijian banded iguana, *Brachylophus bulabula (EN)*. Some species are affected by hunting and trade (e.g. the widespread Pacific Boa, *Candoia bibroni (LC)* and the endemic Fijian Crested Iguana, *Brachylophus vitiensis (CR)*. Future impacts from climate change may affect the thermo-regulation of some reptiles such as the Polynesian slender treeskink, *Emoia tongana (LC)*. Tachygyia microlepis, previously recorded from Tonga, has been driven to extinction as a result of habitat loss, human colonization and invasive predators such as dogs, pigs and rats. Conservation efforts are therefore needed to protect the identified threatened species and prevent further extinctions.

This study highlights the enormous strain on our natural environments. The results are particularly important for guiding decision-making and conservation activities of Pacific Island governments, NGOs and the private sector and enabling direct action on the ground.

"Until now we have not had the information we need about species and the threats they face", says Bernard O'Callaghan, IUCN Oceania's Regional Programme Coordinator. "But these IUCN Red List assessments can now help decision-makers develop suitable policies and plans, to manage these threatened species and protect and value Pacific Island biodiversity."

The findings of this assessment are being published in a regional report, and summary documents are now available from the IUCN Oceania website.

The Red Listing Project to carry out assessments on land snails, freshwater fishes and reptiles in the Pacific region is supported by funding from the Critical Ecosystem Partnership Fund and the Fonds Pacifique.

NOTES TO EDITORS

The IUCN Red List contributes to the achievement of Target 12 of the 2011 to 2020 Strategic Plan for Biodiversity. *Target 12: By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.*

To save threatened species from extinction, countries need to develop plans to achieve other Aichi targets in particular:

- Target 5 – Habitat loss reduced
- Target 7 – Sustainable management (aquaculture, agriculture and forestry)
- Target 11 – Protected areas increased
- Target 17 – National biodiversity strategies and action plans developed
- Target 20 – Financial resources increased

GLOBAL FIGURES FOR THE 2012.2 IUCN RED LIST OF THREATENED SPECIES:

TOTAL SPECIES ASSESSED = 65,518

(Total threatened species = 20,219)

Extinct = 795

Extinct in the Wild = 63

Critically Endangered = 4,088

Endangered = 5,919

Vulnerable = 10,212

Near Threatened = 4,574

Lower Risk/conservation dependent = 254 (this is an old category that is gradually being phased out of the Red List) Data Deficient = 10,673

Least Concern = 28,940

The figures presented above are only for those species that have been assessed for The IUCN Red List to date. Although not all of the world's species have been assessed, The IUCN Red List provides a useful snapshot of what is happening to species today and highlights the urgent need for conservation action.

Relative percentages for threatened species cannot be provided for many taxonomic groups on The IUCN Red List because they have not been comprehensively assessed. For many of these groups, assessment efforts have focused on threatened species; therefore, the percentage of threatened species for these groups would be heavily biased.

For those groups that have been comprehensively assessed, the percentage of threatened species can be calculated, but the actual number of threatened species is often uncertain because it is not known whether Data Deficient (DD) species are actually threatened or not. Therefore, the percentages presented above provide the best estimate of extinction risk for those groups that have been comprehensively assessed (excluding Extinct species), based on the assumption that Data Deficient species are equally threatened as data sufficient species. In other words, this is a mid-point figure within a range from x% threatened species (if all DD species are not threatened) to y% threatened species (if all DD species are threatened). Available evidence indicates that this is a best estimate.

HIGHLIGHTS FROM THE 2012.2 UPDATE

Species moving into the Extinct category

- Invertebrates
  - *Margatteoidea amoena*
  - *Neoplanorbis tantillus*

Re-discovered species

- Plants
  - *Erythrina schliebenii* – Critically Endangered

STATUS CHANGES

- Plants
  - *Erythrina schliebeni* – moved from Extinct to Critically Endangered
  - *Newtonia erlangeri* – moved from Near Threatened to Endangered
- Marine Fish
  - Great Seahorse (*Hippocampus kelloggi*) – moved from Data Deficient to Vulnerable
- Invertebrates
  - Painted Rocksnail (*Leptoxis taeniata*) – moved from Vulnerable to Endangered
  - Fat Pocketbook Pearly Mussel (*Potamilus capax*) – moved from Critically Endangered to Vulnerable
  - Huachuca Springsnail (*Pyrgulopsis thompsoni*) – moved from Vulnerable to Near Threatened
- Mammals
  - Steller Sea Lion (*Eumetopias jubatus*) – moved from Endangered to Near Threatened
- Reptiles
  - Grand Cayman Blue Iguana (*Cyclura lewisi*) – moved from Critically Endangered to Endangered

