

# Wildlife and flora and the valuation of green places: a comparison between local and national green places in the Netherlands

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Recent decades have shown a growing interest in the role of wildlife and flora in tourism and leisure in green places. A clear example is the rise of wildlife tourism, which can be defined as tourism in which visitors encounter wild animals (Ballantyne, Packer and Sutherland, 2011). Consequently, in the marketing of nature-based tourism destinations, mega-fauna, such as dolphins, elephants, and gorillas, are often used as 'flagship species'. Increasingly it has been acknowledged that not only charismatic mega-fauna, but also charismatic mega-flora such as trees and forests (Hall, James and Bairda, 2011) or smaller flora species such as orchids (Pickering & Ballantyne, 2012) can play a significant role in nature-based tourism. Thus far, most research has focused on large iconic wildlife as main attraction of nature-based tourism destinations. It remains unclear how wildlife and flora play a role in the way people value green places nearer home that are used for leisure purposes. For spatial planners, and leisure and tourism managers, insight into the extent to which wildlife and flora contribute to a higher valuation of green places, and for whom, may be useful in developing attractive green places.

My study examined the importance of wildlife and flora as a reason for finding local and national green places attractive, and to what extent wildlife and flora add to the valuation of these green places, among the general Dutch public. Data from a large online survey, the Dutch Hotspotmonitor (HSM) version 1.2, were used (N=2602, see De Vries et al., 2013). The HSM provides insight into social landscape values of the general Dutch public, by monitoring the valuation of green places at various spatial scales, as well as investigating reasons why people find these places attractive (De Vries et al., 2013). Respondents could choose from favorite places which are dominated by green, water, and/or nature: which I refer to as 'green places'. My study included green places at local and national spatial scale. Local green places (< 2 km from home) are important for everyday leisure, whereas national green places correspond highly with the main holiday destinations (De Vries et al. 2013). The respondents were asked to value the attractiveness of their favorite green place, on a scale of 1 to 10 (i.e., from very unattractive to very attractive). Moreover, respondents had to indicate the reasons why they find that place attractive (a closed question) and what recreational activities they undertake there (a closed question) (see Table 1).

In my study, wildlife and flora were defined as all species that can be encountered in the Netherlands. From another version of the Hotspotmonitor (version 1.9, in Folmer, Haartsen, Daams and Huigen, in press), it was found that locally, relatively common animal species are found attractive (e.g. Highland cattle, deer, waders, hedgehogs, ducks, frogs, dragonflies, rabbits, fish), whereas nationally, charismatic,

and large wildlife are mentioned most often (e.g. wild boars, foxes, seals, and badgers). With regard to flora in local and national green places, the differences are less profound; locally, trees are mentioned most frequently, whereas nationally, heather is on first position. For both green places at local and national level, plants, flora, flowers, and more specifically orchids, are also mentioned as reason for attractiveness (Folmer et al., in press).

Compared to the Dutch population, the respondents were relatively young (67% versus 53% younger than 50), and highly educated (56% versus 31% bachelor degree or higher), with an equal representation of gender and urban or rural place of residence (Statistics Netherlands, 2015). Locally, respondents who regarded wildlife and flora as a reason for attractiveness were slightly older (> 35 years or older) and more often male, compared to respondents in general. Their level of education, place of residence, and nature image did not differ from respondents in general. Nationally, they were older (50+), more likely to be male, and more highly educated, which corresponds with the profile of traditional nature-lovers: 55+ and well-educated (e.g. Curtin, 2008; Pickering & Ballantyne, 2013).

I carried out a binary regression analysis with 'valuation of attractiveness' as dependent variable. This variable was divided into (0) a valuation of 8 or lower, (1) and a valuation higher than 8. I had chosen to carry out a binary regression analysis instead of a multiple linear regression analysis, as it yielded similar, but more distinct differences in the relationship between the valuation of green places and the independent variables. As independent variables I included reasons for attractiveness, place characteristics, sociodemographics, and nature images.

The results demonstrated that, although wildlife and flora form a relatively unimportant reason for attractiveness (9.3%), they do increase the likelihood of a high valuation of *local* green places (see Figure 1). Respondents who regarded wildlife and flora as reason for attractiveness, were 1.7 times more likely to value their local green place above 8. This makes wildlife and flora the second most important reason for attractiveness, after respondents' personal bond with a local green place. Concerning national green places, it was found that wildlife and flora as a reason for attractiveness (16.4%) do not increase the likelihood of a valuation above 8, while observing birds and observing flora do. On the contrary, observing wildlife decreases the likelihood of a high valuation of national green places. This may be related to a perceived lack of wildlife visibility. In the Netherlands, many people are drawn to large protected areas to see wildlife such as red deer and wild boar, but a quarter of visitors have never seen them, about half have seen them once in their lives, and only 16% see them once a year (Buijs & Langers, 2014). This may lead to dissatisfaction and explain a lower valuation of national green places among people who visit especially to observe wildlife.

