

## priorities for conservation action

KBAs can be ranked based on the prevailing threats and threat levels to ecosystems, ecosystem services, and plant and animal species.

Major threats are:

- mining and related research activities—mining is occurring on 17 percent of the total area of confirmed KBAs;
- bush-fire occurrence—in the past decade there have been 460 fires in the confirmed KBAs and 76 in the candidate KBAs; and
- invasive plant and animal species—especially deer, wild pigs, and insects such as the little fire ant.

For KBAs where both mining and bush fires are a threat, we propose the following priorities:

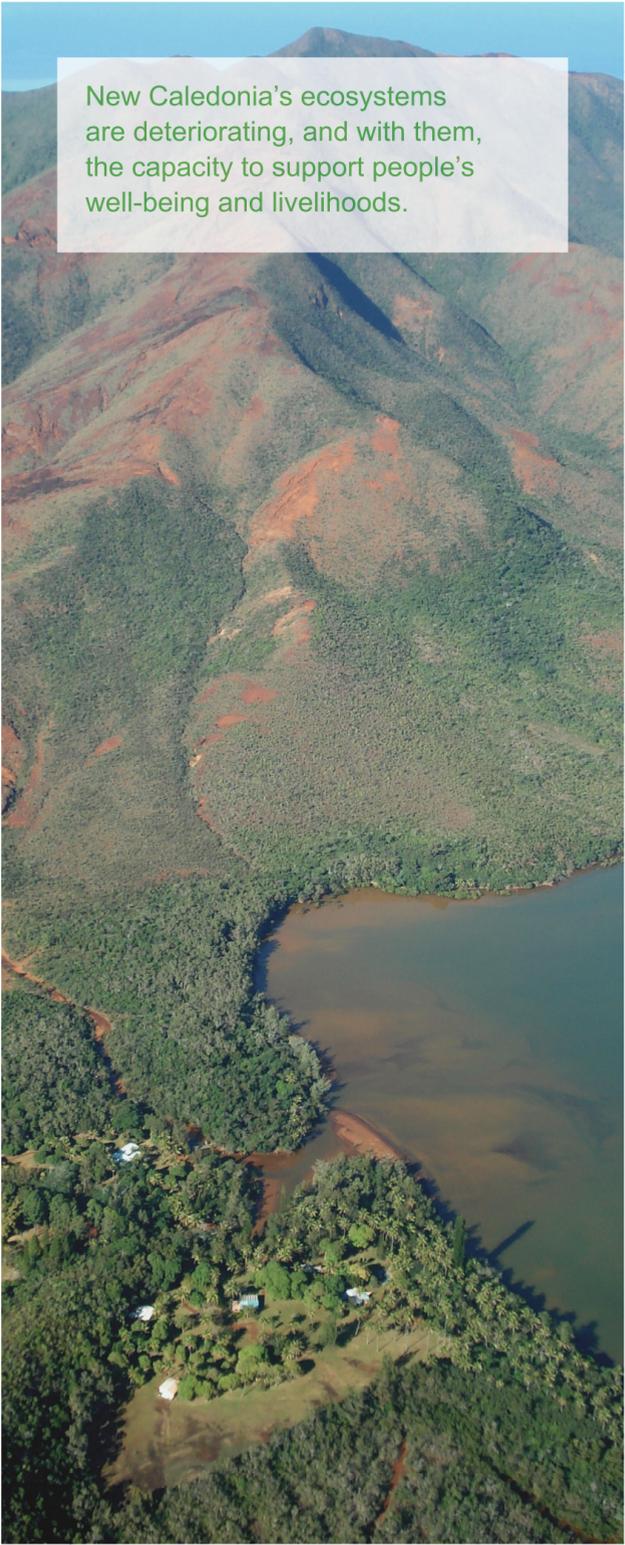
1. KBAs where mining exploitation is active and there has been at least one bush fire in the past decade;
2. KBAs where mining research/assessment work is active and there has been at least one bush fire in the past decade.

For areas within a KBA where both mining and bush fires are a threat, we propose the following priorities:

1. areas where mining exploitation is active and there have been at least two bush fires in the past decade;
2. areas where mining exploitation is active or where there have been at least two bush fires in the past decade.

We have not included invasive species in our threat analysis because of insufficient spatial data.

Based on these first results, we can now target specific sites and talk with local stakeholders, industries and rural people to find ways to mitigate the threats.



