

Globally, climate change has pushed a high number of plant and animal species to local extinction, with tropical species experiencing higher rates than temperate species. Islands are particularly vulnerable due to their small size, low elevations, remote locations and the communities' proximity to the coasts.

Rising sea levels and air temperatures may force humans to move upslope to the interior of Savai'i and Upolu, possibly reducing the number of undisturbed wildlife habitats and spreading invasive species. Cyclone intensities, coupled with coastal erosion and flooding may impact lowland forests. These changes to the ecosystem could result in local extinctions, and affect the ability of nature to provide.

Predicting current and future impacts of climate change is difficult due to a lack of knowledge on species and habitat distributions and how the climate will change at different elevations and locations. Our BIORAP aims to help increase this understanding through gathering data on the current ecosystem health and establishing baselines and indicator species that can be monitored over time in relation to any changing environmental variables.

**Our climate is changing. We need to protect nature while we can still make a significant difference.**

## Recommendations



Pursue international recognition and protection of Central Savai'i Rainforest.



Develop conservation areas, logging and hunting restrictions, degraded-areas restoration and resource management programs.



Establish long-term monitoring programs to measure the impacts of climate change and success of conservation efforts.



Promote eco-tourism in KBAs to provide income and incentives for communities to not engage in harmful environmental practices.



Increase public awareness and understanding of Samoa's numerous environmental laws and legislation, which require greater awareness and enforcement. This includes raising the profile of benefits and values of the KBAs and promoting active local participation in conservation management programs.

# RAPID BIODIVERSITY ASSESSMENT 2016 SAMOA

## PROTECTING SAMOA'S BIODIVERSITY

Samoa's Key Biodiversity Areas contain a high biodiversity of flora and fauna, many of which are endemic to the country.

However, climate change, population growth, introduction and spread of invasive alien species and harmful environmental practices are threatening the long term survival of Samoa's precious biodiversity.

CONSERVATION  
INTERNATIONAL  
Samoa



# KEY FINDINGS

## WHO

In 2016, CI worked with the Samoan government and its partners to conduct a Biological Rapid Assessment Program (BIORAP) as part of the Strengthening Multi-Sectoral Management of Critical Landscapes (SMSMCL) project.

## WHAT

BIORAPs involve sending teams of experts to gather and record information on the biodiversity and health of ecosystems in a given area over a short period of time. This biodiversity “snapshot” can then be used to make practical conservation management decisions.

## WHERE

This BIORAP survey in Samoa spanned three Key Biodiversity Areas (KBAs): Central Savaii Rainforest, Falealupo Peninsula Rainforest, and Uafato-Tiavea Coastal Rainforest.

The 2016 BIORAP involved surveys to determine the presence and abundance of plants, moths and butterflies, land reptiles and birds.

## PLANTS

A total of 144 plant species were recorded (113 native species and 30 alien species). Three new plant species were found at the Taga site, including the epiphytic orchid (*Dendrobium macrophyllum*), an unknown shrub related to ava’ava’aitutu (*Macropiper puberulum*) and a shrub related to so’oponi (*Melicope latifolia*).



## MOTHS & BUTTERFLIES

A total of 329 moth and butterfly populations comprising over 180 confirmed species were documented. 10 species of moth were reported from this survey for the first time since they were originally described in the 1920s. Approximately 150 species of micro-moth were recorded, most of which are unidentified, with many potentially being new to science.



## REPTILES

12 of the 14 known native reptiles in Samoa were collected. The common dwarf gecko *Hemiphyllodactylus typus* was a new Samoan observation, found in Taga, Savaii.



## BIRDS

33 species of birds, and both species of Flying Fox in Samoa, were recorded on at least one site during the bird survey. The endangered Manumea (*Didunculus strigirostris*), endemic to Samoa, was recorded twice in the Uafato area. The Friendly Ground Dove (*Alopecoenas stairi*) was seen for the first time in some upland areas of Samoa.



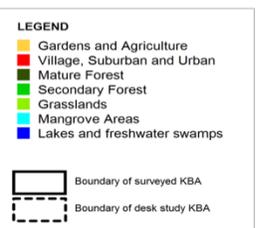
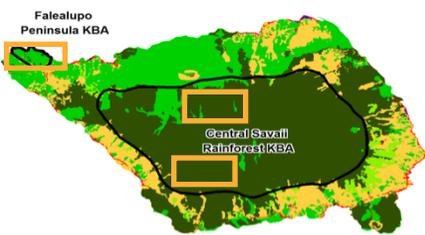
## INVASIVE SPECIES

Invasive plants, mammals and insects impacting islands elsewhere in the Pacific are less common in the upland forests of Savaii, and measures can be taken to limit their spread. The invasive Yellow Crazy Ant was observed at a maximum altitude of 662 metres. Wild cats, rats and pigs have penetrated some remote higher altitudes, affecting birdlife and native vegetation.

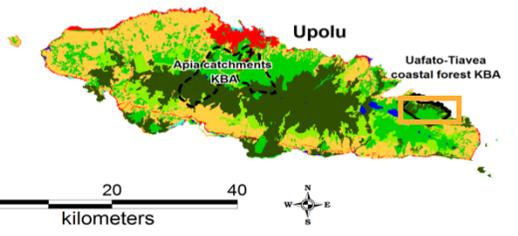


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YELLOW CRAZY ANT PHOTO © JOHN TANN

SMSMCL BIORAP Study Sites 2016



The five-million-year history of the Samoan archipelago allowed time for the evolution of a unique native flora and fauna. The BIORAP results build on and strengthen the value of the three KBAs for the conservation of threatened biodiversity in Samoa.



Source of Landcover Map = MNRE 2003