Last, it was found that at local scale, wildlife and flora are more important for broad segments of the population, while at national scale, they are more important for relatively old, and highly educated people, whose profile fits with traditional nature lovers. This means that locally, wildlife and flora can be important in increasing the attractiveness of green places for broad segments of the population.

## Management implications

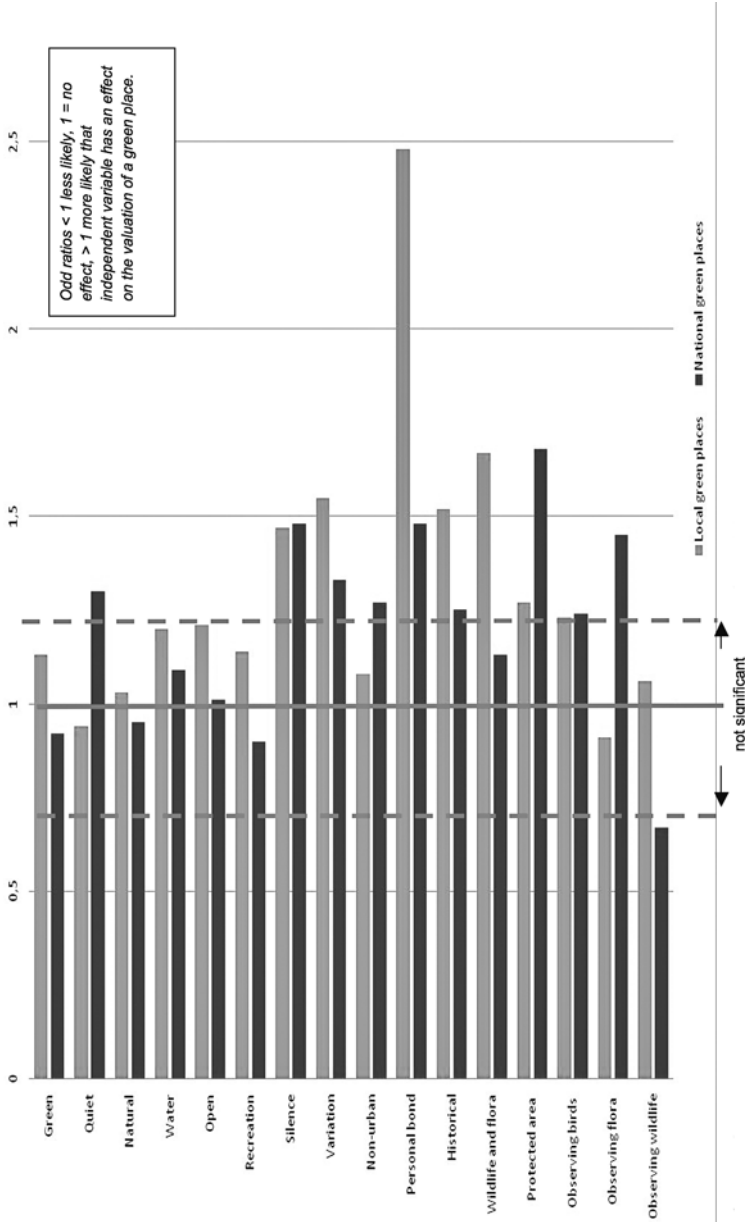
The findings suggest that more eye for geographical scale and nearness is needed in improving the roles which wildlife and flora can play in leisure and tourism. The presence of attractive wildlife and flora can increase the valuation of green places, and people's health and well-being, among a broad public. More specifically, it is recommended to improve the attractiveness of local green places by:

- increasing awareness of the presence of ordinary wildlife and flora, by creating more opportunities to see and enjoy local wildlife and flora;
- stimulate the enrichment of local biodiversity, for instance by placing bird-houses or planting certain flora species.

To enhance national green places, it is recommended to offer facilities which improve the visibility of charismatic wildlife and flora for a broader public, and to focus on the special wishes and demands of more specialized wildlife- and flora- observers.



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**Figure 1. Likelihood of reasons for attractiveness, protected status, and recreation related to wildlife, and flora, to contribute to a valuation higher than 8 for local and national green places (in odds ratios).**  
 Figure 1 only includes reasons for attractiveness, protected status, and recreation related to wildlife, and flora. Personal characteristics of respondents are left out for presentation purposes.  
 Statistics of the binary regression model for respectively local and national green places: Nagelkerke R<sup>2</sup> = .095; .106; -2 loglikelihood 2270.2; 2867.8; Chi-square 114.5; 182.8. The odds ratios are not significant inbetween the dotted lines, and significant at  $p < .05$  outside this area.