New Caledonia's ecosystems are deteriorating, and with them, the capacity to support people's well-being and livelihoods.

## next steps

### valuing natural capital

New Caledonia's ecosystems are deteriorating, and with them, the capacity to support people's well-being and livelihoods. A major contributing factor, as identified in the Millennium Ecosystem Assessment, is the failure of government to integrate the true value of natural capital into policymaking processes.

Natural capital refers to those aspects of the natural environment that deliver socioeconomic value to people. It exists alongside, and often underpins, man-made capital. Because natural capital is not accurately recorded in national income accounts, it is not respected in policymaking processes. The forestry sector demonstrates this clearly—the income from harvesting timber is measured and recorded, but the simultaneous depletion of important ecosystem services, including air filtration, carbon storage and erosion control, is not.

Legislators can play a critical role in making sure that the true value of natural capital is integrated into public and private policymaking. Sufficient scientific information exists. Tools for estimating the real value of ecosystem services and natural capital need to be developed. The missing link is the political leadership to integrate these values into local and national policy decisions.

### an iterative process

Delineating KBAs is an iterative process which Conservation International will continue to drive. For this first version of KBAs for New Caledonia, we have looked at all available environmental and species data, and have incorporated expert advice and stakeholders' views on species protection and conservation measures.

We presented an earlier draft to the main stakeholders, who generally accepted it, and we will consult further to tackle the environmental challenges we have identified, fill the known gaps, and, where appropriate, refine individual KBAs based on new information.



## find out more

Download the full report, *Delineation of Key Biodiversity Areas New Caledonia*, at [www.biodiversite.nc](http://www.biodiversite.nc)

### OUR VISION

We imagine a healthy, prosperous world in which societies are forever committed to caring for and valuing nature, our global biodiversity, for the long-term benefit of people and all life on Earth.

### OUR MISSION

Building upon a strong foundation of science, partnership and field demonstration, CI empowers societies to responsibly and sustainably care for nature, our global biodiversity, for the well-being of humanity.