Some examples of the over 1,682 species newly recorded on the 2012.2 IUCN Red List

- Invertebrates
  - *Dasypoda frieseana* – Endangered
- Reptiles
  - *Acanthocercus adramitanus* – Least Concern
  - *Acanthodactylus felicis* – Vulnerable
  - Egyptian Mastigure (*Uromastyx aegypti*) – Vulnerable
- Fresh Water Fishes
  - Siberian Taimen (*Hucho taimen*) – Vulnerable
  - Sichuan Taimen (*Hucho bleekeri*) – Critically Endangered
  - Korean Taimen (*Hucho ishikiwae*) – Data Deficient

THE IUCN RED LIST OF THREATENED SPECIES™

The IUCN Red List of Threatened Species™ (or The IUCN Red List) is the world's most comprehensive information source on the global conservation status of plant, animal and fungi species. It is based on an objective system for assessing the risk of extinction of a species should no conservation action be taken.

Species are assigned to one of eight categories of threat based on whether they meet criteria linked to population trend, population size and structure and geographic range. Species listed as Critically Endangered, Endangered or Vulnerable are collectively described as 'Threatened'.

The IUCN Red List is not just a register of names and associated threat categories. It is a rich compendium of information on the threats to the species, their ecological requirements, where they live, and information on conservation actions that can be used to reduce or prevent extinctions.

The IUCN Red List is a joint effort between IUCN and its Species Survival Commission, working with its Red List partners BirdLife International; Botanic Gardens Conservation International; Conservation International; NatureServe; Microsoft; Royal Botanic Gardens, Kew; Sapienza University of Rome; Texas A&M University; Wildscreen; and Zoological Society of London. www.iucnredlist.org www.facebook.com/iucn.red.list @amazingspecies

THE IUCN RED LIST THREAT CATEGORIES

The IUCN Red List threat categories are as follows, in descending order of threat:

- **Extinct or Extinct in the Wild**
- **Critically Endangered, Endangered and Vulnerable:** species threatened with global extinction;
- **Near Threatened:** species close to the threatened thresholds or that would be threatened without ongoing specific conservation measures;
- **Least Concern:** species evaluated with a lower risk of extinction;
- **Data Deficient:** no assessment because of insufficient data.
- **Critically Endangered (Possibly Extinct):** this is not a new Red List category, but is a flag developed to identify those Critically Endangered species that are in all probability already Extinct but for which confirmation is required, for example, through more extensive surveys being carried out and failing to find any individuals.

ABOUT IUCN

IUCN, the International Union for Conservation of Nature, helps the world find pragmatic solutions to our most pressing environment and development challenges by supporting scientific research; managing field projects all over the world; and bringing governments, NGOs, the UN, international conventions and companies together to develop policy, laws and best practice.

The world's oldest and largest global environmental network, IUCN is a democratic membership union with more than 1,000 government and NGO member organizations, and almost 11,000 volunteer scientists and experts in some 160 countries. IUCN's work is supported by over 1,000 professional staff in 60 offices and hundreds of partners in public, NGO and private sectors around the world. IUCN's headquarters are located in Gland, near Geneva, in Switzerland. www.iucn.org

ABOUT THE SPECIES SURVIVAL COMMISSION

The Species Survival Commission (SSC) is the largest of IUCN's six volunteer commissions with a global membership of around 7,500 experts. SSC advises IUCN and its members on the wide range of technical and scientific aspects of species conservation, and is dedicated to securing a future for biodiversity. SSC has significant input into the international agreements dealing with biodiversity conservation.

