



The State of Birds in Switzerland Report 2016



vogelwarte.ch

Headlines



2015 – a year of extremes: The floods in May led to lost broods for many wetland species. In contrast, the hot summer provided ideal breeding conditions for mountain birds. ➡ page 6

All is not well in the mountains: The changes in agriculture and global warming are increasingly causing distress for mountain birds. ➡ page 10



Comeback: After 140 years, the Bearded Vulture has once again become a regular breeding bird in Switzerland. Already, more than a dozen pairs are producing offspring. ➡ page 14

In 2015, population counts of four wetland species were conducted for the new breeding bird atlas. Mild winters give Kingfisher populations a boost. ➡ page 18



Crowds of migrating waders were grounded in early May due to heavy orographic rainfall. The Wood Sandpiper was particularly well represented. ➡ page 22



Common Pochard and Eurasian Coot populations have decreased throughout Europe in the past 15 years. Waterbird counts now confirm that winter visitors are declining in number in Switzerland, too. ➡ page 26

Field work for the European breeding bird atlas is making progress – not least thanks to considerable support from Switzerland, that hopefully will continue. ➡ page 30



Contents

Editorial	4
Breeding birds	6
Migrants	22
Winter visitors	26
International news	30
Methodology	32
Thanks	34

Further information:

You can find further information online, including population trends for breeding bird species and additional analyses:
www.vogelwarte.ch/state

Monitoring to preserve

The reintroduction of the Bearded Vulture is a remarkable success story uncommon in nature conservation: The species bred in Switzerland in nine out of the last ten years, which means that starting in 2015, we can once again count the Bearded Vulture among our regular breeding birds!

This success cannot be taken for granted given the decade-long struggle that eventually led to the Bearded Vulture's reintroduction: In 1978, following several failed attempts, 35 experts met in Morges on Lake Geneva to launch an international project to reintroduce the Bearded Vulture in the Alps. It took perseverance and a great deal of personal commitment before the first birds were released in Austria in 1986, thus paving the way for success. A project like this relies on several necessary conditions: A solid foundation of scientific knowledge must be established and the causes for extinction recognized and remediated. Various disciplines and institutions need to collaborate across national borders, and the public and the authorities must be kept informed to ensure the acceptance of the project and to secure funding. The dedicated members of Pro Bartgeier» and the Vulture Conservation Foundation have earned our heartfelt respect and gratitude!

This story goes to show: It takes tremendous effort to reintroduce a species. We must do everything we can to prevent the disappearance of rare species, and to make sure that common species never become scarce. This is what the Ornithological Institute stands for. The monitoring department, with the invaluable support of more than 2000 volunteers, compiles the data for the annual update on trends for breeding and visiting birds in Switzerland. The key findings are summarised in the present report. This kind of basic research is essential in that it allows us to detect changes early and respond immediately when a species is in decline. Who would have expected that the European Greenfinch, a widespread species, has declined by a third since 2012? Of course, positive developments are also recorded – the Eurasian Crag Martin, for example, has increased by about 40 % since 2005.

This year's report shines a spotlight on mountain birds. The harsh conditions allow only a few well-adapted species to survive in this environment. Switzerland's geographical location gives us a special responsibility for these breeding birds. At first glance, the mountain habitats appear barely touched by humans. But agricultural developments and climate change do



not stop at the foot of the Alps. Pastures are abandoned or intensified, temperatures rise, glaciers melt – the living conditions for alpine species, too, are undergoing massive change.

We hope you enjoy reading the report. Thank you for your continued support of our work for the benefit of our birds and nature in general!

Dr Thomas Sattler

The Greenish Warbler, originally a northeastern species, has in the past years expanded its range towards southwestern Europe. In 2015, F. Schneider and L. Maumary recorded a pair with at least 6 fledglings in the alpine foothills in the Canton of Vaud – this makes it the 222nd species with a breeding record in Switzerland! The species appears to be undemanding and would find an abundance of breeding sites in our semi-open woodlands.





A species occurring at high altitudes, the White-winged Snowfinch may react sensitively to climate changes. A new research project by the Ornithological Institute will examine the situation more closely.



The floods in May 2015 destroyed many waterbird nests. Thanks to replacement clutches and the fine summer weather, the Great Crested Grebe still achieved considerable breeding success on many lakes.

The situation of breeding birds

«From one extreme to the other» might accurately describe the situation of breeding birds in the past years. Climate change has become a reality and presents new challenges for breeding birds. In 2015, the annual temperature was 1.3°C above the 1981–2010 average. In the south of Switzerland, the 2014/15 winter was the second warmest since 1864. The summer of 2015 was actually the

second hottest nationwide. After a brief return of winter at the end of March, breeding activity began with a buzz in the mild April weather, and at first, the weather conditions were favourable for breeding. In the first week of May, certain locations saw a lot of rain, and streams, rivers and lakes overflowed in many places. For species such as Mute Swan, Mallard, Great Crested Grebe, Common

Sandpiper, or Common Reed Bunting, the flooding came at a bad moment. It also caused some reed breeders to desert the flooded areas. For example, Savi's Warblers were heard in places where they do not normally nest, especially around the Lake of Neuchâtel, which is the main breeding site for Savi's Warblers in Switzerland. Further rainfall made this year's month of May one of the wettest on record.



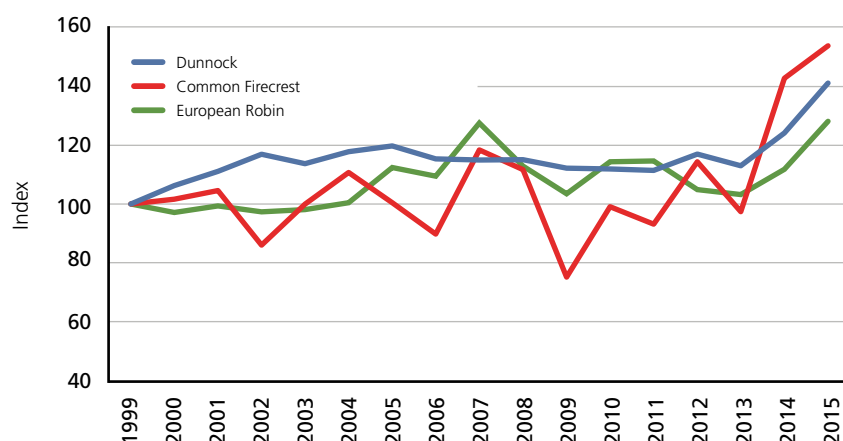
The Heideweg at Lake Biel during the floods in May 2015 (left) and in normal May weather.

Winners and losers of the summer heat

In June, the weather changed, and in many places, this was the fourth warmest month of June on record. July, in some places, was the hottest month since records began 150 years ago. The first week of July especially brought record temperatures. The stable weather meant that hay was harvested early. Grassland birds therefore probably suffered more nest loss than usual. Distressed by the heat, many Common Swifts left their nests under the roofs too early and fell to the ground. Alpine Swifts were also affected. This is a phenomenon not seen before on such a scale. The unusual heat continued into August, causing drought. These conditions improved breeding success for many mountain birds. The beneficiaries of the hot spell include Grouse and Rock Partridges, whose breeding is most successful in warm and dry summers. The aridity made foraging difficult for species like the Thrush that normally feed mainly on worms.

Slight population increases, hardly any declines

Mild winters with little precipitation increase the chances of survival for resident birds. When winter cold weather is absent from Italy and the western Mediterranean, too, many of our short-distance migrants also benefit. Both conditions were met in the winter of 2014/15. In total, the «Monitoring common



Some partial and short-distance migrants, like Dunnock, Firecrest and European Robin, reached peak population numbers in 2015 after two mild winters.

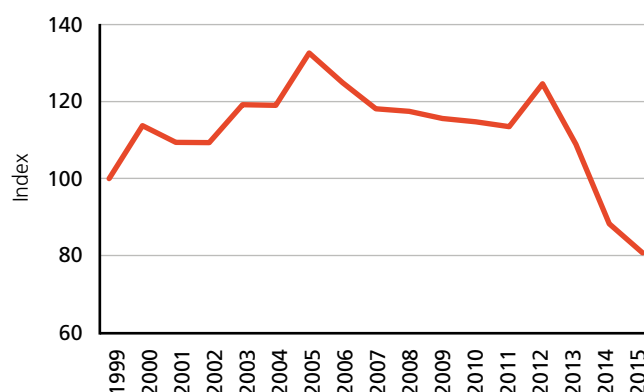
breeding birds» scheme recorded an increase compared to the previous year in as many as 14 species: European Green Woodpecker, Great Spotted Woodpecker, Eurasian Jay, Great Tit, Coal Tit, Eurasian Nuthatch, Goldcrest, Eurasian Bullfinch and Red Crossbill. For Winter Wren, European Robin, Common Blackbird, Firecrest and Dunnock, we even recorded the largest populations since the start of the counts in 1999. Only one species, the Common House Martin, declined significantly compared to the previous years.

Further information:

www.vogelwarte.ch/state/breeding



Cause for alarm: The European Greenfinch has declined significantly in the past years in Switzerland, as it has in Germany and Austria. The reason is assumed to be trichomoniasis, a disease caused by a single-cell parasite. Finches, who spend a lot of time on the ground and in groups, are especially at risk.





The Alpine Accentor is a typical representative of birds living above the treeline. Switzerland is home to more than 15 % of its entire European population.

The SBI® as a monitoring tool

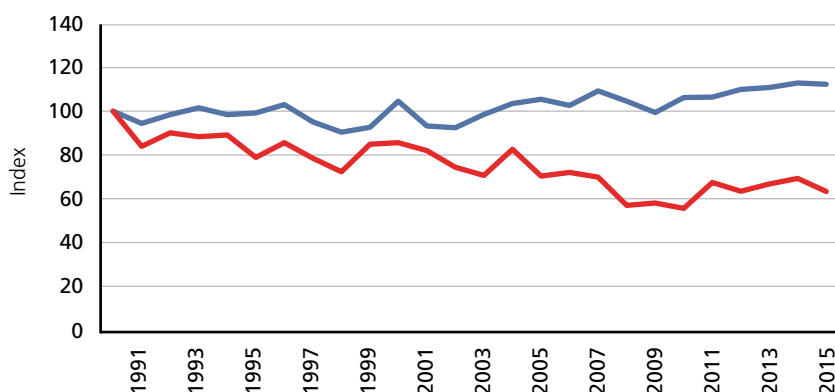
The Swiss Bird Index SBI® uses simple indicators to document the situation of Swiss breeding birds from 1990 onwards. Since 2005, the SBI® and its sub-indices have been updated annually to include the newest population data on Swiss breeding birds. The SBI® has become an established monitoring tool in Switzerland and is cited by various federal agencies in their reports.

The trends shown by the various indices often remain stable over longer periods, and there were no marked changes in 2015. The SBI® for all species shows a slightly positive trend, while the species on the Red List have declined. The indices are so consistent because they include population trends of up to 174 regular breeding bird species, so the trend of a single species generally has little impact on the overall result. The

downward trend for Red List species is all the more alarming, and an urgent reminder that efforts for the conservation of these species must continue.

All well in the Alps?

The sub-index for breeding birds in alpine habitats combines the trends of 12 species that live mainly above the treeline. The Bearded Vulture is a



Swiss Bird Index SBI® key indicators from 1990–2015: The SBI® for all species (blue) is rising slowly, while the sub-index for Red List species (red) has declined by almost 40 % since 1990.

