

Science for Environment Policy

Protected birds threatened by poisoned prey

Rodents poisoned by pest control substances may pose a threat to protected birds if the carcasses are not removed quickly enough. A new study found that dead water voles on farmland were scavenged rapidly by red kites and buzzards, suggesting that regular removal is needed to reduce poisoning risks.

Chemical poisons are often used to control rodent populations on farms, where the animals destroy crops, eat livestock feed and can transmit disease. However, rodenticides may also put other species at risk. Studies in France¹ and Spain² have shown that anticoagulant rodenticides contribute to the deaths of a variety of small mammals and birds. The poisons accumulate up the food chain, so for animals that prey on or scavenge rodents this repeated exposure may be fatal.

The authors of the study focused on scavenging of poisoned water voles (*Arvicola terrestris*), burrowing rodents that are treated as pests in France and other parts of Northern Europe³. After poisoning, some water voles will die above ground, accessible to birds and other scavengers.

To explore the risk of secondary exposures for these predators, the researchers investigated how long the carcasses remained on the ground before being scavenged, which animals were eating them, and whether scavenging happened more frequently during the day or night.

Rather than using rodenticides, the researchers trapped and killed unpoisoned water voles. The carcasses were placed on three grassland plots on the Jura Plateau in Eastern France, where the rodenticide bromadiolone is commonly used.

Each plot was around three hectares and voles were placed at a density of 10-15 carcasses per hectare – about the maximum number reported following a single rodenticide treatment in previous studies. The researchers observed the plots at sunrise and sunset for a maximum of two days on each plot.

Voles tended to be scavenged after 0.5-1 days in spring compared with between 0.5-1.5 days in autumn. There were some variations in scavenging rates between plots due to the types and presence of predators and cover. In autumn, carcasses generally disappeared much faster during the day than the night. In spring, they disappeared slightly faster during the night than the day.

Different species of scavengers were present at different plots. At one, most carcasses were taken by raptors such as red kites (*Milvus milvus*) and buzzards (*Buteo buteo*), whereas at another they were taken mostly by crows. Both red kites and buzzards are protected in Europe. The red kite is listed as a 'near threatened' species by the [IUCN](#) and populations are known to be decreasing in some areas of Europe.

Overall, carrion crows (*Corvus corone*) took the most voles—about two thirds of all carcasses—reducing the risk of poisoning for raptors. However, based on toxicity data for comparable birds and estimated feeding rates over a week, the researchers suggest that both carrion crows and raptors may be at high risk of indirect poisoning via scavenging.

They recommend that vole-infested land is visited regularly—at least daily—following rodenticide treatment, in order to remove carcasses and reduce the risk to wildlife. If carried out in conjunction with monitoring, the results could prove useful for designing better control strategies.



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