FOR MORE INFORMATION PLEASE CONTACT:

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CEPF Large Grant Final Project Completion Report

Strengthening Information for Regional Assessments of the Conservation Status and Distribution of Biodiversity in the Pacific Islands

Organization Legal Name

International Union for Conservation of Nature and Natural Resources

Project Title

Strengthening Information for Regional Assessments of the Conservation Status and Distribution of Biodiversity in the Pacific Islands

Date of Report

September 25th 2012

Report Author and Contact Information

Helen Pippard (helen.pippard@iucn.org)

CEPF Region

Polynesia-Micronesia Hotspot

Strategic Direction

Strategic Direction 3: Safeguard and restore threatened species

Grant Amount

US$ $151,169

Project Dates

July 1, 2010 – May 31, 2012

Implementation Partners for this Project

Please explain the level of involvement for each partner

IUCN Species Programme:

(1) Red List Unit. Provided technical support throughout the project and facilitated the training workshop. Provided GIS support for production and review of maps for each species.

(2) Freshwater Biodiversity Unit Provided support with the project proposal in the early stages, and continued to assist with project design and technical support for the freshwater fish assessments throughout the duration of the project. Provided GIS expertise for freshwater mapping for the training workshop and assisted with workshop facilitation.

(3) Biodiversity Assessment Unit (BAU). Provided support with project design, technical support throughout the project, and attended the evaluation workshop in a facilitation capacity. BAU also led on the technical aspects for the reptile assessments, including coordinating and liaising with evaluators, and species assessment tidying and review in the Species database.

IUCN Freshwater Fish Specialist Group (FWFSG)/Wetlands International – Oceania. Aaron Jenkins (regional Chair of the FWFSG) joined the project initially as a species assessor, however was unable to commit to the project following the initial training workshop.

IUCN Mollusc Specialist Group. Mary Seddon (Chair) provided technical support for the land snail assessments during the evaluation phase of the project

IUCN Iguana Specialist Group. Tandora Grant provided technical input for the Iguana assessments.

Secretariat of the Pacific Regional Environment Programme (SPREP). Alan Tye (Invasive Species' officer) assisted with identifying and locating regional expertise, and assisted with monitoring of the progress of the project.

University of the South Pacific. Three final year students attended the workshops and drafted the maps for each species. Gilianne Brodie was involved as a species assessor, attending the training workshop.

Other stakeholders include Pacific Island Countries and Territories, NGOs and INGOs in the region and the Pacific rim. A list of identified stakeholders can be seen in Appendix 1.

IUCN Oceania will continue to work with the above individuals and organizations in order to communicate and meet the short and long-term impacts of the project. Appendix 2 lists individuals involved in the project: Workshop attendees including Specialists (species assessors), Evaluators (species experts who reviewed the assessments), facilitators and other participants.

Conservation Impacts

Please explain/describe how your project has contributed to the implementation of the CEPF ecosystem profile

This project contributes to Strategic Direction 3 "Build awareness and participation of local leaders and community members in the implementation of protection and recovery plans for threatened species". Prior to the start of this project, very little information existed on the conservation status of many taxonomic groups in the Pacific Islands. The Ecosystem Profile for the Polynesia-Micronesia Hotspot prepared by CEPF found that: "*The current population and threat status of endangered species is particularly lacking, even for fairly well known species. Furthermore, there are many candidate threatened species for the Red List that urgently require assessment of population and conservation status".* In the absence of basic information on the distribution, ecology, and conservation status of species, it is difficult, if not impossible, to identify, recommend and monitor conservation outcomes and actions.

This project has started the process of filling some of the gaps in our knowledge of Pacific Island species. The distribution, ecology and conservation status of freshwater fishes, certain families of land snails and many reptiles in Polynesia, Micronesia and parts of Melanesia, has now been assessed according to the IUCN Red List Categories and Criteria. This baseline biodiversity data information can now be used to inform conservation planning in the Pacific, and assist governments and organizations with the development of species-specific recovery plans, and the establishment of any necessary protective measures and best practice management efforts.

As well as inputting to Priority 3.1, this project also links to Priority 3.3, which aims to "Raise the environmental awareness of communities about species and sites of global conservation concern through social marketing and participatory planning and management approaches". By publishing the assessments on the Red List, information can easily be disseminated amongst governments, NGOs and communities across the region in order to raise awareness of threatened species and ways to better protect and manage them.

Please summarize the overall results/impact of your project.

PROJECT APPROACH

Red List assessments were coordinated by the IUCN Oceania Regional Office, in collaboration with components of the IUCN Species Programme: the Freshwater Biodiversity Unit, the Biodiversity Assessment Unit and the IUCN Red List Unit. A team of nine specialists, chosen for their knowledge of regional biota and threats, were contracted and attended a training workshop, collated data and carried out biodiversity assessments for their focal species. Regional and international expert evaluators peer-reviewed these assessments during an evaluation workshop.