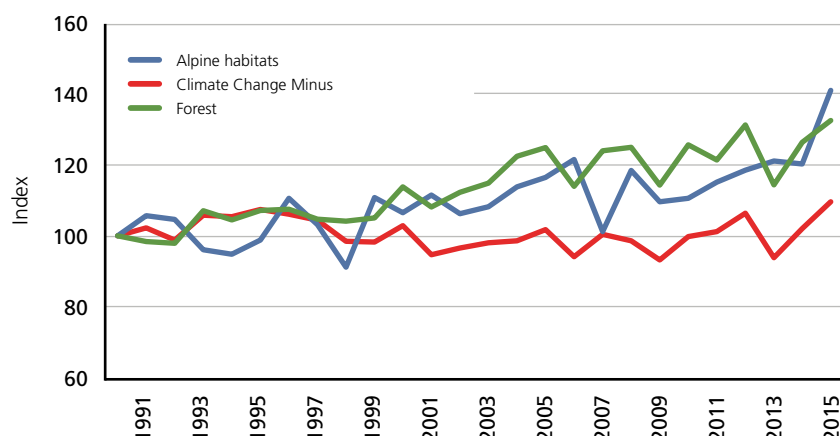
new member of this group, which has shown an upward trend since 1990. The sub-index for typical woodland birds, including subalpine species, is also positive. However, the populations in this apparently stable alpine and subalpine environment fluctuate widely, and changes can happen fast. The examples of Eurasian Crag Martin, Ring Ouzel and Rock Ptarmigan (see p.16) illustrate this. Climate models anticipate above-average rises in temperature and altered precipitation patterns for alpine zones in the future. Disappearing glaciers and a higher incidence of rock fall are the first signs of these developments. A representative grid of survey areas at the alpine level is therefore extremely important, despite the arduous conditions for field work.

International responsibility for alpine species

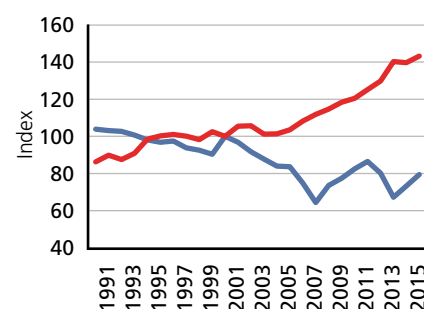
20 species whose distribution ranges are predicted to shrink due to climate change are combined in the SBI® sub-index Climate Change Minus. 16 of the 20 species occur predominantly in subalpine coniferous forest or in the alpine zone, including Rock Ptarmigan, Eurasian Three-toed Woodpecker, Water Pipit, Ring Ouzel, White-winged Snowfinch and Citril Finch. To date, the decline only affects a few species. But we are seeing more and more frequent and troubling signs of change (see p. 10–11). These species have a relatively small distribution range concentrated in the Alps. This means that Switzerland is home to a large proportion of their European populations and has an important international responsibility for their conservation.

Further information:

www.vogelwarte.ch/state/breeding



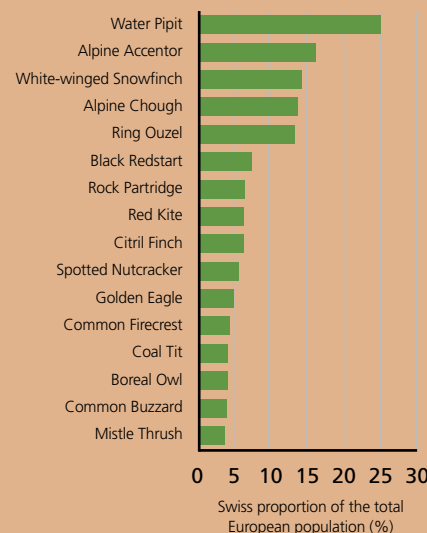
The SBI® sub-index for alpine habitats fluctuates sharply, but tends upwards overall. It reaches a peak in 2015. The woodland sub-index also follows a positive trend; the Climate Change Minus index is stable. All 12 sub-indices can be viewed online (see the link under «Further information»).



The Eurasian Crag Martin, originally a pure alpine dweller, has expanded its range to the Jura and to some cities since 1980. The population has experienced a strong increase since 2005 (red). The Ring Ouzel declined sharply until 2007 (blue); since then, its population has experienced considerable fluctuation.

International responsibility

Switzerland's international responsibility is an important factor when it comes to identifying species of national conservation concern. Species are divided into five categories of responsibility, depending on their percentage of the entire European population. The size of Switzerland corresponds to 0.7 % of Europe's surface area. Switzerland has an increased responsibility for species whose Swiss populations exceed 0.7 % of the European population. 16 species are classed in the top two levels of responsibility: Category 4 contains species whose populations are 5–10 times larger than expected given the size of Switzerland (3.5–7 % of the European population), and the populations in category 5 are 10 times larger (>7 %).



Mountain birds: losses at the range margins

The distribution of birds is constantly evolving. Along with natural factors, human activities also play a role, especially in recent times. The speed with which changes, for example climate warming, are occurring is particularly problematic for many species. Higher temperatures in combination with other habitat changes can force birds to give up lower-lying habitats.

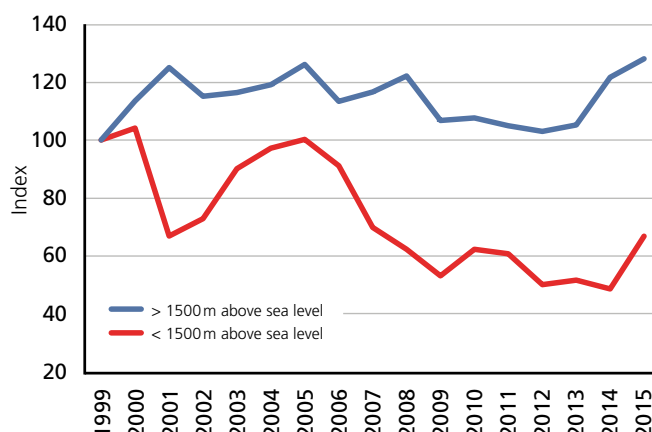
Problems faced by the Ring Ouzel and other mountain birds

This situation can quickly effect the available breeding range, because there is a limit to how far up the birds can go. Mountain birds especially will face major difficulties due

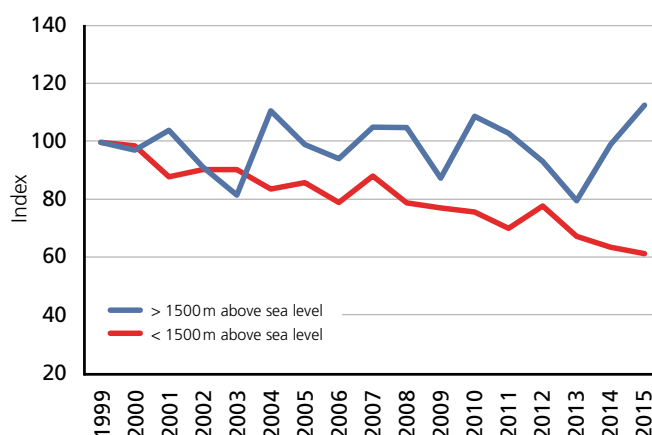
to changes in climate. For example, forecasts predict a loss of suitable habitats for the Ring Ouzel of almost 20 % by the year 2070. This coincides with a range shift to higher altitudes by an average of 440 m, resulting in an average elevational distribution of 2200 m above sea level. This means that the Ring Ouzel will either disappear from the Jura completely, or at best occur only in the highest regions of the Jura mountains.

With the data from the project «Monitoring common breeding birds» (Monitoring Häufige Brutvögel, MHB), we can already see these changes happening. The data show that population trends since 1999 differ for certain species below

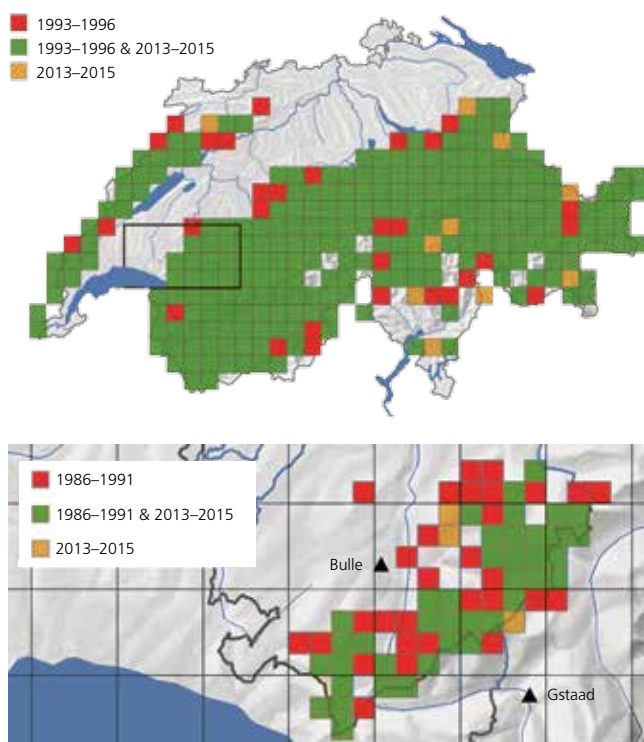
and above 1500 m. Populations of typical mountain birds, such as Black Grouse, Water Pipit, Northern Wheatear and Spotted Nutcracker, are showing moderate or major declines in lower-lying areas, while they remain stable above 1500 m. Eurasian Bullfinch and Common Linnet populations tend to be on the rise at higher altitudes, while they both show a slight downward trend below 1500 m. The Eurasian Skylark is not endangered above 1500 m, but it is disappearing or becoming rare in lower-lying areas due to intensified agriculture.



In lower-lying areas, the Water Pipit has become much rarer. Intensified agriculture and climate changes are probable causes. Above 1500 m, however, the population is stable.



The Eurasian Skylark has suffered due to agricultural intensification. In areas below 1500 m, its population has been declining steeply since 1999; above that level, it is sustaining itself (for now).



Comparing the nationwide distribution of the Citril Finch in 2013–2015 to 1986–1991 (top left), there appear to be few gaps. However, comparing the higher resolution graphics of Fribourg's breeding bird atlas for the same two periods (bottom left), the shrinkage becomes apparent. There is a chance that some of the gaps could yet be filled in 2016, as the images show the preliminary results of 3 out of 4 field seasons.

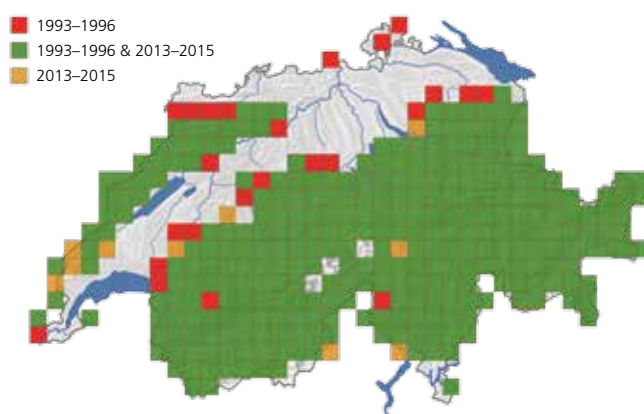
Clear signs of range loss

The initial results of the breeding bird atlas 2013–2016 clearly confirm that the breeding ranges have already started to shrink. Many of the above-mentioned mountain birds have left parts of the Jura or the Alps that were occupied in the 1993–1996 period. The gaps are particularly evident in the case of Citril Finch and Spotted Nutcracker. The spatial resolution of the 10x10 km atlas squares is quite small, with the

result that losses are underestimated. The breeding bird atlas for the Canton of Fribourg, which is being updated in parallel with the national atlas under the direction of the Cercle ornithologique de Fribourg (COF), demonstrates this. In the Fribourg atlas, an atlas square is divided into 16 squares measuring 2.5 km on each side. The initial data were collected between 1986 and 1991. The current survey shows that the breeding ranges of several

species have shrunk at the margins. In addition to Eurasian Woodcock, Water Pipit and Ring Ouzel – all species with declining populations – the Eurasian Three-toed Woodpecker and the Citril Finch are also losing ground in the Canton of Fribourg.

Further information:
www.vogelwarte.ch/atlas



The Spotted Nutcracker's distribution for the 2013–2015 period shows noticeable gaps at the margins compared to the breeding range recorded for 1993–1996.

Trends for regular breeders in Switzerland

For each of the 174 regular breeding birds¹ in Switzerland that were analysed, a positive trend, a negative trend, or no trend is specified for the entire survey period (generally 1990–2015) and for the last ten years (2006–2015). No trend means that no statistically significant change was detected during the survey period. This is the case for populations that are actually stable, but also for those that fluctuate heavily. The colours in the last column show the status of the species with regard to the Red List (red = on the Red List, orange = near-threatened, green = least concern). Dots mark priority species for species recovery programmes.

