

Parrot-species in the Chaco – Impacts of land use on biodiversity

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Abstract

The South American Gran Chaco, one of the largest dry forests in the world, is seriously endangered by deforestation and the expansion of agricultural land. The species living there are therefore at high risk of habitat loss. This includes the approximately 400 bird species that live there. This study examines the effects of land use on the biodiversity of the parrot species living there. For this purpose, audio recordings of parrots from four study areas in Argentina were analyzed using a model. These recordings were then used to create occupancy models. Various land cover variables that are likely to influence the occupancy of an area by parrots were incorporated into these occupancy models. Finally, the calculated occupancy probabilities were projected onto the land systems.

This revealed that among the six parrot species, there are those that are sensitive to environmental change, especially anthropogenic changes to their habitat, and are severely affected by the decline of natural habitats. Other parrots, on the other hand, are very adaptable and even benefit from the spread of agricultural cultivation, for example, where they find a source of food. All parrots, however, had the highest occupancy probabilities in state-protected areas, which underscores the effectiveness of conservation measures and at the same time shows that further efforts to protect habitats are necessary. The more adaptable species and their relationship to humans should be studied in more detail in order to develop adapted land use systems for the more sensitive species as well, thereby promoting species conservation.



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