The result of this process is the production of a dataset on the distribution and conservation status of species of freshwater fishes, land snails and reptiles in the Pacific Islands (Polynesia, Micronesia and in some cases Melanesia). These datasets, along with associated GIS maps shall shortly be published on the IUCN Red List website, where they will be freely available for download. An accompanying analysis of these data shall also be published in a freely available scientific report.

Capacity has been strengthened within the biodiversity community of the Polynesia-Micronesia Hotspot. This is due to the training of 21 scientists in the IUCN Red List methodology, their experience of compiling and evaluating species accounts, the links made to the Specialist Groups of

the Species Survival Commission, and also through working with each other. Awareness raising and application of the data to conservation planning will now continue: a press release shall accompany the publication of the dataset on the IUCN Red List website, followed by targeted distribution of the analysis report to relevant government bodies and other identified stakeholders.

LINK TO CEPF INVESTMENT STRATEGY

PLANNED LONG-TERM IMPACTS – 3+ YEARS (AS STATED IN THE APPROVED PROPOSAL):

The overall objective of this project is to increase information on Pacific island species to ensure that resources are sustainably managed within the Pacific islands of the Polynesia-Micronesia Hotspot. By managing the resources of the Pacific islands, the biological diversity of the ecosystems present will be conserved, species and habitats protected, and food security and livelihoods safeguarded for Pacific islanders. This project will provide the expertise and data necessary for identifying the geographical patterns and severity of threats to species throughout the Polynesia-Micronesia region. The data generated shall help project partners, the network of specialists and relevant stakeholders to integrate conservation planning across freshwater, terrestrial and marine systems. This will allow the creation of site-specific ecosystem management plans, which can be incorporated into other projects mentioned in Section 1: Project Proposal, such as NBSAPs. The results of this project will therefore inform long-term policy and planning decisions aimed at promoting sustainable use, supporting human livelihoods and protecting priority conservation areas.

ACTUAL PROGRESS TOWARDS LONG-TERM IMPACTS AT COMPLETION:

Progress has been made towards the project's long-term impacts.

The datasets that have been produced for freshwater fishes, land snails and reptiles in Polynesia-Micronesia and in Melanesia, provide a solid baseline for future conservation planning in the Pacific Islands region. Geographical patterns and the severity of threats to these focal species have been identified, and these can now be used by governments, NGOs and communities to translate into conservation actions on the ground. IUCN Oceania and the other implementation partners shall continue to work at facilitating the use of these project data to inform conservation decisions, planning and actions throughout the Pacific Islands. For example, discussions with various government environment departments are now planned in order to feed the project results into regional and national strategies such as the *Action Strategy for Nature Conservation and Protected Areas in the Pacific and into National Biodiversity Strategic Action Plans.*

PLANNED SHORT-TERM IMPACTS – 1 TO 3 YEARS (AS STATED IN THE APPROVED PROPOSAL):

This project will provide information on the conservation status, distribution and livelihood values and threats for at least 74 species of reptiles, 125 species of freshwater fishes and 127 species of terrestrial land snails, including those in the family Partulidae.

It will provide a network of at least eighteen specialists and experts, mainly from within the Polynesia-Micronesia Hotspot region, who will be trained in the process of conducting biodiversity assessments according to the internationally recognized methods of IUCN's Red List of Threatened Species and Species Database. This network and training will increase the number of regional

specialists who have the competence to review and update IUCN's species database and Red List, and who can continue in-country training of their peers and students within the region.

The project and its outcomes will provide a previously unavailable set of data and resources that can assist in conservation planning and the sustainable management of Polynesia-Micronesia biodiversity. The analyses of geographical patterns of species richness, endemism, threats and livelihood values will identify species at greatest risk of extinction and priority areas for conservation. The resulting publications will help to inform stakeholders for better planning and decision-making. The distribution of these significant information sources will help to raise public and political awareness of the threats to biodiversity in the region.