Species	Trend 1990–2015	Trend 2006–2015	Red List Priority
Gadwall			
Mallard	+		
Red-crested Pochard	+		
Common Pochard			
Tufted Duck	+		
Common Eider	+		
Common Merganser	+	+	
Hazel Grouse			●
Rock Ptarmigan	–		●
Black Grouse			●
Western Capercaillie			●
Rock Partridge	–		●
Grey Partridge			●
Common Quail			
Little Grebe	–		
Great Crested Grebe	–		
Black-necked Grebe			
Great Cormorant	+	+	
Little Bittern	+		
Grey Heron	+	+	
Purple Heron	+		
White Stork	+	+	●
European Honey Buzzard	+	+	
Black Kite ²	+		
Red Kite	+	+	●
Bearded Vulture	+	+	●
Northern Goshawk		+	
Eurasian Sparrowhawk	+	+	
Common Buzzard	+		
Golden Eagle	+		
Common Kestrel	+		
Eurasian Hobby	+		
Peregrine Falcon	+		
Water Rail			
Spotted Crake			
Corn Crake	+	+	●
Common Moorhen			
Eurasian Coot	+	+	
Little Ringed Plover			●
Northern Lapwing	–	+	●
Common Snipe	–		●
Eurasian Woodcock	–		●
Eurasian Curlew	–		●
Common Sandpiper	–		●
Mediterranean Gull	+		
Common Black-headed Gull	–		●
Mew Gull			
Yellow-legged Gull	+		
Common Tern	+		●

Species	Trend 1990–2015	Trend 2006–2015	Red List Priority
Stock Dove	+	+	
Common Wood Pigeon	+	+	
Eurasian Collared Dove	+		
European Turtle Dove	–		
Common Cuckoo			●
Barn Owl	–		●
Eurasian Scops Owl	+		●
Eurasian Eagle-Owl	–		●
Eurasian Pygmy Owl			
Little Owl	+	+	●
Tawny Owl			
Long-eared Owl ³			
Boreal Owl		–	
European Nightjar	–		●
Alpine Swift	+		●
Common Swift ²			●
Pallid Swift	+	+	
Common Kingfisher	+		●
European Bee-eater	+	+	
Eurasian Hoopoe	+	+	●
Eurasian Wryneck			●
Grey-headed Woodpecker ³			●
European Green Woodpecker	+		
Black Woodpecker	+		
Great Spotted Woodpecker	+		
Middle Spotted Woodpecker	+	+	●
Lesser Spotted Woodpecker	+		
Eur. Three-toed Woodpecker			
Woodlark	+		●
Eurasian Skylark	–	–	●
Sand Martin	–		●
Eurasian Crag Martin	+	+	
Barn Swallow	–		
Common House Martin	–		●
Tree Pipit	–		
Meadow Pipit	–		
Water Pipit			
Western Yellow Wagtail	+		
Grey Wagtail			
White Wagtail		–	
White-throated Dipper	+		
Winter Wren	+		
Dunnock	+		
Alpine Accentor			
European Robin	+		
Common Nightingale	+		
Bluethroat	+		
Black Redstart		+	
Common Redstart	–		●

Species	Trend 1990–2015	Trend 2006–2015	Red List Priority	Species	Trend 1990–2015	Trend 2006–2015	Red List Priority
Whinchat	–		●	Eurasian Nuthatch			
Eurasian Stonechat	+	+		Wallcreeper	–	+	
Northern Wheatear	+			Eurasian Treecreeper	+		
Rufous-tailed Rock Thrush	–			Short-toed Treecreeper	+		
Blue Rock Thrush				Eurasian Golden Oriole	+		
Ring Ouzel	–		●	Red-backed Shrike	–	–	
Common Blackbird	+	+		Woodchat Shrike	–		●
Fieldfare	–		●	Eurasian Jay	+		
Song Thrush	+	+		Eurasian Magpie	+		
Mistle Thrush	+			Spotted Nutcracker			
Com. Grasshopper Warbler				Alpine Chough			
River Warbler	+		●	Red-billed Chough	+		
Eurasian Reed Warbler				Western Jackdaw	+	+	●
Marsh Warbler				Rook	+	+	
Great Reed Warbler	+	+	●	Carion Crow	+		
Icterine Warbler	–			Northern Raven	+		
Melodious Warbler	+	+		Common Starling			
Eurasian Blackcap	+	+		House Sparrow			
Garden Warbler	–	–		Eurasian Tree Sparrow	+		
Barred Warbler				White-winged Snowfinch			
Lesser Whitethroat				Common Chaffinch	+		
Common Whitethroat			●	European Serin		–	
Western Bonelli's Warbler	+	+		Citrl Finch			
Wood Warbler	–		●	European Greenfinch		–	
Common Chiffchaff	+			European Goldfinch	–		
Willow Warbler	–	–	●	Eurasian Siskin	+		
Goldcrest	+			Common Linnet			
Firecrest				Lesser Redpoll	+		
Spotted Flycatcher	–			Red Crossbill	+		
European Pied Flycatcher	+			Common Rosefinch		+	
Bearded Reedling				Eurasian Bullfinch	–		
Long-tailed Bushtit	+			Hawfinch	+		
Marsh Tit	+			Yellowhammer	+		
Alpine or Willow Tit ²	+			Cirl Bunting	+		●
European Crested Tit	+			Rock Bunting	+		
Coal Tit				Ortolan Bunting	–	–	●
Blue Tit	+			Common Reed Bunting	–		
Great Tit	+			Corn Bunting	–		●

¹ This includes species categorised as regular breeding birds at least once since 1990 (i.e. the species has bred in Switzerland in at least nine of the past ten years) and for which we have the necessary data. 177 species belong in this category, not counting introduced species (i.e. Mute Swan, Ruddy Shelduck, Common Pheasant). No assessment is possible for White-backed Woodpecker, Collared Flycatcher and Italian Sparrow due to lack of data.

² Survey period 1999–2015

³ Survey period 1996–2015

Species that breed in Switzerland irregularly or exceptionally

Since 2000, a further 27 species have bred irregularly or exceptionally in Switzerland. These breeding occurrences are documented as fully and consistently as possible (table available online via the link under «Further information»).

Further information:

www.vogelwarte.ch/state/breeding

Reference

Müller, C. (2016): Seltene und bemerkenswerte Brutvögel 2015 in der Schweiz. Ornithol. Beob. 113: 189–204.



The Golden Eagle's status in the Swiss Alps is stable. Reproduction may be relatively low, but the balance is right as long as the survival rate of adult birds remains high.

Golden Eagle and Bearded Vulture: flying high in stormy weather

Seen from a distance, the current situation of our largest raptors is a success story. The Golden Eagle has achieved a «full house» in the Alps, meaning that practically all suitable breeding sites are occupied. Occasionally, a new pair will manage to squeeze in between two large territories and take control of a hunting ground. Golden Eagle expert David Jenny, in collaboration with the game wardens of the Canton of Grisons, has found evidence for multiple instances of this in the Engadine in the past few years. 32 pairs now live there, compared to 28 in the year 2000. Overall, however, the situation is very stable. The only region showing some activity is the Swiss Jura. A Golden Eagle pair bred there in 2009 for the first time in approximately 200 years. Since then, a second breeding site has been detected. These successes are the culmination of a history marked by ups and downs. For

centuries, the species was persecuted and eventually disappeared from the Jura. However, unlike the Bearded Vulture, the Golden Eagle was never completely exterminated in the Alps. After the species became protected through the revision of the federal hunting act in 1953, it slowly began to recover. The resurgence of wildlife made it easier for the Golden Eagle to recover its lost territory.

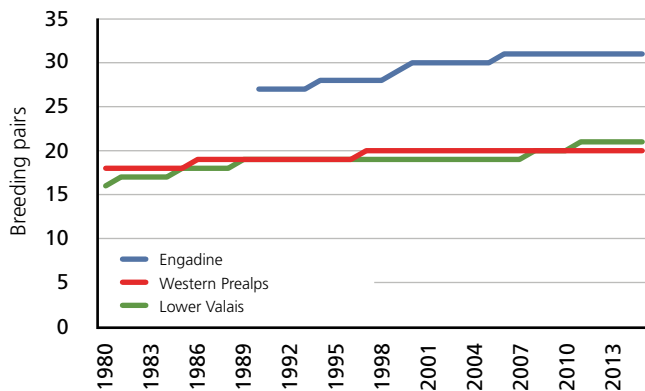
Bearded Vulture: a regular breeder again

In 2015, Bearded Vultures bred in Switzerland for the ninth year in a row, which means the species is once again considered a regular breeder. 30 years after reintroduction began, there are at least 37 breeding pairs in the entire alpine region; 13 of them breed in Switzerland (9 in the Canton of Grisons, 4 in the Valais). 29 territories have seen successful broods.

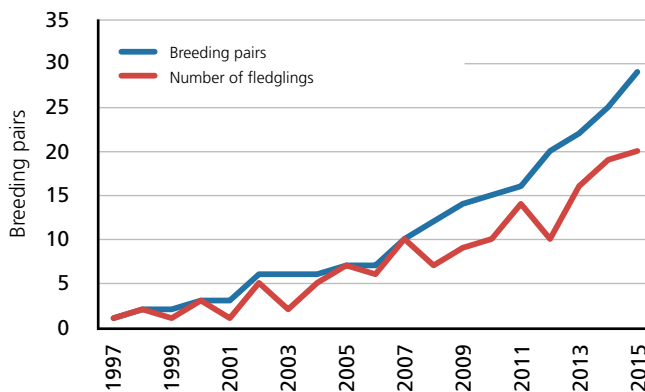
Currently, 1–2 new pairs breed in Switzerland every year. At present, Mont Blanc–Valais and Engadine–Stelvio are the two main distribution areas. In 2015, 20 juveniles fledged in the Alps, 8 of them in Switzerland. With a reproductive rate of almost 0.6 young per pair, the Bearded Vulture is reproducing successfully in the Alps for a population of its size. Golden Eagles only achieve about half this rate.

Disturbances, poisoning, collisions

Still, the great raptors continue to face hazards. Disturbance of the nests by photographers has increased and often leads to the loss of a brood. Because lead ammunition is still used for hunting and the birds eat the remains and guts of hunted animals, many of them have high heavy metal concentrations and some suffer from severe lead poisoning. Disturbance through



Population trend for the Golden Eagle in the western Prealps, the Engadine and the lower Valais (G. Banderet, D. Jenny, H. Haller, S. Denis, P.-A. Oggier, game wardens for the Cantons of Bern, Fribourg and Grisons)



Number of Bearded Vulture territories in the Alps where at least one incidence of breeding success was recorded, and number of successfully fledged juveniles per year (source: Stiftung Pro Bartgeier).



Bearded Vultures and Golden Eagles have the occasional quarrel (top right). Serious fights are rare, though.

leisure activities and the threat of man-made structures like transport facilities, power lines and, increasingly, wind farms limit the alpine habitats we once thought were so vast. In the face of these threats, we need to watch future developments with an «eagle eye».

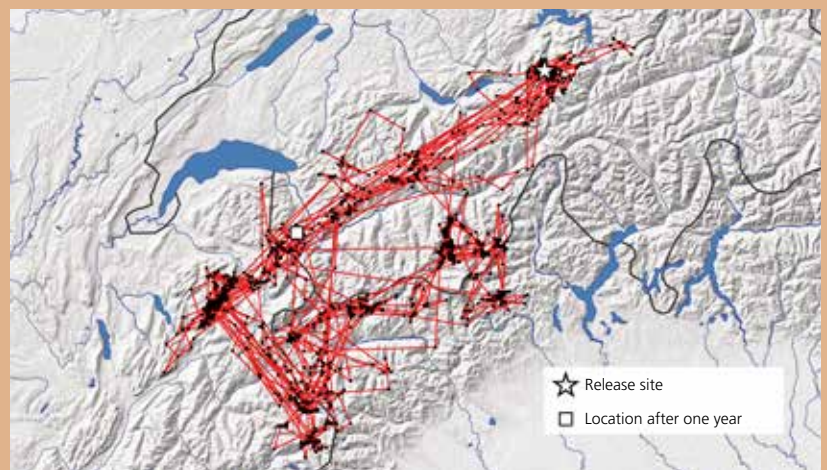
Reference

Jenni, L. et al. (2015): The frequency distribution of lead concentration in feathers, blood, bone, kidney and liver of golden eagles *Aquila chrysaetos*: insights into the modes of uptake. J. Ornithol. 156: 1095–1103.

