

## Check your understanding



- 1 What negative consequences could animals suffer from avoiding areas with humans?
- 2 What other conflicts can you think of that might occur between deer and humans?
- 3 You heard about different management zones in the Black Forest. Why do you think are they necessary?
- 4 According to our study, how can these management zones be improved?
- 5 We used GPS receivers for tracking red deer, which automatically record activity and the whereabouts (in GPS coordinates) of the animals. Why could we not use these handy GPS receivers for the grouse?
- 6 What do you think – shall we forbid outdoor recreation in natural reserves all together, for the sake of wild animals?

1 Animals could miss out on their preferred food if it located close to trails people use for recreation. Their habitat could be reduced in size and quality. They could suffer by being stressed (stress is a physical response of the body when stress hormones are released. This uses up energy and puts the body in a more responsive state (for flight or fight response), but is not very healthy in the long run). They could be forced into areas where there are higher chances of running into cars. These are just a few examples. Can you think of more?

**2** Car accidents, conflicts in forestry management when deer eat or strip bark of trees that foresters are interested in. Deer also carry ticks that can transmit a variety of diseases (like Lyme disease for instance).

**3** For various reasons: to protect the animals (like deer and grouse). These zones offer different level of protection from human activities, such as hunting. Furthermore, they reduce other forms of human conflict with animals mentioned above.

**4** We need to also include temporal effects (i.e. seasonal or day/night differences) of the impact of human recreational activities into the planning. Furthermore, we need to make sure that animals have enough high quality food to eat in areas away from trails and ski areas, as well as the right kind of vegetation for hiding etc.

**5** That would be great, but these transmitters are much bigger than the ones that don't communicate with satellites. Given that the grouse is much smaller than the deer, we were not able to use the bigger and heavier transmitters on the birds.

**6** What do you think? Can you think of pros and cons of human outdoor activities? Here some of our thoughts: Forbidding all recreational activities in reserves could be very counterproductive. First, when people enjoy animals and encounter them in the wild, they might be more motivated to learn and care more about them. Second, wildlife is a big draw for tourism in these areas, which brings economic benefits. This money also may help to pay for keeping the reserves and paying people to create management plans in the first place. But we do have to make sure to implement measures so we don't unknowingly harm animals in the wild, by implementing effective management schemes (and by conducting more studies like ours to understand how our outdoor activities impact wildlife).