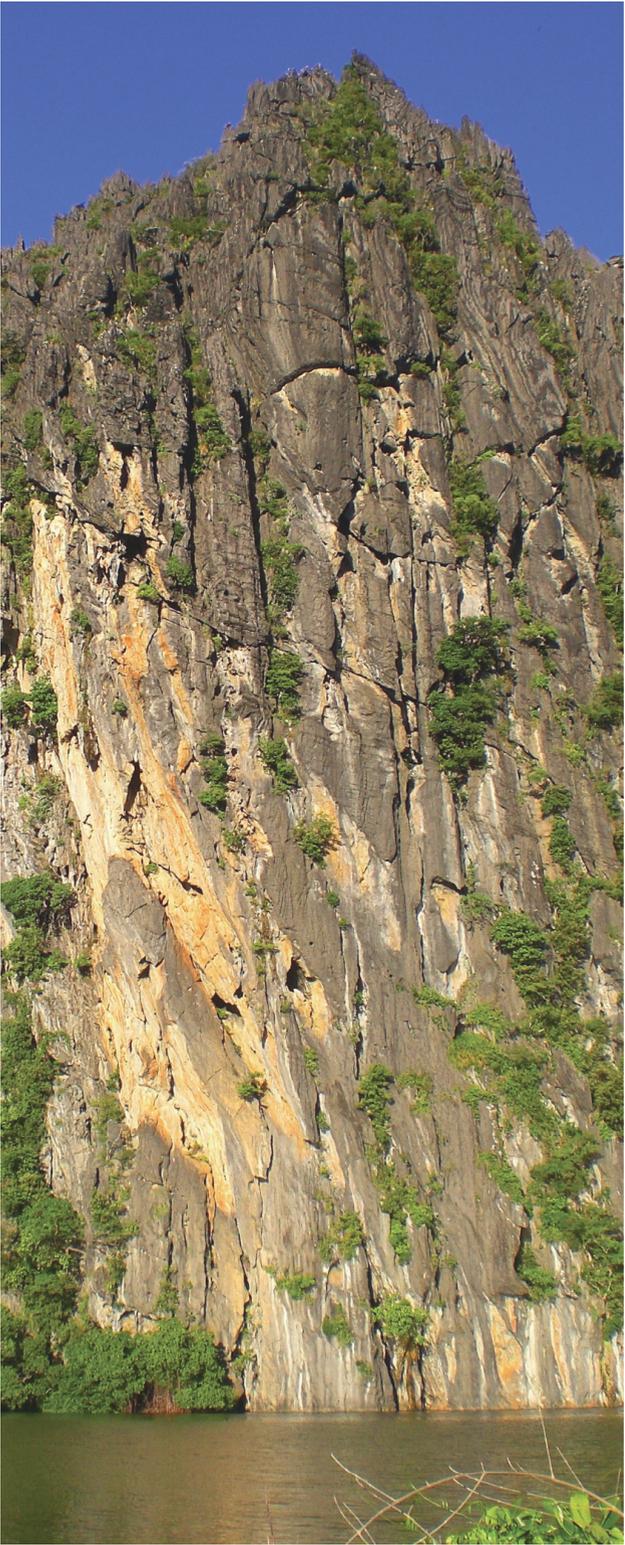


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## key biodiversity areas in new caledonia

In this first attempt at delineating key biodiversity areas (KBAs) for New Caledonia, Conservation International has identified 22 confirmed KBAs, covering 769,225 hectares or 42 percent of the territory.

Small, scattered and isolated patches covering 37,048 hectares, or two percent of the territory, are delineated as candidate KBAs.



# what is a key biodiversity area?

Delineating KBAs is an approach used globally to identify sites of global biodiversity significance. Selection is based on specific criteria—threatened species, restricted-range species and significant congregations, as defined by the International Union for Conservation of Nature (IUCN). KBAs can be used to set targets for Protected Area Networks, and their progress is monitored through Protected Area gazettal and management.

KBAs are at the site/habitat scale. They are not to be confused with corridors, which are used for landscape- and seascape-scale conservation. The design of corridors should follow the delineation of KBAs.

## the method for delineating KBAs

The method for delineating KBAs can be adapted to the location. For New Caledonia, Conservation International has taken the lead and analysed recorded observations about the region's ecosystems, habitats and threatened species of plants and animals (both those declared threatened by the IUCN and those locally described as threatened).

The occurrence of a species listed as Critically Endangered or Endangered immediately triggers a KBA.

Areas with occurrences of species of national priority, of vulnerable status or of restricted range were considered for inclusion if they were next to, or near, a confirmed KBA.

Other areas were selected because:

- they provide locally important benefits such as fresh water (officially declared water-protection sites);
- they provide benefits such as food and fibre, climate regulation and/or erosion control (mangrove, humid forest and dry forest);
- their ultrabasic geology supports a rich diversity of species, including many endemic species;
- they are habitat ranges for endangered reptiles; and/or
- they are important bird areas.

All humid forest areas of 50 hectares or larger were included.

Marine areas were recently prioritized as part of the 2008 marine ecoregion analysis. With new data available now, New Caledonia authorities should consider updating the priorities.

## biodiversity in new caledonia

The ecosystems of New Caledonia include dry forest, humid forest, shrubland, tree savanna, bushland, wetlands, marshlands, waterways, mangroves, coral reefs, seagrass, lagoons, small islands, and atolls.



## the benefits of a healthy, sustainable environment

Each type of ecosystem provides natural benefits (ecosystem services), both for the well-being of humans and for threatened and locally important species of plants and animals.

Humid forests, for example, store carbon. A conservative estimate of the amount of carbon stored in New Caledonia's humid forest is 77 million cubic tonnes, or 146 cubic tonnes per hectare.

The dense vegetation of both the humid and dry forests contributes to the supply of fresh water, affecting the quality and quantity of water available. The forests help to regulate the climate and prevent natural erosion. They provide people with food, fibre and natural medicines. They host birds and bats, enabling pollination. Forests are also important culturally and socially, and offer opportunities for education, leisure and tourism.

The region's 35,100 hectares of mangroves provide food and fibre, and regulate water quality, air quality, erosion and the climate.

## threatened landscapes

**Humid forest:** More than any other landscape in New Caledonia, the humid forest needs to be protected. Hosting 80 percent of the region's plant species, it is now less than 25 percent of its original extent, mainly due to fire, mining and invasive species (deer). Humid forest provides people with a clean and regular freshwater supply, wood and building material, food and medical supplies. It helps to regulate the climate (by storing carbon) and it prevents erosion. It is culturally significant and is home to some remarkable species of plants and animals. The most vulnerable humid forest is that which is located on ultrabasic soils—while being extraordinarily rich in species, it is directly threatened by mining; only 10 percent of its original extent remains.

