

Rock faces – spectacular and valuable places of refuge

Rock faces are unique habitats where specialised birds find nest sites out of reach from predators. For a long time, these refuges were undisturbed. Today, with the growing popularity of leisure activities, preserving their ecological value has become a new challenge.

Rock faces, cirques and deep gorges in the Alps and Jura, molasse cliffs on the Central Plateau, or quarries made by humans – there are many forms of vertical, rocky terrain in Switzerland. They differ in terms of rock type, exposure, height, vegetation cover, and density of crevices and fissures. These factors influence the composition of the species communities inhabiting the rock formations. Geographical distribution also plays a role: rock faces are present almost everywhere in the Alps, somewhat scarcer in the Jura, and quite rare on the Central Plateau.

Specialised breeding birds

Highly specialised birds such as the Wallcreeper use rock faces as foraging grounds. But first and foremost, they offer safe nest sites, practically inaccessible to ground predators. Conflicts and predation do occur, however, between birds breeding side by side in the cliffs. This kind of predation can affect adults, chicks or eggs. Eurasian Eagle-owl, Peregrine Falcon and Common Raven have a particular reputation for such disputes: the more Eurasian

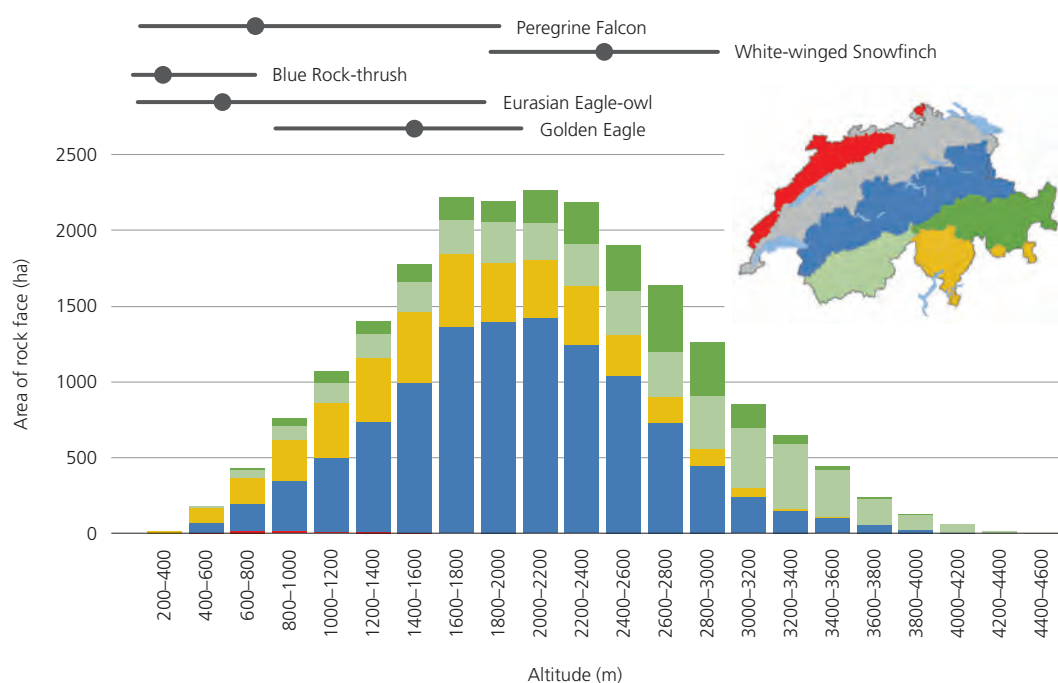
Eagle-owls or Peregrine Falcons are disturbed at the nest, the greater the opportunity for Common Ravens to prey on chicks or eggs. The Eurasian Eagle-owl, in turn, is a direct threat to adult birds and chicks in nearby Peregrine Falcon or Raven nests^{1, 2, 9, 10}.

