Title

A new scientific study has identified the protected areas most critical to preventing extinctions of the world's mammals, birds and amphibians. Resulting from an international collaboration, including BirdLife International, this analysis provides practical advice for improving the effectiveness of protected areas in conserving global biodiversity.

The study, published in the latest edition of international journal Science, calculates the 'irreplaceability' of individual protected areas, based on data on 173,000 terrestrial protected areas and assessments of 21,500 species on The IUCN Red List of Threatened Species. The analysis compares the contribution each protected area makes to the long-term survival of species.

Seventy-eight sites (comprising 137 protected areas in 34 countries) have been identified as exceptionally irreplaceable. Together, they harbour the majority of the populations of more than 600 birds, amphibians, and mammals, half of which are globally threatened.

In many cases these areas protect species that cannot be found anywhere else, such as the Critically Endangered Laysan Duck *Anas laysanensis* endemic to the Hawaiian Islands National Wildlife Refuge, USA, and the 13 species of amphibians restricted to Canaima National Park in Venezuela.

Many of these irreplaceable areas are already designated as being of 'Outstanding Universal Value' under the UNESCO World Heritage Convention. These sites include Ecuador's famed Gala?pagos Islands, Peru's Manu? National Park, and India's Western Ghats.

However, half of the land covered by these areas does not have World Heritage recognition. This includes for example Tanzania's Udzungwa Mountains National Park, Cuba's Cie?naga de Zapata Wetland of International Importance, and – the most irreplaceable site in the world for threatened species – Colombia's Sierra Nevada de Santa Marta Natural National Park.

93% of the sites have already been identified as Important Bird and Biodiversity Areas by BirdLife Partners – emphasising the effectiveness of the IBA network for capturing important sites for other wildlife.

Unlike previous assessments that focussed on increasing the number of protected sites, this study highlights the need for, and provides guidance for, improving the often insufficient management of existing protected areas.