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Spatial Coincidence Between Habitat Suitability for Bearded Vultures and Protected Areas in the Austrian Alps

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Abstract

The Network of Alpine Protected Areas built a GIS of conservation areas in the Alps. Within the framework of the International Bearded vulture Monitoring these regions have been compared with the distribution of Bearded vultures. The original data were provided by several institutions (see logos on the poster). Pair formation is a crucial criterion for the increase of the reintroduced population and will take place only within habitats of high quality. The habitat suitability map for the Austrian Alps is derived from ecogeographical variables at the observation points according to the method described by Hirzel (Ecology, 2002).

The main question is about the relevance of alpine protected areas in Austria for the highly mobile birds and to what extent habitats of high quality coincide with these locations.

Results

The current distribution of territorial pairs has its main focus in the SW-part of the Alps, therefore, the occurrence of pairs in the N-Alps could be an indicator for excellent habitat quality. So far in Austria pair formation took place only in Hohe Tauern NP.

Species distribution depending on protected areas

Either in Austria and the whole area of the Alpine Convention the proportion of protected areas is 20%. From all alpine observations since 1986 (n=24.661) 64% have been reported from protected areas, whereas in Austria (n=7.817) this fraction was 90%. In the Alps there is no difference in the distribution of age between protected and unprotected areas. However, in Austria the rate of juvenile birds is remarkably higher (26%) than in the total area of the Alpine Convention (15%).

Species distribution depending on Habitat Suitability Index (HSI)

The investigation of habitat suitability for Bearded vultures was carried out at the Konrad Lorenz Institute for Ethology (Vienna) for the Austrian part of the Alps. Our study shows a clear positive relation between numbers of observation and habitat quality [figure 1 in the poster]. Areas of a HSI above 80% can be found 2 times more often in protected areas than in the rest of the Austrian study area while areas below HSI of 20% are predominantly located outside the protected areas [figure 2 in the poster].

The Hohe Tauern NP covers more than 50% of all alpine protected areas in Austria and is therefore of outstanding importance for the further development of the Bearded vulture population in the NE-Alps.

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