The antics of young Bearded Vultures

In late May 2015, «Sempach II», a three-month old Bearded Vulture sponsored by the Ornithological Institute, was released near Melchsee-Frutt. The records from the bird's satellite transmitter demonstrate just how far juvenile Bearded Vultures roam in their first years and months, putting them at increased risk of encountering unfamiliar situations. In particular, there is a risk of collisions with man-made structures.

In her first year, Sempach II's forays led her as far as the Haute Savoie and the Aosta Valley (source: Stiftung Pro Bartgeier).





Physical features such as downy after-feathers and feathered legs and toes as well as behavioural adaptations, like spending the night in snow caves, enable the Rock Ptarmigan's survival in the mountains.

Rock Ptarmigan under pressure

The Rock Ptarmigan is a widespread breeding bird above the treeline in the Alps. But for how much longer? New studies show that in some places, Rock Ptarmigan ranges are shifting to higher altitudes and populations are declining.

Switzerland has international responsibility

The total Rock Ptarmigan population in Europe amounts to 257 000–1 000 000 pairs. After a 30 % decline in Europe over a period of 13 years, the species was classified as near-threatened by BirdLife International in 2015. The sub-species *Lagopus muta helvetica*, native to the alpine belt, has an estimated total population of 33 000–49 000 breeding pairs; about 30 % of them live

here in Switzerland. Switzerland therefore has a special responsibility for the long-term survival of the species, and in particular for the sub-species *helvetica*.

The maximum level of adaptation...

Rock Ptarmigans are perfectly adapted to life in the Alps. Their plumage protects them from the harsh climate. As soon as temperatures exceed 21 °C, however, the birds get uncomfortable. In summer, they tend to seek out cool, shady spots. They are particularly vulnerable to the rise of temperatures due to the warming of the climate.

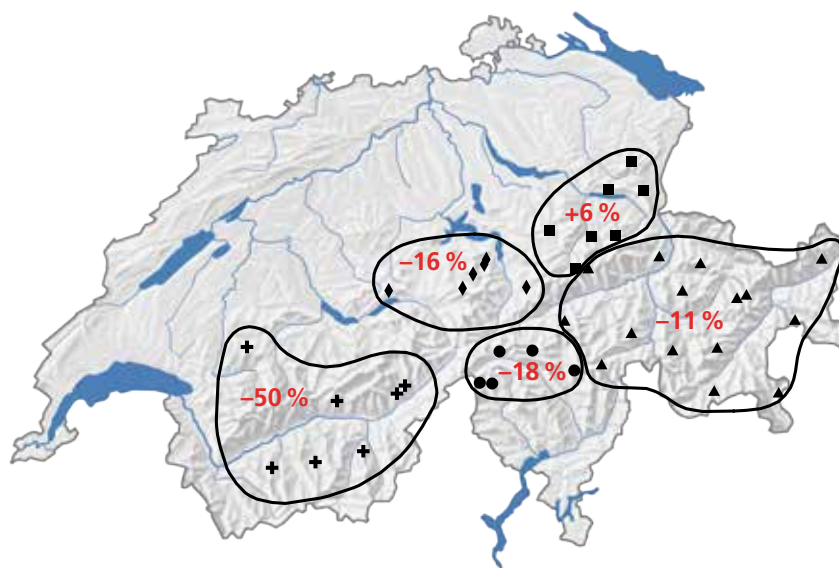
...does not prevent decline

Monitoring Rock Ptarmigans requires elaborate monitoring schemes

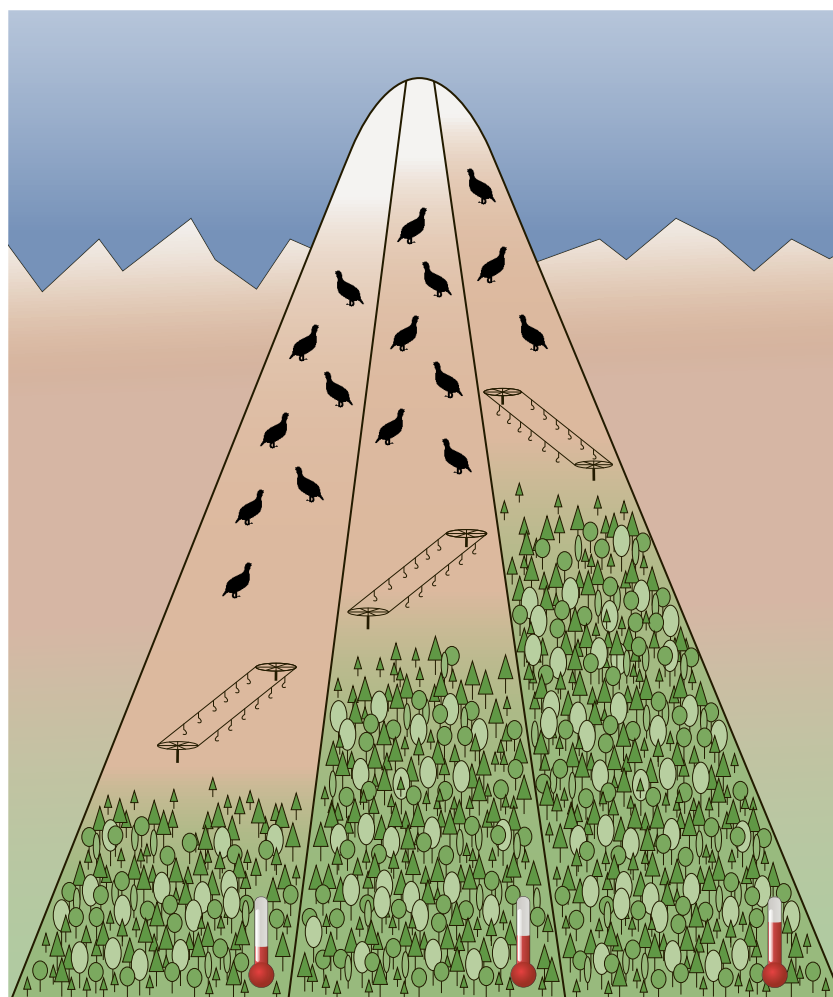
conducted in the early morning. The counts are coordinated by the environmental consulting agency KBP on behalf of the Federal Office for the Environment FOEN, and in the Canton of Grisons by the local hunting and fishing agency. The Ornithological Institute has examined in detail whether these population surveys already reveal effects of climate warming and other factors. Between 1995 and 2012, the population in the 40 survey areas declined by 13 %, albeit with large regional fluctuations. Together with climate warming, the abandonment of alpine pastures contributes to an ascending treeline and denser forests. Disturbances through tourism, especially in winter, and hunting are other factors that can influence population numbers.

It's getting tight up there

A further study looked at how the elevational distribution of the Rock Ptarmigan has changed, analysing records from the database of the Ornithological Institute's information service. The altitude of Rock Ptarmigan ranges over a period of 29 years was compared with data from other bird species to exclude an observer effect. It is possible, after all, that observers venture into higher altitudes today due to the earlier onset of snow melt, thereby distorting the results. In the eastern and southern Alps, the altitude of Rock Ptarmigan observations has increased by 6–9 m per year, and by 2–3 m in the northern Alps. In the western Alps, no increase was detected. Other alpine species have ascended since 1990, though not as markedly as the Rock Ptarmigan. Models predict that with a 4°C temperature rise and simultaneous habitat changes, the Rock Ptarmigan will lose up to two thirds of its habitat in Switzerland. Together with the population decline that has already been observed, these forecasts paint an unsettling picture of the species' long-term chances for survival in the Alps.



In the 18 study years, the Rock Ptarmigan has suffered various degrees of decline, depending on the region. In the northeastern Alps, the population has actually increased slightly.



The Rock Ptarmigan's habitat has an upper limit. In the future, as the treeline ascends due to climate warming and tourism infrastructure such as ski slopes encroaches on the available space, the habitat is expected to shrink, leading to a decline of the species.

References

- Furrer, R. et al. (2016): Variable decline of Alpine Rock Ptarmigan (*Lagopus muta helvetica*) in Switzerland between regions and sites. *J. Ornithol.*, DOI: 10.1007/s10336-016-1324-8.
- Pernollet, C. A., F. Korner-Nievergelt & L. Jenni (2015): Regional changes in the elevational distribution of the Alpine Rock Ptarmigan *Lagopus muta helvetica* in Switzerland. *Ibis* 157: 823–836

Differing trends for Mute Swan, Common Merganser & co.

Mute Swan, Common Merganser, Great Crested Grebe and Common Kingfisher are among those breeding birds that cannot be adequately monitored with the usual mapping surveys and observations recorded on the internet-platform ornitho.ch. Therefore, in 2015, these populations were monitored on all rivers and lakes as part of the field surveys for the new breeding bird atlas. The aim was to arrive at national population estimates.

Originally, the survey was scheduled for mid-May. In some areas, the counts had to be postponed to late May and early July due to the record high water levels on many lakes and rivers. Many waterbird nests were destroyed by the floods. While some species produced a replacement clutch, this was not the case for other species such as the Mute Swan. More than 730 kilometres of river and lake sides were searched by volunteers and ornithology groups.

Mute Swan shows a slight increase

The 2015 estimate for the Mute Swan is 590–720 breeding pairs and an additional 1200 non-breeders. The

breeding bird atlas 1993–1996 gave an estimate of 450–600 pairs; the first count from 1971–1974 lists 500 breeding pairs and about the same number of non-breeders, so the population has only slightly increased compared to the 1970s. The waterbird counts conducted every winter also suggest a small increase.

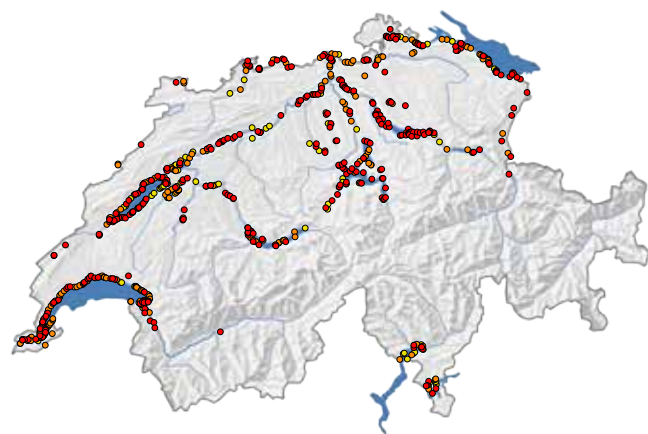
Ups and downs in the Kingfisher population

The presence of the Common Kingfisher is easily missed, especially along rivers that are difficult to access. For this reason, the new estimate includes not only the breeding season observations from 2015, but also those from 2013 and 2014. The result was 320–440 pairs nationwide. The range is larger than the earlier estimate of 300–350 pairs for the 1993–1996 atlas, one reason being that there is only one record in a single breeding season for about a third of the territories. A small number of territories was presumably not discovered. Overall, there appears to be a slight increase, but the Common Kingfisher population fluctuates sharply depending on winter weather conditions. The mild and mostly ice free winters 2013/14

and 2014/15 along with favourable conditions in the breeding seasons resulted in the highest population index since 1990, despite the fact that there must have been some first brood losses caused by the flooding in spring 2015.

Common Merganser population continues to rise

The Common Merganser is mainly found in western Switzerland. Population and range have been increasing since the 1970s, a trend that is confirmed by the new estimates. 590–1070 pairs were counted in 2015. In 1998, the estimates yielded only 490–670 pairs. The population increase has given rise to a wider distribution. Since 1998, the Common Merganser has expanded its range to northeastern Switzerland, and there is now a substantial number breeding on the Reuss, Lake Lucerne, Lake Zurich, Lake Walen and – since 2003 – on the Lake Maggiore in the Ticino. Genetic analyses have detected differences between the alpine population and the northern European population. Switzerland has an important responsibility for the conservation of the alpine population,



Distribution of the Mute Swan in 2015. Each dot refers to a confirmed (red), probable (orange) or possible breeding event (yellow).



