

Northern Bald Ibises in the snow: Climate change becomes a challenge for the conservation project

Many of the Northern Bald Ibis from the colonies in the northern foothills of the Alps have still not crossed the mountains to the south. Now the migratory birds are acutely endangered by the approaching onset of winter. Specifically, these are 17 birds from the colony of Überlingen on Lake Constance in Baden-Württemberg, that are currently near the city of Chur in the Swiss canton of Graubünden, and 29 birds from the two colonies of Kuchl in the state of Salzburg and Burghausen in Bavaria. The birds now must be caught and transferred to the southern Alps to avoid major losses.

Capture is a difficult task, however, because the majority of the birds grew up in the wild and are not accustomed to humans. Nonetheless, all 29 birds from the two eastern colonies have now been caught by the experienced team. They were transferred to South Tyrol and from there immediately left for the winter area and some of the already arrived there. On Friday, November 25th, the team will start catching the birds which stay currently in Chur, Switzerland.

The current situation is alarming for the *Waldrappteam*, but not entirely surprising. Johannes Fritz, head of the *Waldrappteam Conservation and Research* company, says: "Since the Northern Bald Ibises started migrating about 10 years ago, we have observed a clear trend. The onset of fall migration is becoming more variable and departures are occurring later and later." Initially, approaches toward the Alps began in early October. Last year, however, a large number of birds did not cross the Alps until October 26, and this year they began their approaches on October 31.

The difficulties are not caused by a lack of migration motivation. On the contrary, this is very pronounced in the birds this year. Since the end of October, they have repeatedly flown in large groups far into the Alps, on a direct course towards their wintering grounds in Tuscany. The young birds have also always been with them. This is very important, because they do not know the migration route and depend on conspecifics, which they follow to the winter area. During one of these approaches, the Überlingen birds almost crossed Switzerland and were only a few kilometers away from the Italian border. In the end, however, the majority of the birds turned back again and flew back to the northern edge of the Alps. Only five birds crossed the Alps independently this fall.



Accordingly, the ibises continue to show strong migratory motivation but the timing no longer fits. The birds are late and obviously, this is related directly to the increasingly extended autumnal warm spells. For example, the mean temperature in October this year was higher than at any time since measurements began. It is not so clear, however, why the later the birds fly, the more difficult it is for them to cross the Alps. Presumably, in late autumn they lack the thermals they need to fly over the Alpine passes.

In 2022, the second European LIFE project for the reintroduction of Northern Bald Ibises began. Even in the application phase of this international project, consequences of climate change are already cited as the greatest risk to the successful reintroduction of this species. Johannes Fritz: "We were aware that climate change also poses an increasing risk for the reintroduction of the Northern Bald Ibis. Unfortunately, reality now confirms our assumptions, and much more rapidly and immediately than anticipated. The fact, that these significant changes in bird behaviour have already been observed in the past 10-year period is truly alarming."

The observed behavioural changes are not specific to Northern Bald Ibises. Changes in migration patterns are emerging in many migratory bird species as a result of climate change. In the case of the Northern Bald Ibis, however, the consequences of climate change are becoming particularly apparent due to intensive monitoring. Johannes Fritz: "Our team is working on strategies to enable the Northern Bald Ibis to survive sustainably despite the rapidly changing environment. This is a major challenge for species conservation, as more and more species will require active management. There are exciting methodological approaches to this, and we may now need to consider them for the Northern Bald Ibis as well. But for now, the birds acutely need our help."

