

Alluvial forests – a paradise for birds

Alluvial forests are shaped by the dynamics of rivers, making them the most species-rich forests in Europe. In the past 200 years, many alluvial forests have been destroyed or their natural dynamics interrupted. Only small areas remain in Switzerland today. Many alluvial forests urgently need to be restored to preserve their biodiversity.

Floodplains are hotspots of biodiversity^{6,7} thanks to the multitude of habitats created and constantly influenced by the flow of water. Floodplains are characterised by a dynamic transition zone between land and water, larger along rivers, narrower along lakes. They typically consist of a shore area with pioneer herbaceous vegetation, the adjoining softwood alluvial forest, which is regularly flooded, and hardwood alluvial forest, further away from the water and less frequently flooded⁵.

Since 1850, about 70 % of floodplains in Switzerland have been destroyed, primarily because of river engineering works. Today, about 233 km² of floodplains still exist in Switzerland, fragmented into many small areas⁶. The remaining floodplains are often in poor condition due to the lack of a natural flow regime. Remedial action could come in the form of restoration projects, which have been implemented in various regions since the turn of the millennium^{3,4} and play an increasingly important role in flood protection (e.g. the floodplain near the Thur River mouth ZH).

The annual surveys of the wetland monitoring scheme, conducted in areas with a significant proportion of alluvial forest, provide data on the population trends since 2000 of five species typically associated with alluvial forest. European Turtle-dove, Willow Tit and Willow Warbler have become scarcer since 2000, while the Common Nightingale has increased. The population trends of these species in the five surveyed areas largely match the trends observed in Switzerland as a whole.

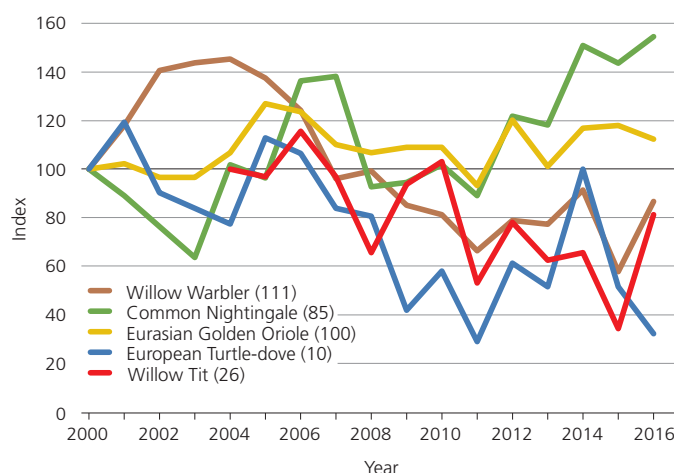
Despite having dwindled to a few small areas in Switzerland, alluvial forests nonetheless continue to be species-rich habitats. In the alluvial forest Aarau – Wildeggen AG, for example, observers surveyed 270 ha (234 ha of land), recording 62 bird species with a total of 1633 territories in 2013 and 1871 territories in 2014. In the adjacent area Wildeggen – Brugg AG, 315 ha (206 ha of land) accommodated 65 species with 2225 territories in 2015, and 66 species with 2510 territories in 2016². Similarly high numbers of species and territories were found in German alluvial forests in the Naturpark Rheinland. In the same area, density (but not species richness) of birds was higher in hardwood alluvial forest than in other deciduous forests⁹.

These examples demonstrate that the remaining alluvial forests still offer excellent conditions for birds. To enhance their potential as habitat, they should be restored to the dynamic systems they once were. Several exemplary projects already exist in Switzerland, such as the Thur River mouth ZH, Pfynwald VS and Auenschutzpark Aargau^{1,8}. Hopefully, many more will follow in the years to come. The 2011 revision of the Federal Act on the Protection of Waters has set the course; the policies must now be put into practice without delay.



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This alluvial forest in the Umiker Schachen AG boasts a rich diversity of habitats including eroded areas along the riverbanks, gravel bars, reed canary-grass, and soft- and hardwood alluvial forests.



2000–2016 population trends for five alluvial-forest birds in five areas with a significant proportion of alluvial forest: Bolle di Magadino TI, Chablais near Galmiz FR, the oxbow lakes of the Glatt River near Oberglatt ZH, Grande Carrière and Häftli BE. The base year is 2000 with an index value of 100; the number behind the species name indicates the total number of territories per species in 2016.

¹ Auenberatungsstelle Bern und Yverdon-les-Bains (2001–2008)/Service conseil Zones alluviales Berne et Yverdon-les-Bains (2001–2008); ² Auenschutzpark Aargau, unpubl.; ³ Cosandey & Rast (2017); ⁴ Hanus et al. (2014); ⁵ Imboden (1976a–b); ⁶ Lachat et al. (2010–2011); ⁷ Rust-Dubié et al. (2006); ⁸ Schelbert (2015); ⁹ Zenker (1980)