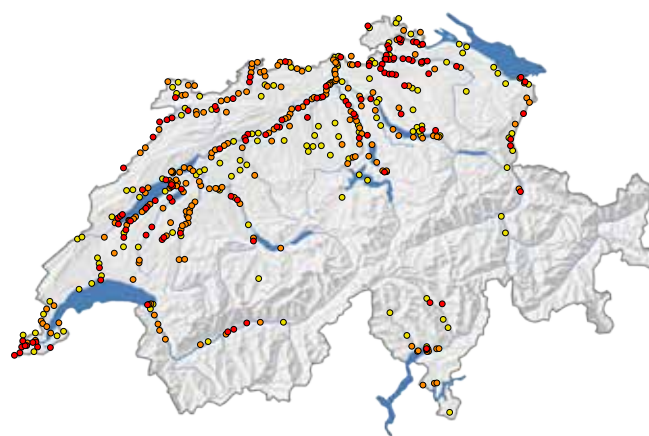
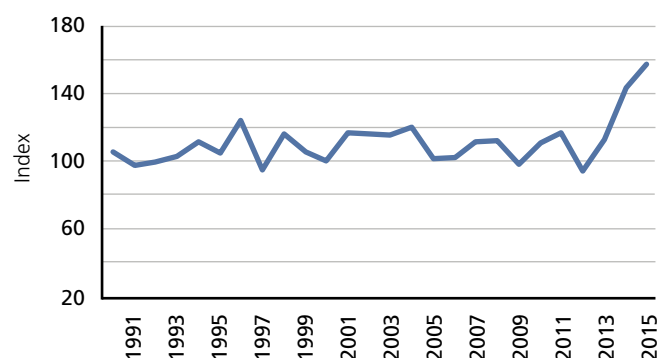
which is concentrated in Switzerland and in Bavaria.

Great Crested Grebe takes a dive

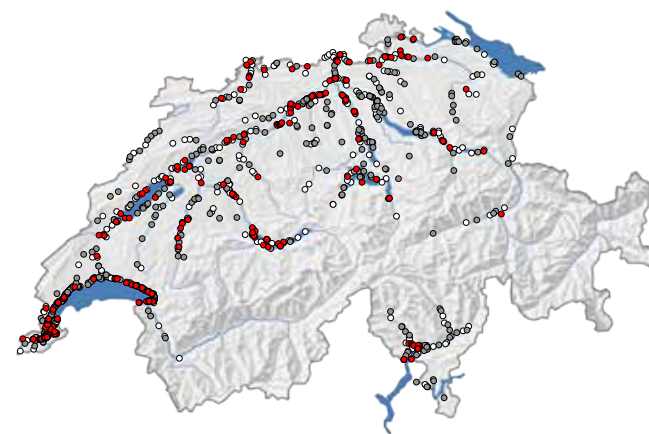
The current Great Crested Grebe population is estimated at 1800–3000 pairs. That is significantly lower

than 1993–1996, when the estimate was 4500–5500 pairs. The decline is particularly visible on Lake Neuchâtel, the most important breeding site in Switzerland. A nest count in the mid-1980s produced an estimate of 1300–1400 breeding pairs. In 2015,

the count was less than half that number, although differing census methods make a direct comparison difficult.



Distribution of the Common Kingfisher 2013–2015. Each dot refers to a confirmed (red), probable (orange) or possible breeding event (yellow).



Distribution of the Common Merganser in 2015. Each red dot refers to a confirmed breeding pair. The dark and light grey dots show the minimum (590) and maximum (1079) estimate of pairs.

Why is the Eurasian Woodcock population declining?

The Eurasian Woodcock is a secretive bird. It is among the least well-known breeding birds in Switzerland. Originally, the Eurasian Woodcock probably inhabited most woodland areas of Switzerland. The population has been decreasing for some time, though – but how marked is this decline in reality?

Focus of atlas surveys

In 2015, a special focus was placed on this species in the surveys for the breeding bird atlas 2013–2016. The Eurasian Woodcock requires special surveys of courting males at dusk. Overall, the volunteers surveyed about 650 sites; in 55 % of the sites, the Eurasian Woodcock did not occur. Since the surveys for the 1972–1976 breeding bird atlas, this species has disappeared from the Central Plateau. It has sharply declined in the eastern Jura, too. In contrast, there were accounts in several atlas squares in the alpine region that had not previously been recorded as occupied. However, this probably means that the species went undetected in these areas in earlier times. Forty years ago, targeted surveys could be conducted only rarely. Because of the large-scale range loss, the Eurasian Woodcock has been classified as vulnerable on the Swiss Red List.

Not enough information for effective conservation

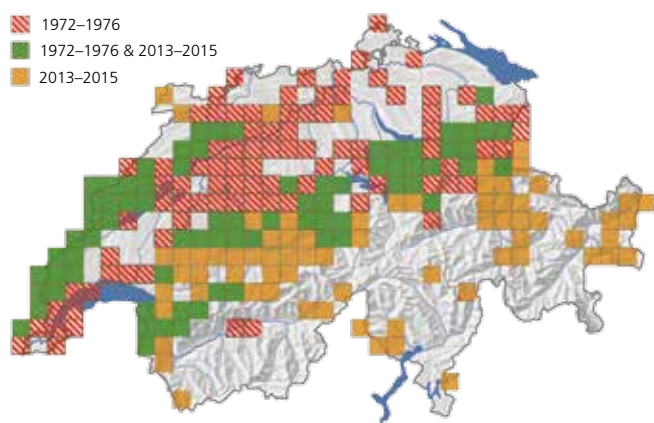
Possible causes of decline are denser forests, increase of disturbances through humans, increase of predators such as fox and wild boar, as well as overhunting. However, a lack of information makes effective protection difficult.

On behalf of the Federal Office for the Environment FOEN and with expert assistance from the Ornithological Institute, the Swiss Centre for the Cartography of Fauna CSCF now aims at improving the scientific knowledge with basic research. A telemetric study intends to investigate habitat use at a local scale, so that forest management can be adapted to the needs of the Eurasian Woodcock. In addition, a survey is investigating whether the shooting of Woodcocks in Switzerland (1000–2500 birds each year) includes local breeding birds, rather than affecting only northeastern European birds on migration. Because the species is widespread, it is not classified internationally as endangered and is hunted extensively in many places (1 million every year in France alone). Meanwhile, it is suspected to be in decline in several countries.

Therefore, we will continue to closely watch this species. Using sound recordings, the Ornithological Institute is investigating whether it is possible to identify individual birds. Once the atlas surveys are finished, we plan to establish a national monitoring programme for the Eurasian Woodcock. And last but not least: All these efforts will hopefully lead to an improvement of the living conditions of this secretive woodland dweller.

References

- Sattler, T. & N. Strebel (in press): Verbreitung der Waldschnepfe in der Schweiz und Entdeckungswahrscheinlichkeit bei Abenderhebungen. Bericht zuhanden der wissenschaftlichen Kommission des BAFU-Programms Waldschnepfe.
- Mollet, P. (2015): Die Waldschnepfe (*Scolopax rusticola*) in der Schweiz – Synthese 2014. Schweizerische Vogelwarte, Sempach.



For the 2013–2015 period, the Eurasian Woodcock was confirmed in 86 atlas squares that were also occupied in the 1972–1976 atlas; it was missing in 80 squares, mainly in the Central Plateau, and was observed for the first time in 76 squares, predominantly in the Alps. It is unlikely that the population has increased in the Alps; the species probably went undetected in the 1970s.



Today, the Eurasian Woodcock only occurs in structurally rich forests at medium and high altitudes. A survey conducted by the Federal Office for the Environment is now investigating what kind of resources are particularly important for the Eurasian Woodcock. In the future, forest management projects will be tailored to provide specific support and protection for the species.

Not much is known about the Eurasian Woodcock's way of life. The secretive birds are easy to observe only during their courtship display flights.





The Wood Sandpiper breeds in the forests of northern Eurasia. It regularly passes through Switzerland on its spring and autumn migration.

An update on migrant birds

The migration season attracts a particularly large number of field ornithologists. Their favourite places to watch migrating birds are in low-lying areas and close to water. Here, the diversity of resting or actively migrating birds tends to be highest. The results of these opportunistic observations are therefore valid mainly for the Central Plateau.

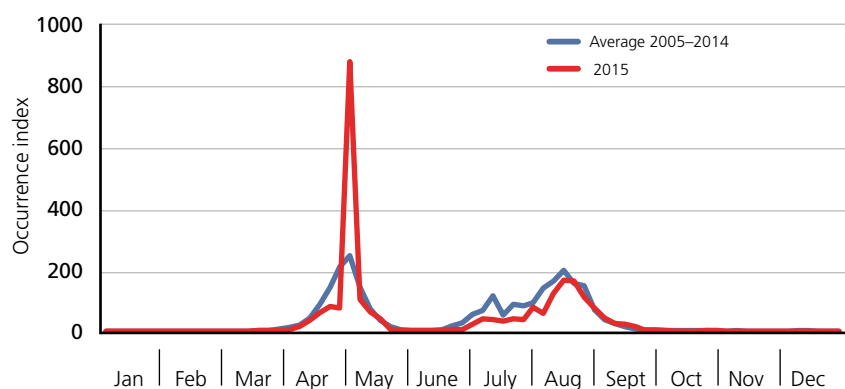
Spring migration brings new records

Although the Common Crane's spring migration was slightly less intense than last year's autumn migration, the trend of above-average numbers that started in 2011 continued. In all likelihood, the large numbers are the result of a new flyway that has formed in recent years in the direction of Camargue, where more and more Cranes spend the winter (currently about 10 000 birds). Consequently, the occurrence index for Switzerland in spring 2015 was five times the average for the preceding ten-year period. Crane migration peaked in March, following the southern flanks of the

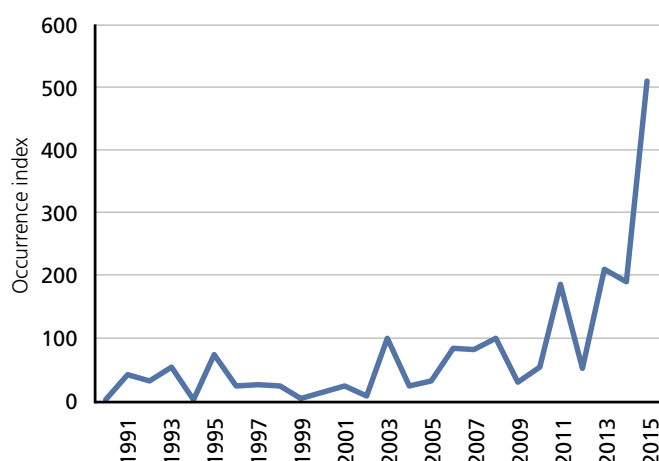
Jura mountains on a line extending from Geneva to Schaffhausen.

Spring 2015 saw heavy and continuous rainfall, especially in early May. Many migrating birds were forced to interrupt their journey, resting temporarily in flooded areas. The Wood Sandpiper was particularly affected, as the peak of its homeward journey coincided with the rainy period. We received an unprecedented number of observations of this species from the flooded fields of

the Seeland (the area between Lakes Biel, Neuchâtel and Morat), the Rhone Valley above the Rhone's entry into Lake Geneva, and the Magadino Plain. The maximum number of 240 birds was recorded on 3 May in the Seeland (J. Mazenauer). During the same period, Wood Sandpipers were also stopping over in the Alps: On 1 May, a group of at least 50 birds was sighted in Obergoms at an altitude of 1340 m (U. Marti). Other species, mainly passerines like Whinchat,



Occurrence of the Wood Sandpiper in 2015 (red) compared to the average for the years 2005–2014 (blue).



The intensity of the return migration of Common Cranes (observation period: 2 March to 3 August) has been increasing for several years and reached a new peak in 2015.

Northern Wheatear and several warblers, were held up during this period, too.