ACTUAL PROGRESS TOWARD SHORT-TERM IMPACTS AT COMPLETION:

This project has produced datasets that include information on the distribution, ecology, conservation status, livelihood values and threats for 167 species of freshwater fishes, 166 species of terrestrial land snails, and 158 species of reptiles (see Appendices 3-5 for full lists of species assessed). Whilst the Polynesia-Micronesia hotspot was the main focus, many wider-ranging species were also included due to the contracted specialists and evaluators holding the relevant expertise. For the land snails, although some Partulidae were assessed, expertise was available for other families, which has led to a more diverse dataset than initially anticipated. The datasets include each species' Red List assessment, soon to be published on the Red list website, as well as GIS species distribution maps. The accompanying analysis, also soon to be published in a freely available report (hard copy and downloadable pdf), shows not only the levels of threat faced by the assessed species, but also the areas containing a high density of threatened species, endemism and Data Deficiency.

A network of twenty-one specialists and experts, brought together as far as possible from within the Pacific rim region, attended a training workshop held in Fiji from 14th-18th February 2011. These individuals are now trained in the application of IUCN's Red List Categories and Criteria, and species mapping using GIS software (ESRI ARC View software and licenses were also provided). Appendix 6 contains the report from this training workshop. Some of the specialists and experts have expressed interest in joining their respective IUCN Specialist Groups. A project wiki was set up to provide access to project and workshop documents for the specialists and experts involved in the project http://IUCNOceaniaPacificIslandsRedListing.pbworks.com

This training has increased the number of regional specialists who have the competence to review and update IUCN's species database and Red List, and who can continue using these methods within the Pacific Islands region.

The analyses of geographical patterns of species richness, endemism, threats and livelihood values have identified species at greatest risk of extinction and priority areas for conservation. The resulting information and publication will help to inform national and regional stakeholders for better planning and decision-making – see section on long-term impacts above.

Please provide the following information where relevant

- *Hectares Protected*: N/A
- *Species Conserved*: N/A
- *Corridors Created*: N/A

Describe the success or challenges of the project toward achieving its short-term and long-term impact objectives

This project has made good progress towards achieving its short and long term impact objectives.

There have been a number of challenges however, which has meant that certain aspects of the project have not been as successful as hoped.

The main challenge faced by all taxonomic groups revolved around identifying expertise or persuading assessors to complete tasks (compilation of assessment data, mapping and report writing) on time. Following the training workshop, some of the reptile and freshwater fish assessors appeared unable or unwilling to carry on participating in the project, which put extra strain on the remaining assessors, and on the project implementation staff. We worked through this by assigning some of the workload to other assessors, but it meant that some species accounts were not drafted until the evaluation workshop. In addition, for the reptiles, it was difficult to identify sufficient and qualified species experts willing to take on the species assessment work during the evaluation phase, which meant an extra burden of work for the Biodiversity Assessment Unit.

Despite these challenges, there have been successes. For the land snails, between the initial writing of the proposal and being successful in receiving the grant from CEPF, the Partulidae family were actually assessed by a third party and have already been published on the IUCN Red List. Although this is a success in terms of conservation outcomes, this meant that we had to re-think the focus of the land snail work for this project. The specialists who gathered at the Training workshop spent a considerable amount of time and effort strategically thinking through the expertise and data available in the region in order to produce the resulting dataset from this project.

For all taxonomic groups, the assessors and evaluators who committed to the project for its entirety were fantastic to work with, and set to the task with the utmost enthusiasm, engagement and professionalism. This made the project a very enjoyable experience and has ultimately led to a great sense of ownership of the datasets produced.

Many challenges remain as we try to move towards using the generated data to inform conservation and development decisions, but IUCN Oceania will continue to work with the implementation partners and stakeholders towards achieving these impacts.

Were there any unexpected impacts (positive or negative)?

The fact that there were such issues with some of the assessors was a little surprising. Although from the outset the project implementers were aware that the success of the project depended on the willingness and cooperativeness of the expertise, it was not anticipated that assessors would sign up and commit to the project and then pull out. In some cases, this in itself wasn't such a problem, but in the situations where no explanation or communication with IUCN was provided, this made the execution of the project very difficult.

On a positive note, IUCN was able to provide (for free) all of the training workshop participants with ESRI ARC View GIS software along with training in its use.

Project Components

Project Components*: Please report on results by project component. Reporting should reference specific products/deliverables from the approved project design and other relevant information.*

COMPONENT 1 PLANNED:

Professional capacity to assess the status of species in the identified focal groups within the Pacific islands of the Polynesia-Micronesia Hotspot is increased through training on the use of IUCN's data entry system (the Species Information Service [SIS]) for IUCN's species database, and the use of IUCN's Red List Categories and Criteria.