**Dry forest:** Tropical dry forest in New Caledonia is now less than two percent of its original extent, mainly due to urbanization, land clearing, overgrazing, road development and bush fires. Dry forests differ from the moist forests in their plant composition. The dry forest of New Caledonia contains 456 plant species from 83 botanical families. Almost 60 percent of these are found nowhere else.



They include rare lianas, shrubs and grasses and the endangered plant *Captaincookia margaretae* which is the only member of its genus. Some species have less than 10 individual plants.

**Mangroves:** Though protected by law in New Caledonia, they are exposed to urbanization, road development and mining. Mangroves play an essential role in supporting marine species reproduction and in regulating coastal erosion. As the basis of the marine food chain, they are both habitat and nursery ground. They buffer waves, control floods, filter sediment, improve water quality and store carbon. By filtering and storing mineral toxic residue coming from ultrabasic soils, they prevent lagoons from becoming contaminated.

## threatened plants and animals

To help us delineate the KBAs, Conservation International analysed observation data for 481 species.

**Birds:** We analysed data for 83 bird species, including the Critically Endangered méliophage toulou/crow honeyeater and the Endangered cagou/kagu and perruche d'Ouvéa/Ouvea parakeet. The latter triggered the Ile d'Ouvéa as a whole KBA.

**Snails:** Six threatened species of giant land snails (bulimes) are found across New Caledonia. Some of these species are a food source for local people.

**Reptiles:** All of the 84 reptile species we considered are listed as restricted-range species. Endemism is very high in New Caledonia, and 15 species are proposed as Critically Endangered, 22 as Endangered and 14 as Vulnerable. The Endangered Bocourt's eyelid skink, or Bocourt's terrific skink, is endemic to Province Sud and exists only on a tiny, uninhabited islet off Ile des Pins. Fewer than 250 mature individuals are estimated to remain.

**Flying foxes:** Three of the four species Conservation International considered are listed as Vulnerable: the ornate flying fox, the New Caledonia flying fox and the New Caledonia blossom bat. The latter two are also endemic and of national significance.

**Microbats:** The New Caledonian long-eared bat, recorded only in Province Sud, is listed as Critically Endangered. The Loyalty bent-winged bat, recorded only in the Loyalty Islands, is listed as Endangered.

**Freshwater fish:** Of the 11 fish species analysed, three are endemic and therefore regarded as restricted-range species.

**Crustaceans:** All of the seven crustacean species we considered are restricted-range and are important indicators for freshwater environments.

**Plants:** Of the 341 plant species Conservation International looked at, 214 are being considered as threatened by the IUCN Red List, and 118 are considered as threatened locally in New Caledonia. Thirteen species are listed as threatened on both lists. Of the 214 potentially threatened species, we included 147 species in our analysis. We were not able to assess the 100 threatened species for which no observation data was available or the 29 endangered species that were not mapped, including the Critically Endangered *Cleidion lemurum*.

## new caledonia's KBAs

The 22 confirmed KBAs cover almost 42 percent (769,225 hectares) and candidate KBAs cover two percent (37,048 hectares) of the New Caledonian territory (1,838,615 hectares).

More than half of the total area of confirmed KBAs is humid forest (Table 1) and represents 68 percent of New Caledonia's total area of humid forest. It is spread across 21 of the 22 KBAs.

Table 1: Percentage of total KBAs by type of land cover

Land-cover type	% of confirmed KBAs	% of candidate KBAs
Humid forest	53.20	23.74
Water-protection areas	17.40	11.11
Protected Areas	9.70	3.55
Habitat (predicted) for endangered plants	1.04	2.48
Dry forest	0.30	2.05

## candidate KBAs

Candidate KBAs are sites that we suspect are important in the context of KBA criteria, but for which no data currently exists.

They include:

- all areas with spatially scattered and fragmented occurrence of Critically Endangered and/or Endangered species; and
- areas of dry forest, mangroves (protected in Province Sud), seagrass and reefs, which provide habitat and ecosystem services.

Twenty-seven Endangered species (one snail species, two reptile species and 24 plant species) are found in candidate KBAs but not in confirmed KBAs. Of these, 14 are listed and 13 are proposed as threatened. Seven of the listed species are Critically Endangered. Eight plant species listed as Vulnerable are also found in candidate KBAs but not in confirmed KBAs; all are of restricted-range status.