Delayed autumn migration

Overall, autumn migration of raptors was within the normal range; the numbers of migrating waders, in contrast, was significantly smaller than usual. Other species were recorded in unusually high numbers and comparatively late in the season. According to its occurrence index, the Black Tern's autumn migration was twice as heavy as the preceding ten-year average, and the heaviest since 1999. Moreover, migration reached its peak two weeks later than usual. The European Bee Eater's index of occurrence in autumn was even four times the ten-year average. Its migration peaked late, too, not until the second half of

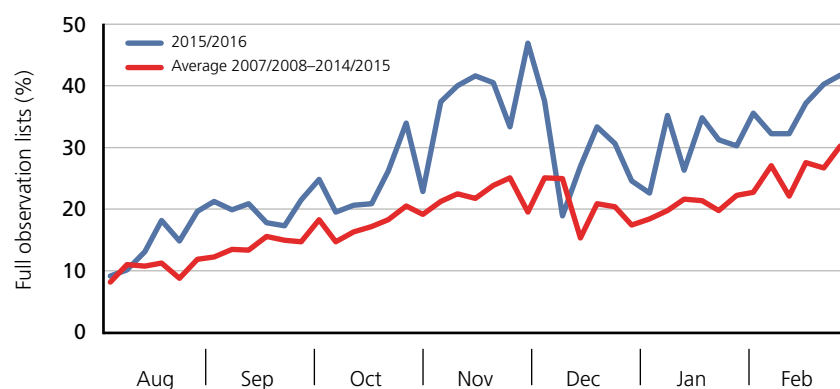
September; late migrants were observed through mid-October. Heavier migration is probably due to increasing breeding populations of European Bee Eaters in areas north of Switzerland. According to the current breeding bird atlas, 750–800 pairs currently breed in Germany!

Several passerine species were reported more frequently than in the past years, including Red-throated Pipit, Icterine Warbler and Eurasian Golden Oriole. For the second year in a row, October saw an invasion of Blue Tits. The maximum daily counts suggest that migration was even heavier than 2014: 10 000 birds were recorded on 8 October at Wasserscheide/Gurnigel (M. Camici, J. Hostettler, H.-U. Grüter, M. Mosimann), and 8000 on 12 October on Col de Bretolet (M. Hammel). Various authors believe that

such massive movements of birds occur when population density has increased after mild winters and years of high breeding success. From the end of October 2015, there were increasing reports of Long-tailed Tit sightings. In autumn and winter, this species appeared on full observation lists more frequently than usual, most particularly in November, when it occurred on 40 % of the lists. In comparison, the average frequency in 2007–2014 was only 22 %. Occasionally, Long-tailed Tits from the north, featuring a pure white head or only very faint dark marks at the sides of the head, were sighted in the flocks.

Further information:

www.vogelwarte.ch/state/migration



In autumn 2015 and winter 2015/16, the Long-tailed Tit appeared on full observation lists with above-average frequency, especially between late October and early December.

Expected and unexpected visitors

In the past decade, 16 bird species have been detected in Switzerland for the first time. This value is slightly higher than the average for the previous 20 years (13 species per decade), no doubt because a larger number of rare species are being discovered thanks to the growing number of birdwatchers. To be accepted by the ornithological community, sightings must be documented so accurately that the bird's identity is beyond question. Some first sightings are unsurprising, for example because the species has already been observed in a neighbouring country, while others are completely unexpected. In 2015,

the two species pictured below were sighted in Switzerland for the first time.

From 13 December, a Pacific Loon could be observed on Lake Silvaplana (Canton of Grisons) at 1790 m of altitude, causing an absolute sensation (J. Cambensy, N. P. Amitzboell et al.) and attracting visitors from all over Switzerland and from abroad to the Upper Engadine. The species, which normally winters on the Pacific coast, was first reported in Europe in 2007 in the UK. Since then, only few reports have followed, most of them also from the British Isles. Unfortunately, the bird in the Upper Engadine was found dead

on 26 December. A DNA-analysis confirmed that it was in fact a Pacific Loon.

From 27 to 29 December, L. Pagano and other field ornithologists from the Ticino observed first one, then two Hume's Leaf Warblers in Bolle di Magadino (Ticino). In western Europe, this Asian species is recorded more rarely than the Yellow-browed Warbler, though it does occur regularly in very small numbers. One was seen in winter 2002/03 on the German side of Lake Constance. Unlike the Pacific Loon, the first report of Hume's Leaf Warbler in Switzerland was therefore not entirely unexpected.

References

Martinez, N. & L. Maumary (in Vorb.): Oiseaux rares et observations inhabituelles en Suisse en 2015. 25^e rapport de la Commission de l'avifaune suisse. Nos Oiseaux 63.
Volet, B. (2016): Liste der Vogelarten der Schweiz/Liste des oiseaux de la Suisse/Elenco degli uccelli della Svizzera/Checklist of the birds of Switzerland. Ornithol. Beob. 113: 205–234.

Further information:

www.vogelwarte.ch/sak



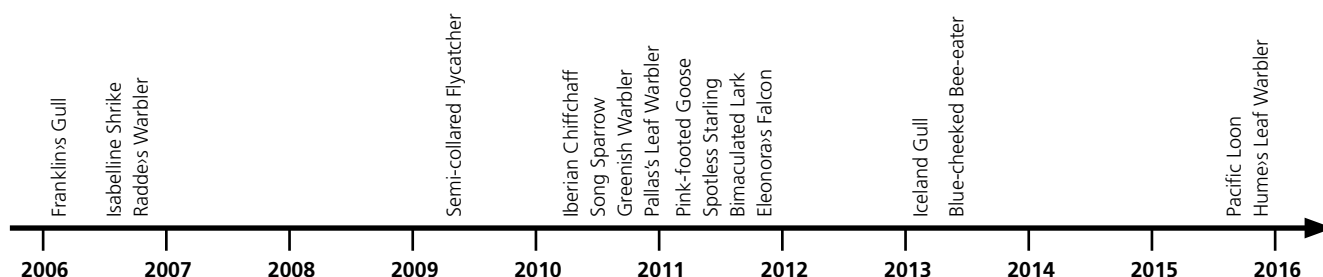
The Pacific Loon looks a lot like the Black-throated Loon. It is slightly smaller and can be distinguished from its twin mainly by its lack of a white flank patch.



Hume's Leaf Warbler closely resembles the Yellow-browed Warbler. It can be identified by its duller plumage, darker beak and legs, and especially its call.

Swiss Rarities Committee

The Swiss Rarities Committee (Swiss RC) is a coalition of independent experts who verify whether unusual bird observations are sufficiently documented to be cited in scientific literature. The committee also ensures that new species are added to the list of birds of Switzerland and taxonomic revisions are made. The status of all species is updated every five years; the list of birds of Switzerland is published every ten years.



The 16 species first sighted in Switzerland in the past decade. A total of 412 species now make up the list of birds of Switzerland.



In 1982, the Reuss was forced into a tight canal at its delta. Since then, a diverse landscape has been re-created. While the three Neptune islands (top left) are left to the devices of flora and fauna and untouched by humans, the three Lorelei islands (slightly left of centre) are open to bathers.

A quarter century of success control in the Reuss delta

The Reuss delta in the Canton of Uri is once again a magnificent river delta landscape. This was not always the case. Up until 1989, the Reuss was forced into a tight riverbed. The banks suffered from erosion due to intensive gravel extraction, and shallow water zones had more or less disappeared. Since then, thanks to a less intrusive gravel extraction process and revitalisation measures, a natural, diverse river and delta landscape has emerged. The Ornithological Institute became involved early on in the process and has now documented the developments of the past several years in an extensive report, with the help of local volunteers.

In total, 244 bird species have been observed in the Reuss delta since 1945. 100 of them occur regularly, 49 species occur irregularly, and 95 are rare or only occur exceptionally. In the breeding population surveys conducted annually since 1991, 62 species have been identified so far as actual or potential breeders. 35 species nest every year, such as Red-crested Pochard, Tufted Duck and Little Ringed Plover.

The building of the new Neptune islands in 2002 was monitored

particularly closely. The gravel patches, initially with no vegetation, are 80 ares large; the surrounding shallow water area measures 12.5 hectares. 2.5 million tons of excavated rock, mainly from the Gotthard base tunnel, were deposited here. Little Ringed Plovers immediately settled on the new gravel islands. Yellow-legged Gulls, too, were quick to occupy the islands. Approximately 100 pairs breed there today. The shallow water zones proved to be particularly attractive for the Little Grebe. Among the 87 visiting bird species recorded in this area are several rare species, like Greater White-fronted Goose, Long-tailed Duck, Black-throated Loon, Ruddy

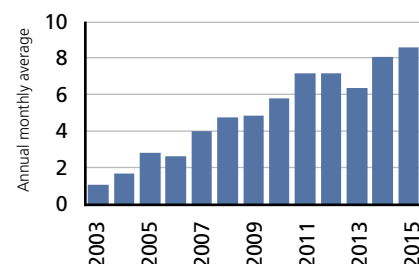
Turnstone and Audouin's Gull. In contrast, the number of resting waders – only 9 species – did not meet expectations. This is probably because migration is diverted along the Prealps, so the area is relatively isolated. Still, the Reuss delta is an excellent example of how a unique living space and recreation area can be created for nature and for humans.

Reference

Schmid, H., C. Müller & B. Volet (2016): Die Entwicklung der Vogelwelt im Urner Reussdelta. Schweizerische Vogelwarte, Sempach.



The Little Grebe benefitted most from the creation of shallow water zones in the western part of the area (Neptune islands). Defying the national trend, this species has increased here as a visiting bird and as a breeder.





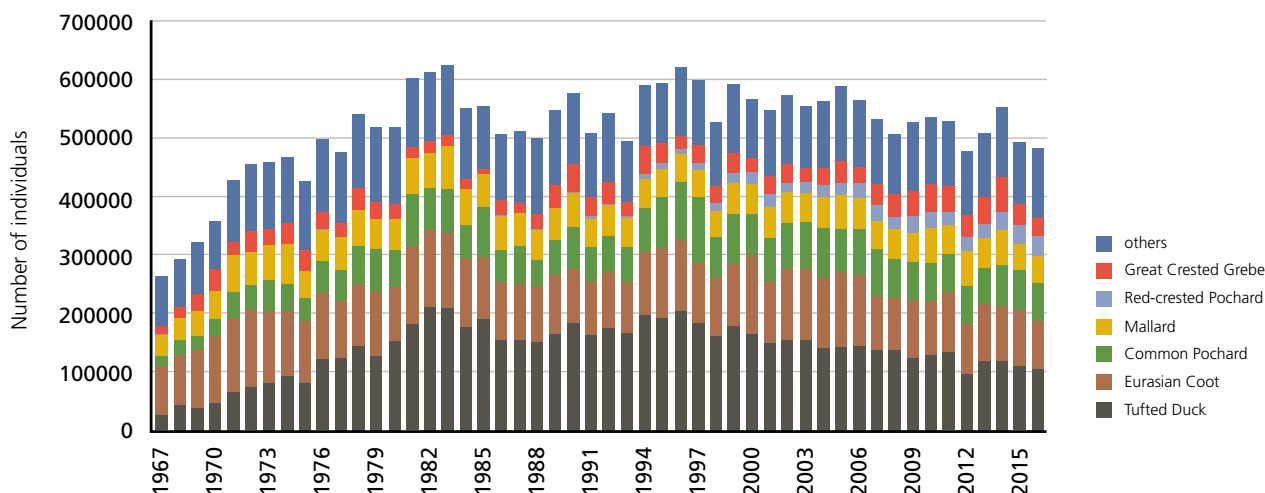
In the past winters, fewer Tufted Ducks have migrated to Swiss lakes and rivers.

Mild winter, fewer waterbirds

Switzerland experienced a very dry autumn in 2015 and a mild winter 2015/16. The overall population of wintering waterbirds in Switzerland, including the German and French parts of Lake Constance and Lake Geneva,

was relatively low. In November, about 466 000 birds were counted, which is below the average of the past 10 years. The January total of 483 000 birds was the second lowest count in the last 25 years. The low counts are a result of

the continuous decline of Tufted Duck, Common Pochard and Eurasian Coot. Mild winters cause these species to winter further north. Thus, the importance of Switzerland as a wintering ground has slightly decreased.