COMPONENT 1 ACTUAL AT COMPLETION:

A training workshop was held in Fiji from 14th-18th February 2011. During this week-long workshop, a network of 9 conservation biologists (specialists) was trained in IUCN's Species database, the Species Information System (SIS). The specialists were also trained in the application of IUCN's Red List Categories and Criteria, in order to evaluate the risk of extinction to a species at global and regional scales. Training in GIS mapping was also provided, in order for specialists to create digital species distribution maps. Appendix 6 contains the workshop report. A website was set up to communicate and share project progress, documents and photos amongst participants.

COMPONENT 2 PLANNED:

Information summarizing the distribution, ecology, livelihood values, taxonomy, threats, utilization, conservation measures (in place and/or needed), risk of extinction according to IUCN's Categories and Criteria, and the associated bibliographic citations, is collated and widely and freely available for at least 125 freshwater fishes, 127 terrestrial land snails, including Partulids and 74 reptiles of the Polynesia-Micronesia Hotspot.

COMPONENT 2 ACTUAL AT COMPLETION:

A dataset of 167 freshwater fishes, 166 terrestrial land snails and 158 reptiles has been compiled. Whilst primarily focusing on Polynesia-Micronesia endemics, some of these species are wider-ranging and found throughout the Pacific (Polynesia, Micronesia and Melanesia) as well as further afield in some instances (see Appendices 3, 4 and 5 for lists of all species assessed). The species assessments include information on each species' distribution, ecology, livelihood values, taxonomy, threats, utilization, conservation measures (in place and/or needed), risk of extinction and associated bibliographic citations. These have been submitted to the Red List and should be published on the IUCN Red List by the end of October 2012. The species distribution maps will be made available at the time of publication on the website. All information shall be freely available.

COMPONENT 3 PLANNED:

Centres of species richness, endemism, threats and priority areas for conservation are compiled and analyzed and the information made freely and widely available.

COMPONENT 3 ACTUAL AT COMPLETION:

GIS maps have been produced which show species richness, levels of endemism, and patterns of threatened species. These also enable us to suggest priority areas for conservation. The maps and analysis accompany each Red List species assessment, which shall be published shortly on the IUCN Red List website and made freely available.

COMPONENT 4 PLANNED:

Conservation planning and sustainable management of biodiversity by stakeholders in the Polynesia-Micronesia hotspot is improved by regional application of the results of this project to decision-making processes.

COMPONENT 4 ACTUAL AT COMPLETION:

Whilst key stakeholders for receiving the published analysis have been identified, the report is still being finalized ready for submission and publication over the next month. It is anticipated that this will coincide with the publication of results on the IUCN Red List. A list of stakeholders can be seen in Appendix 1.

Were any components unrealized? If so, how has this affected the overall impact of the project?

The number of reptile assessments completed and submitted at this time is less than we had hoped. This is due in some part to the challenges mentioned before (e.g. the difficulty in identifying and retaining the reptile specialists and evaluators) but also because of the global nature of doing such assessments within IUCN. IUCN's Specialist Groups and Authorities looking at different taxonomic groups often carry out the assessment process slightly differently. For reptiles, many of the draft accounts are still awaiting final review by other global experts before they can be published on the Red List. This is particularly the case for those wide-ranging species that are found outside of the Pacific. It is anticipated that these accounts shall be completed as a priority, but at this stage, the time frame for completion is unknown.

The publication of results on the Red List is also dependent on a schedule defined by the Red List Unit. Accounts are submitted, and then enter a queue to be peer-reviewed by Red List Unit staff. Updates (i.e. new submissions) are only published two to three times per year, so there is inevitably a delay between finalization of species accounts, submission to the Red List Unit and publication on the website.

Please describe and submit (electronically if possible) any tools, products, or methodologies that resulted from this project or contributed to the results.

The following Appendices accompany this report:

- **Appendix 1:** List of Workshop Participants
- **Appendix 2**: List of Identified Stakeholders
- **Appendix 3**3: Freshwater Fishes assessed during this project
- **Appendix 4**: Terrestrial land snails assessed during this project
- **Appendix 5**: Reptiles assessed during this project
- **Appendix 6**: Report of the IUCN Red List Training Workshop
- **Appendix 7**: Press Release regarding the Red List Training Workshop
- **Appendix 8**: Press Release regarding the Red List Evaluation Workshop

The scientific report of the project, shall be submitted to CEPF in due course, to coincide with the publication of species accounts on the Red List.

