



Application of the criteria of the International Union for Conservation of Nature (IUCN) for the risk assessment of terrestrial ecosystems of Chile

The Ministry of Environment of Chile published in 2015 the study of Dr. Patricio Pliscoff, regarding a national assessment of the conservation state of terrestrial ecosystems of Continental Chile applying the Categories and Criteria of the IUCN Red List of Ecosystems in which criteria A, B, and C were assessed.

In the case of the subcriterion A2b, a future forecast of the rate of loss of area during the last 20 years (1992-2012) was carried out. It was calculated the remaining area with natural vegetation of each ecosystem between 1992 and 2012. From the differential of such remaining areas during the mentioned years, the rate of loss during the last 20 years was calculated and lineally extrapolated for the next 30 years. Subcriterion A3 was calculated with the area differential between the potential distribution of the ecosystem (assuming it approximately corresponded to a date in 1750) and the current remaining area of each ecosystem (2014).

Subcriterion B2 was applied using the current distribution of each ecosystem processed in *raster* format (cells) of 10x10 Km² and counting such cells to calculate thresholds. It was decided to apply the determining subcriterion of continuous reduction (a) by a measure of spatial extent (i). Such subcriterion was applied using the information obtained for A2b.

Criterion C was applied in the subcriterion C2 regarding estimation of environmental degradation during the next 50 years. An integrated stress index was calculated, which was obtained from the estimation of a hydric stress and a thermal stress, expressing a variation in relation to a future scenario of climate change. The category of threat of each ecosystem was estimated calculating the extent and severity of the hydric stress and the thermal stress (summer and winter), respectively. The current forecast was made for a scenario of climate change in 2050.

From a total of 127 assessed terrestrial ecosystems, 59 were considered as Least Concern (LC), 5 as Near Threatened (NT), 49 as Vulnerable (VU), 6 as Endangered (EN), and 8 as Critically Endangered (CR).

Reference: Pliscoff P. (2015). Aplicación de los criterios de la Unión Internacional para la Conservación de la Naturaleza (IUCN) para la evaluación de riesgo de los ecosistemas terrestres de Chile. Informe Técnico para el Ministerio del Ambiente. 63 p. Santiago, Chile.

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