January population of waterbirds in Switzerland (including the French and German parts of Lake Geneva and Lake Constance), broken down into six common species and all other species. Winter populations have been systematically counted in Switzerland since 1967.

Europe-wide decline of Eurasian Coot and Common Pochard

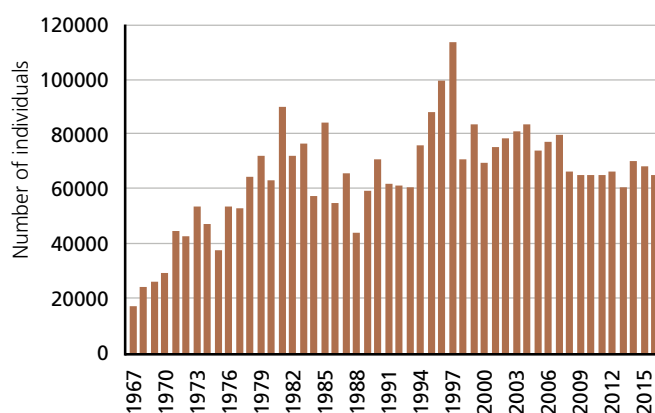
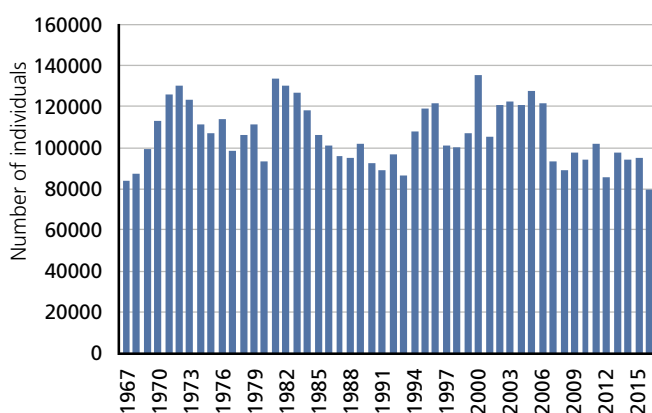
In the case of Eurasian Coot and Common Pochard, there is at least one other cause: Their populations are declining across Europe. The decline of the northern European wintering population by about 40 % from 2000–2012 resulted in the Common Pochard being classified as vulnerable on the European and global red lists. In the same period, the northwestern European population of Eurasian Coots suffered a decline of about 10 %. Both species are still among our most common winter visitors, and Switzerland has an international responsibility to protect them.

To learn more about the population structure of the Common Pochard in Europe, the international waterbird census 2016 charted the gender ratio. Three quarters of the wintering birds

in Switzerland were males. In Germany, the gender ratio was similar, with males accounting for 72 %. Earlier surveys had already detected a marked north-south gradient: While the percentage of males ranged from 66–75 % in Denmark and England, the Mediterranean showed a balanced ratio of 50 %. Males are considered sturdier and at an advantage over females when it comes to foraging. This allows them to winter further north, closer to their breeding grounds. The severe hunting pressure in France and in the Mediterranean therefore affects females more strongly.

The decline of these two species is attributed, among other reasons, to the destruction of suitable breeding habitats and the eutrophication that continues in certain parts of Europe. A more recent problem are invasive predators such as mink, raccoon and

raccoon dog. As nest robbers, they reduce breeding success, in some places massively. The Common Pochard was affected by two further changes. In the past, it benefitted from the fish ponds that were common in many European countries. But in recent years, fish stocks have been increased in many ponds, leading to greater competition for food, while other ponds have been abandoned. Finally, it is possible that the widespread decline of the Common Black-headed Gull has a negative impact on breeding success: The Common Pochard likes to breed in Black-headed Gull colonies, because the gulls defend their colonies against predators. Due to the decline of the Black-headed Gulls as a breeding species, this protection diminishes, too.



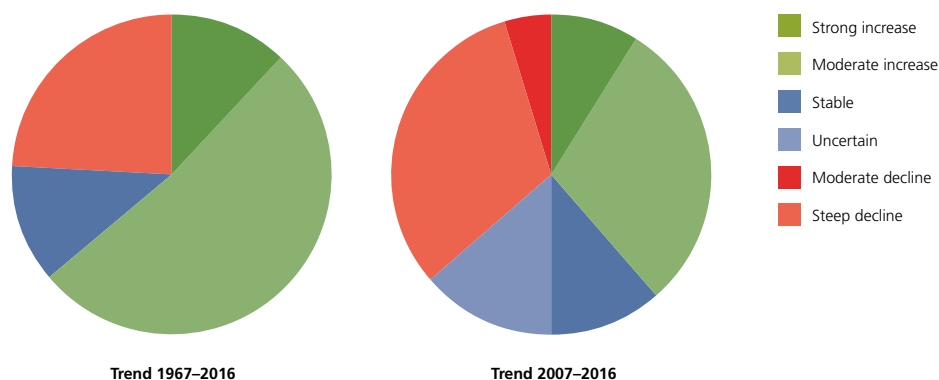
Trends in the January populations of Eurasian Coot and Common Pochard in Switzerland. Both species benefitted from the spread of the zebra mussel starting in the 1960s. Since the turn of the millennium, both species have shown signs of decline.

Wintering waterbirds

January 2016 population in Switzerland (including the German and French parts of Lake Constance and Lake Geneva), and long- and short-term trends (percentage change). No trend means that no statistically significant change was detected during the survey period; this is the case when populations are stable, but also when they fluctuate widely.

Species	Individuals Jan 2016	% Trend 1967–2016	% Trend 2007–2016
Mute Swan	6623	60	23
Tundra Swan	19		136
Whooper Swan	819	>1000	37
Bean Goose	2	–56	–95
Gr. White-fronted Goose	0		
Greylag Goose	1673		116
Canada Goose	6		
Barnacle Goose	6		
Egyptian Goose	50		
Ruddy Shelduck	1251		545
Common Shelduck	70		–18
Mandarin Duck	57		–49
Eurasian Wigeon	1658	>1000	–22
Gadwall	12756	>1000	–13
Eurasian Teal	8909	28	–29
Mallard	45680	–13	–4
Northern Pintail	896	694	–26
Garganey	0		
Northern Shoveler	1118	>1000	86
Red-crested Pochard	34858		35
Common Pochard	65086	103	–9
Ferruginous Duck	62	450	99
Tufted Duck	104977	79	–25
Greater Scaup	31	–20	–47
Common Eider	45	–55	7
Long-tailed Duck	0		
Black Scoter	1		
Velvet Scoter	1		–93
Common Goldeneye	4178	–19	–42
Smew	14	–46	–29

Species	Individuals Jan 2016	% Trend 1967–2016	% Trend 2007–2016
Red-breasted Merganser	49	583	–34
Common Merganser	4971	259	2
Red-throated Loon	3		–70
Black-throated Loon	26	>1000	–51
Great Northern Loon	4		0
Little Grebe	3377	–49	15
Great Crested Grebe	31651	72	0
Red-necked Grebe	2	–35	–72
Horned Grebe	17		41
Black-necked Grebe	5119		30
Great Cormorant	5625	>1000	–7
Eurasian Bittern	4		–58
Great Egret	410		158
Grey Heron	1954	117	22
Common Moorhen	795		8
Eurasian Coot	81917	–21	–8
Common Snipe	241		99
Eurasian Curlew	1231		67
Common Sandpiper	51		–23
Mediterranean Gull	3		
Com. Black-headed Gull	44607		
Mew Gull	1604		
Lesser Black-backed Gull	13		
Herring Gull	14		
Yellow-legged Gull	3487		
Caspian Gull	115		
Little Gull	43		
Common Kingfisher	369		91
Grey Wagtail	792		15
White-throated Dipper	987		20



The first nationwide waterbird census was conducted in 1967. The wintering populations of many species are higher today than they were then. Looking only at the past ten years, the number of species with increasing and declining populations is about the same.

Further information:

www.vogelwarte.ch/state/winter



After a steep decline, the wintering population of the Common Black-headed Gull has stabilised at a lower level. In January 2016, about 43 000 individuals were counted.



Aleksandra Rijnakovic and Jean-Luc Ferrière conducting fieldwork. The Ornithological Institute's volunteers from western Switzerland organised a trip to eastern Serbia in 2016; they hope to make a second trip with volunteers from Switzerland in 2017.

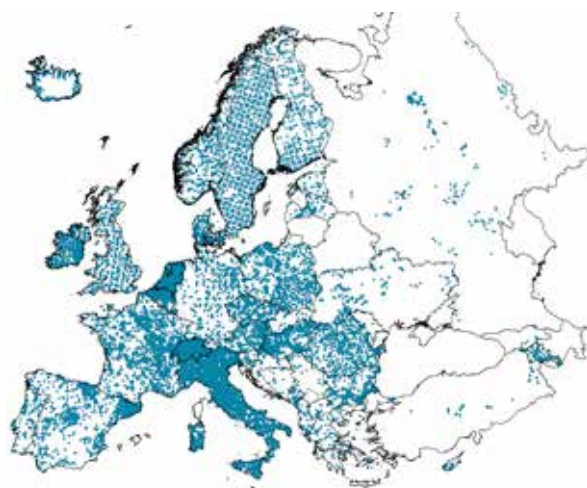
EBBA2 making progress

The European breeding bird atlas is in the middle of the fieldwork phase. In 2015, the project received a generous contribution from the MAVA foundation, which is being used mainly to support fieldwork and project co-ordination in eastern and southeastern Europe. Thanks to this support, we have been able to intensify work on the atlas. Achieving good coverage across Europe, however, will still take a lot of effort.

Apart from presenting results in 50 × 50 km grid maps, we also want to show data on distribution maps with higher resolution. To do this, we need standardised methods of data collection like those already being used in many countries in breeding bird monitoring programmes. All national coordinators were asked to provide an initial data set. In total, more than 100 000 observation lists were submitted. These are now being

analysed by the Ornithological Institute, among others.

In some countries of eastern and southeastern Europe, the use of full observation lists is not yet widespread practice. These countries need more support to be able to close the gaps. Many national coordinators have marked priority squares on the on-line maps. Ornithologists from western Europe have visited southeastern Europe and Russia to collect data for EBBA2. 2017, after completion of the Swiss breeding bird atlas, would be a good year for Swiss volunteers to undertake similar «atlas expeditions». Data collection methods vary slightly in different countries, so it makes sense to contact national or European coordinators beforehand. But even unsystematic observations made on a recent holiday are valuable. They can be recorded using the «Natura-List» app.



On standardised field surveys, the fieldworkers generally take one to two hours to record all breeding bird species. These species lists are then used to model the distribution of each species. The data from the pilot surveys show that there are still many gaps, especially in eastern Europe.

Further information:

www.ebba2.info



EuroBirdPortal reaches its first milestone

The challenges are huge, but the first steps have been taken: In June 2015, the EuroBirdPortal's so-called demo viewer was brought online and made available to the public. The demo viewer integrates observations recorded on different national platforms on a single internet site. Dynamic maps display the seasonal distribution of currently 50 species from Sicily to the North Cape and from the Atlantic coast to eastern Europe. So far, data are available for the years 2010 to 2014. The goal for the final version is to assemble data during the night from as many national portals as possible and to recalculate the maps for all European bird species. This will result in an internet site that is always up-to-date and that can be used to track migrations, detect areas affected by invasions, map the main migratory flyways and wintering grounds for a certain species, monitor individual late migrants, or view deviations from the normal «arrival schedule» of migrants. The long-term goal, therefore, is to create a new central information platform for Europe where users can access an overview of activities across the

continent and place their observations in a Europe-wide context.

Just as important, however, is establishing a database that will open up a range of new possibilities for research and applied uses. For instance, the data could be relevant for air traffic safety or the operation of wind farms. The headquarters at the Institut Català d'Ornitologia (ICO) in Barcelona do not simply amass large amounts of raw data, but collect so-called aggregated data. This means that only a single record per day and species is supplied per 10 × 10 km square. This is sufficient for resolution at a European level, and ensures that no personalised observations are passed on.