Lessons Learned

Describe any lessons learned during the design and implementation of the project, as well as any related to organizational development and capacity building. Consider lessons that would inform projects designed or implemented by your organization or others, as well as lessons that might be considered by the global conservation community.

IDENTIFICATION OF SPECIALISTS AND EXPERTS

A major problem encountered was the lack of sufficiently experienced assessors and experts willing and able to take on the task of carrying out species assessments. This was especially true for the reptile group. As well, certain individuals signed up to be part of the project but then failed to communicate with the implementation team, and were subsequently withdrawn from the project. This was a burden for the implementation team as far too much time was wasted chasing up on people. Unfortunately there is very little that can be done in this situation, but in the future it would be emphasized to utilize experts who have been involved in the process before, or who are recommended by trusted sources. Another, somewhat related point, is that the species lists were only compiled during the workshop – if this had been done prior to the workshop, it may have helped in identifying the dependable capacity to carry out the assessments.

MEETING DEADLINES AND TIME TAKEN

We under-estimated the amount of time it would take in almost all aspects of the project implementation – from identifying the experts, to planning and execution of the workshops, to the assessment and review process itself and finally the write-up of the project. The success of the project is so dependent on every variable that if any issues arise, this affects everything else in turn: for example, if someone does not complete their assessments on time, this impacts the assessment process, the creation of maps, the input and final quality control checks in the Species database and the final analysis. Related to this, the amount of staff time allocated for the Project Coordinator and other key staff was also inadequate given the extended time taken.

WRITING OF THE FINAL REPORT AND PUBLICATION OF RESULTS

As a result of trying to get as many of the accounts reviewed as possible, the writing of the analysis and publication of the results was delayed. The final report is currently in draft form but following peer-review it is hoped that this will be published very shortly, and hopefully to coincide with the publication of the results on the Red List website in October 2012. In addition, if more time allowed, it would have been preferable to produce a more detailed report by asking some of the assessors and evaluators to contribute to different chapters. Providing payment for this may be something to consider.

Project Design Process: (aspects of the project design that contributed to its success/ shortcomings)

SHORTCOMINGS

We carried out this project using similar methodology to other components of IUCN which carry out Red List assessments – i.e. a training workshop where assessors were trained in IUCN processes, followed by the assessors going away and carrying out the assessments on their own and in their own time, and finally an evaluation workshop where experts peer-reviewed the compiled

assessments. Not all components of IUCN work in this manner however, and for future assessments in the Pacific (where the majority of project participants are new to the Red Listing process), the following recommendations would be made:

1. IUCN/implementing staff compile the draft accounts prior to the training workshop
2. Identified experts complete IUCN's online Red List training in their own time
3. One (extended) workshop is held. At this workshop, participants are trained in person in the Red List Categories and Criteria and then review and populate the draft accounts with their own expert data
4. UCN/implementing staff would then carry out post-workshop editing of the accounts

SUCCESSES

By involving assessors from the very beginning (i.e. from introducing them to the Red List process at the Training workshop), a strong sense of ownership was generated amongst the biodiversity specialists and experts.

Project Implementation: (aspects of the project execution that contributed to its success/ shortcomings)

The main implementation aspect that contributed to the project's success was regular communication: by email and skype between different members of the implementation team, and with the assessors and reviewers.

Other lessons learned relevant to conservation community:

This project has reinforced the importance of updating and strengthening our knowledge on Pacific Island species. Without such baseline data it is a huge challenge to effectively meet conservation objectives and implement biodiversity action plans. The project has also highlighted the existence of a great deal of capacity in the region, as well as the enthusiasm for networking. It is crucial that the project implementers and the other identified stakeholders commit to maintaining and strengthening the momentum that this project has produced.

Additional Funding

Provide details of any additional donors who supported this project and any funding secured for the project as a result of the CEPF grant or success of the project.

