

# Science for Environment Policy

## Older and larger trees enhance woodland bird biodiversity in cities

**Managing urban green** spaces to ensure that they have a good mix of tree species, including some older and larger trees, can enhance species diversity of woodland birds, a new study has shown. The study, carried out in Prague, Czech Republic, also showed that the presence of water bodies increased the number of species of woodland birds.

**Urban green spaces** provide numerous important ecosystem services. Not only can they enhance human health and well-being and alleviate city heat waves, they also provide habitat for a range of [wildlife](#). As people continue to migrate from rural areas into the cities and urban sprawl extends into natural habitats, the careful management of these areas becomes increasingly important.

In this study researchers set out to identify factors that enhance the diversity of woodland bird species in urban [green spaces](#). They surveyed 290 green spaces around the city of Prague, Czech Republic, counting the number of woodland bird species they saw over three visits to the sites. They also recorded a number of habitat characteristics such as the trunk diameter of the trees (an indication of age), number of tree species, density of shrubs and whether there was a water body at the site.

The results showed that the number of woodland bird species increased with the number of tree species. This may reflect the fact that different tree species provide different types of nesting and foraging opportunities, say the researchers. On average, the sites contained just over 12 species, with a minimum of 3 and a maximum of 19.

Bird species richness also increased with the presence of older trees. Coverage of just 12% of the area by trees that had a trunk diameter of 50 cm or more increased the number of bird species by an average of two. In other words, say the researchers, even a very few old trees can enhance biodiversity of birds in urban green spaces. This effect might be because older trees provide holes for species such as woodpeckers to nest in; they may also harbour more insects for foraging.

The results also reveal that the presence of water bodies such as small ponds, rivers or streams increased the number of species of woodland birds, on average, by two. This is somewhat surprising, say the researchers, as they did not include any wetland birds in their counts. This might reflect the fact that riverside areas provide a greater diversity of foraging habitats.

Finally, the researchers investigated the effects of the surrounding habitats, within 500 m of the study sites. This showed that bird diversity at the sites increased with the amount of continuous tree cover nearby and also with the scattered trees that are found in residential areas of the city.

Overall, the researchers recommend that urban green spaces should be managed to ensure a range of tree species and that the greater value of older, larger trees and water bodies should also be taken into account.



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