Some cliff-nesting birds have learnt to use artificial nest sites that resemble natural rock formations, such as arcades, bridges, church steeples or buildings. Among them are raptors and owls like Common Kestrel, Peregrine Falcon and Eurasian Eagle-owl, corvids such as Common Raven, Eurasian Jackdaw and Yellow-billed Cough, but also swallows and swifts. For certain species like the Eurasian Crag Martin, the trend to nest on buildings is still growing. Others have completed the shift: Northern House Martin colonies, for example, have become rare in cliffs and are now practically only found in settlements. Golden Eagle, Common Raven, Eurasian Jackdaw and, in rare cases, Common Swift can also nest in trees. Conversely, some woodland birds occasionally breed in rock faces, from Tawny Owl and Stock Dove to various species of tits³.



Aurore Prædervand

The imposing limestone wall of Haut de Cry near Chamoson VS rises from 600 to 3000m. It offers habitat for both Alpine and Mediterranean species, accommodating almost the entire spectrum of our native cliff-nesting birds, from the Red-billed Cough to the Blue Rock-thrush.



The frequency of rock faces (defined as stone surfaces with an inclination of more than 60°) differs depending on the biogeographical region (the colours correspond to those on the small map). The Alps dominate the graph, while the Jura and Central Plateau are practically absent. Rock faces at 800–1000 m, for example, are mainly found in the northern and southern Alps. The black lines represent the altitudinal distribution of five cliff-nesting birds, with the dot indicating the median.

From the lowlands to the Alpine zone, there are about 20 typical cliff-nesting birds in Switzerland. Most have healthy populations, but there are some exceptions: the situation of the Eurasian Eagle-owl, for example, is unstable and varies from region to region^{5, 7, 11}. After increasing in number for many years, the Peregrine Falcon population also appears to be stagnating or even starting to decline⁶. Both species remind us that cliff-nesting birds in Switzerland are still in need of protection.

Impact of human activities

Nest sites in rock faces are well protected from ground predators. However, since the late 20th century, these sites have become increasingly attractive to humans pursuing leisure activities. Initially, disturbance mainly came from rock climbing and the installation of via ferratas; later on extreme sports such as base jumping gained in popularity. These leisure activities put additional pressure on populations, some of which are already weakened by other anthropogenic causes of death such as collisions, electrocutions, or even poisoning^{4, 8, 11}. In addition, rock faces offer an impressive setting to perform sound and light shows for the benefit of tourists, which can cause breeding birds to abandon the site. The quarries in our country – there are approximately 200 – are a particularly striking example of the dynamic between human activity and birdlife: when excavation ends, these secondary habitats are often filled in with no consideration for the birds that nest there. In such cases, artificial walls need to be installed to provide alternative nest sites.

Customised conservation measures

Luckily, it is often possible for cliff-nesting birds and human activities to coexist without conflict. The nest sites of sensitive species or priority species (e.g. Eurasian Eagle-owl, Peregrine Falcon) are often known, so potential conflicts can be anticipated and recommendations made for measures that are adapted to the specific situation. For the protection of cliff-nesting birds to be successful, it is essential to involve the stakeholders when searching

for solutions. Restricted access to certain areas or during certain periods is then more readily accepted, not least thanks to well-informed and cooperative partners on site.

Jean-Nicolas Pradervand & Emmanuel Revaz



Conflict or coexistence? A characteristic bird of bare rock faces, the Wall-creeper is well known among rock climbers. This female carrying food stops right next to a bolt drilled into the rock to secure climbers.

¹ Brambilla et al. (2004); ² Brambilla et al. (2006a); ³ Hauri (1988); ⁴ Inderwildi et al. (2016a–b); ⁵ Jenny (2011a); ⁶ Kéry et al. (2016); ⁷ Lardelli & Zbinden (2017); ⁸ Martinéz et al. (2006); ⁹ Monneret (2010); ¹⁰ Rau (2015); ¹¹ Schaub et al. (2010a)