Donor	Type of funding*	Amount	Notes
Biodiversity Assessment Unit (IUCN & Conservation International)	A	4700 USD	Towards actual contracts and travel costs for Melanesian reptile assessments
Biodiversity Assessment Unit (IUCN & Conservation International)	In-kind	17000 USD	Neil Cox and Philip Bowles provided 2 months of their time to help in final data editing, preparation; Marcello Tognelli assisted with the compilation of the reptile GIS mapping.
Fonds Pacifique	A	1000 USD	Towards capacity building and the participation of USP Students for mapping work
Fonds Pacifique	A	5000 USD	Translation of final report into French, and printing costs
IUCN Species Programme	In-kind	10500 USD	Staff time for 3 key Red List Unit staff for 1 month
SPREP	In-kind	6000 USD	Staff time for Alan Tye (Invasive Species Officer) for three months
ESRI ARCView 3.3. GIS licenses to assessors	In-kind		IUCN and ESRI have an agreement for IUCN to provide free ESRI Arc GIS software to species assessors for a limited time. The training workshop participants were provided this software, and the real value of this is difficult to estimate.

**Additional funding should be reported using the following categories:*

A Project co-financing (Other donors contribute to the direct costs of this CEPF project)

B Grantee and Partner leveraging (Other donors contribute to your organization or a partner organization as a direct result of successes with this CEPF project.)

C Regional/Portfolio leveraging (Other donors make large investments in a region because of CEPF investment or successes related to this project.)

Sustainability/Replicability

Summarize the success or challenge in achieving planned sustainability or replicability of project components or results.

This project has successfully begun the process of updating and strengthening information on Pacific Island species for inclusion in IUCN's Red List of threatened species. Whilst assessments for some complete groups were already published prior to the start of this project (e.g. mammals, birds, amphibians and certain marine fish families), this project focused on increasing the coverage of the Red List to include more Pacific Island species, particularly endemics. For non-endemic species, global assessments were carried out, and where feasible a regional level listing was also obtained (which was generally the same as the global listing) in order to be of use for regional management plans.

A complementary project carried out in partnership with the Marine Biodiversity Unit of IUCN has been focusing efforts on coral reef fish, and this is set to continue into 2013 with funding secured from a Framework agreement between IUCN and the French government. This project will continue to assess the status of coral reef fishes in Polynesia, Micronesia and Melanesia.

The focal groups assessed thus far therefore cover all biomes, which is an integral component to ensure sustainability of the work, not least due to the inter-connectedness of the terrestrial, freshwater and marine biomes throughout the Pacific region. A prioritization exercise shall be carried out prior to 2013 in order to examine where (geographically and taxonomically) continuing Red List assessments should be focused. This is in line with regional aspirations: earlier in 2012, an inaugural Pacific Islands Species Forum was convened by IUCN Oceania through generous support of CEPF. Here, more than 75 participants called for immediate action to increase our knowledge and understanding of species in the Pacific, of threats to these species, and of their conservation status. Participants recognized that this would require a reassessment of our prioritization processes for habitat and species conservation planning in order to move from science to action in Pacific nations.

Additional stakeholders were also identified during the Pacific Islands Species Forum, whereby institutions and individuals were given updates on this project, and were able to express their interest in not only receiving the results, but also utilizing the results in their own regional work.

A key success from this project has been the involvement of 21 experts from many different institutions (government and non-government) who were trained at the week-long Red List training workshop, giving them the skills to pass on this knowledge to other staff within their institutions. In addition, many of the participants also expressed interest in joining relevant Specialist Groups of IUCN's Species Survival Commission, which will also serve to maintain and strengthen their involvement in carrying out Red List biodiversity assessments in the near future. By ensuring that local (Pacific) participants were included from the inception of this project, this will enable effective local scientific input to the conservation outcomes derived from the assessments.

Some stakeholders have already expressed an interest in using the data, particularly for the threatened and Data Deficient species identified through the project, in order to generate funding for further research initiatives and field surveys. IUCN Oceania will remain fully supportive (and active where possible) of any national/regional efforts to improve knowledge or management of such species. IUCN Oceania will also commit to working closely with the identified stakeholders to ensure the long-term application of the results of the assessments into regional, national, and local guidelines for species management and conservation.

Summarize any unplanned sustainability or replicability achieved.

N/A

Safeguard Policy Assessment

Provide a summary of the implementation of any required action toward the environmental and social safeguard policies within the project.

N/A

Information Sharing and CEPF Policy

CEPF is committed to transparent operations and to helping civil society groups share experiences, lessons learned, and results. Final project completion reports are made available on our website, www.cepf.net*, and publicized in our newsletter and other communications.*

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