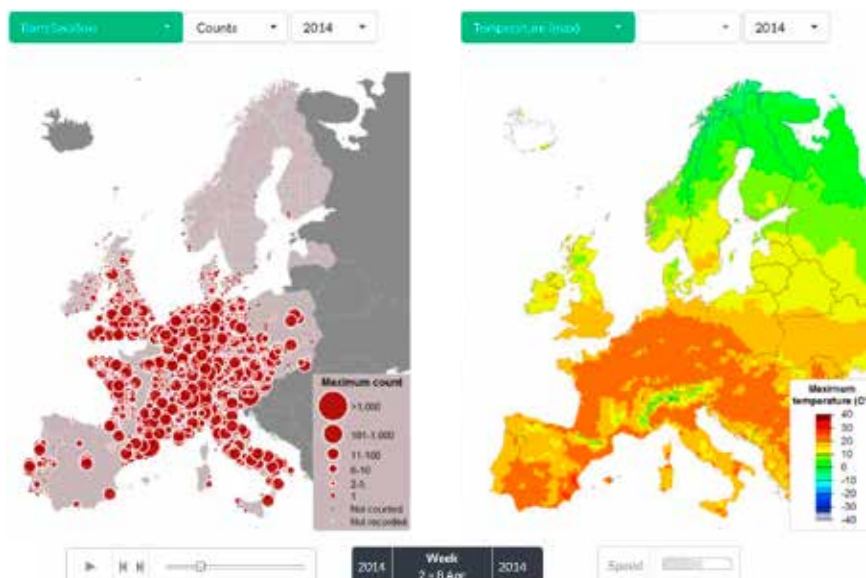
EBP becomes LIFE

Joining such large amounts of data and analysing them in near real time requires a huge effort, since data originate from different coordinate systems, observation grids of differing density, and various methodical approaches; they have different data formats and use different taxonomies. In addition, as always with projects of this scale, there is the question of

financial resources. Fortunately, the LIFE project successfully applied for EU funding, which covers 60 % of the total project costs of about 500 000 Euros. The remaining sum is provided by the six lead organisations (see box), including contributions from their own accounts. It was a financial contribution from the Ornithological Institute that made the launch of the scheme possible in the first place. The LIFE project will be completed by the end of 2018, when the website will hopefully be fully developed.

Further information:

www.eurobirdportal.org



Arrival of the Barn Swallow in early April 2014 (left) in direct comparison with the temperature profile (right).

EuroBirdPortal – an international coalition

After launching the demo viewer, the successful collaboration between more than 50 regional, national and international partners is being continued in the form of the EU-funded LIFE project. Along with the Swiss Ornithological Institute, leading organisations include the corresponding institutions in the UK, the Netherlands and Catalonia, i.e. BTO, SOVON and ICO, as well as NATAGORA, a nature conservation group in Belgium, and CTFC, the institute for forest research in Catalonia. The project is run under the aegis of the European Bird Census Council (EBCC).

MHB – a goldmine for statisticians

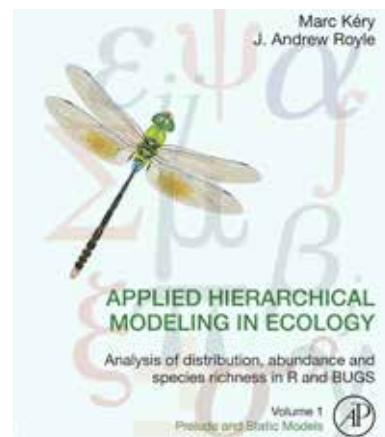
Survey work in the field has changed dramatically in the past decades: While fieldworkers used to fill in index cards and analyse mappings on paper, records are now entered online on ornitho.ch using the «NaturaList» app, or in the case of mappings, «Terrimap online». Data volume has increased, but individual records have also become more detailed. Data provided by members of monitoring projects like «Monitoring Common Breeding Birds (MHB)» is particularly valuable, mainly because observation effort is known and there are repeated survey visits. This results in a greater number of more sophisticated possibilities to calculate distribution, density and abundance, measures that are central to ornithology and nature conservation.

Every field ornithologist knows that some birds are overlooked. For example, it is rarely possible on a single visit to record a species in every territory in which the species actually occurs. Survey results are therefore almost always lower than the actual population number. Where there are repeated observations, it becomes possible to calculate the «quality» of

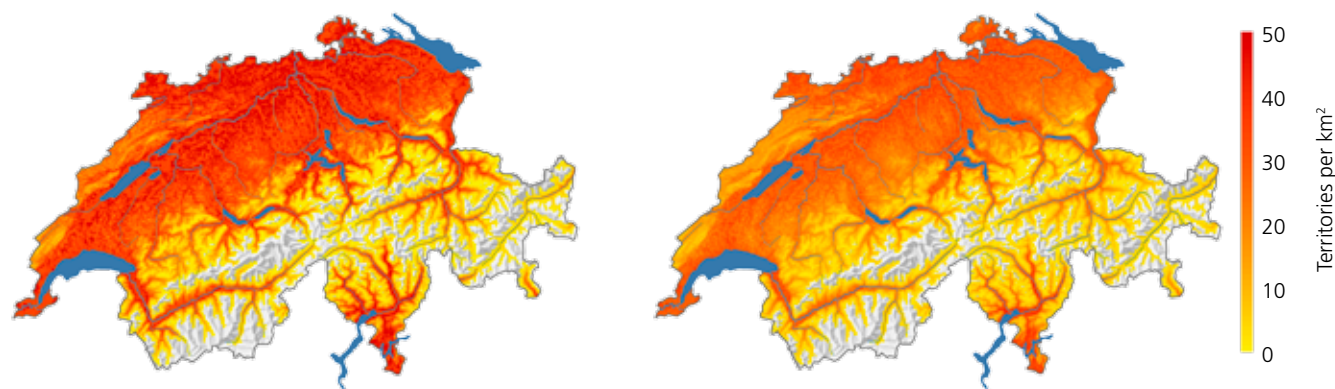
a survey, that is detection probability. Detection probability is the likelihood of observing a species during a certain period or on a certain route. The American statistician Andy Royle and Marc Kéry from the Ornithological Institute have made important contributions to this area of ecological statistics using MHB data. They have recently published the first of two volumes of a textbook (the second volume is due in 2017). On 808 pages, they introduce hierarchical statistical models for calculating abundance and distribution. These models dissect a complicated statistical model into a series of sub-models, making it easier to understand complex relationships. Detection probability can be included in various ways, resulting in corrected values for distribution and abundance.

Reference

Kéry, M. & J. A. Royle (2016): Applied hierarchical modeling in ecology: Analysis of distribution, abundance and species richness in R and BUGS. Vol. 1, Prelude and static models. Academic Press, Amsterdam.



The cover of the new statistics textbook for analysing monitoring data. The Ornithological Institute played a major part in developing the book.



Density map of Great Tit based on MHB data from 2013, calculated using a hierarchical model that takes into account the probability of detection in the field (left). The traditional density map (right) underestimates the greatest densities and thus the overall Swiss population by about 25%.



Conspicuous in flight – but perfectly camouflaged against the rock: detection probability for the Wallcreeper is a low 20%.

We thank all our partners for their support!

This report is based mainly on data collected in the field by the Ornithological Institute's volunteers in the various monitoring programmes. A huge thank you goes to them for their enormous effort and tireless commitment. Without their continuing support it would be impossible to conduct annual surveys or to produce a seminal work like the new breeding bird atlas 2013–2016.

In addition, some of the data were collected by other institutions and made available to the Swiss Ornithological Institute. For example, BirdLife Switzerland and Orniplan assembles survey data from regional partners on Corn Crake, Northern Lapwing and Little Owl. The society for storks in Switzerland (Storch Schweiz) makes sure that every White Stork pair is accounted for and that the chicks are ringed. The foundation «Pro Bartgeier» tracks the reintroduction and breeding success of the Bearded Vulture in the Swiss Alps. We thank all of these partners for their contributions and the excellent collaboration.

Surveying birds in the Alps often involves long and arduous treks. But the hard effort is often doubly rewarded. Birdwatching at sunrise against a backdrop of mountains is stunning. And it is



Field surveys begin in the Alps when the ground is still covered with snow. The photo shows Renato Roganti, game warden for the Canton of Grisons and volunteer. He makes sure that the Bergell, an interesting ornithological location, is well surveyed.

at this time of day that chances are best to spot one of those reclusive mountain residents you do not normally see. A lot of these data are particularly valuable because Switzerland has a special responsibility for several of these species. For some surveys we rely on effective collaboration with the cantonal hunting administration and game wardens. The Rock Ptarmigan and Black Grouse counts, for instance, are conducted by game wardens and hunters;

they are coordinated by the environmental agency KBP GmbH on behalf of the Federal Office for the Environment FOEN, in the Canton of Grisons by the local hunting and fishing agency. A big thank you to all of these partners, too!



Even certain widespread species need special monitoring schemes, like the Tawny Owl. To date, field observations of this nocturnal bird are not systematically recorded. Ringers supply the Swiss Ornithological Institute's central ringing station with valuable data that are used to calculate the species index for the Tawny Owl. Without these data (in 2015, 961 boxes were checked and 332 broods registered), it would hardly be possible for us to monitor this species. Many thanks to the ringers and their helpers for their continued commitment!



In 2015, ten Red-spotted Bluethroat territories were found – more than ever before. In Switzerland, this species occurs mainly in wet and structurally rich dwarf shrub heaths and tall forb meadows above 1800m.

Imprint

Authors

Thomas Sattler, Peter Knaus, Hans Schmid, Bernard Volet

Contributors

Sylvain Antoniazza, Marcel Burkhardt, Jérôme Guélat, Dominik Hagist, Isabelle Henry, Lukas Jenni, Isabelle Kaiser, Verena Keller, Marc Kéry, Matthias Kestenholtz, Tabea Kölliker, Fränzi Korner-Nievergelt, Claudia Müller, Bertrand Posse, Christian Rogenmoser, Martin Spiess, Nicolas Strebel, Samuel Wechsler

Translation

Stephanie Morris

Images

R. Aeschlimann (2 × Ring Ouzel, Water Pipit), M. Bally (Wallcreeper), M. Böni-Bänziger (Common Kingfisher), O. Born (Rock Ptarmigan), M. Burkhardt (Bearded Vulture, Common Kingfisher, Wood Sandpiper, White-winged Snowfinch, European Robin, Bearded Vulture and Golden Eagle), P. Donini (Tawny Owl, Bluethroat), M. Gerber (Citril Finch), H. U. Grütter-Wüthrich (Common Merganser), P. Hildebrandt (Mute Swan), D. Jenny (R. Roganti), T. Jonas (Pacific Loon), V. Keller (ornithologists), J. Landolt (Wood Sandpiper), F. Leugger (Spotted Nutcracker), G. Marcolli (Hume's Leaf Warbler), L. Maumary (Greenish Warbler), P. Mollet (Eurasian Woodcock habitat), P. Mosimann-Kampe (flooded Heideweg), H. u. A. Mumenthaler-Niederer (Eurasian Coot), J. Niemi (Tufted Duck), Andrew Parkinson / NaturePL (Common Black-headed Gull), R. Ricci (Golden Eagle), K. Robin (eye of Bearded Vulture), B. Rüegger (Eurasian Crag Martin), T. Sattler (Heideweg), M. Schäf (Common Reed Bunting, Common Pochard, Dunnock, Firecrest, Alpine Accentor, Eurasian Skylark, Common Crane, Long-tailed Tit, Common Pochard), H. Schmid (Reuss delta), J. Schwarz (Little Grebe), S. Schweizer (Great Crested Grebe, European Greenfinch), J.-L. Zimmermann (Eurasian Woodcock). Copyright background maps: Institute of Cartography and Geoinformation ETH Zurich. All other images: archive Swiss Ornithological Institute.

ISSN

2297-5691 (electronic resource: 2297-5705)

Recommended citation

Sattler, T., P. Knaus, H. Schmid & B. Volet (2016): The State of Birds in Switzerland. Report 2016. Swiss Ornithological Institute, Sempach.

PDF-Download

www.vogelwarte.ch/state



Schweizerische Vogelwarte
Station ornithologique suisse
Stazione ornitologica svizzera
Staziun ornitologica svizra

CH-6204 Sempach