75 Recreational use in a natura 2000 area and stakeholders' ideas about management and maintenance: Citizens involvement, understanding the underlying views and the importance of communication.

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We conducted a recreation study in the Jufferswaard, a 31 ha floodplain in the municipality of Renkum with 30.000 inhabitants in the Netherlands. In this Natura 2000 area with recreation we counted the use, conducted a stakeholder analysis, qualitative interviews and an user's survey. In contrast to the amount of nature data, there was no recreation data for this area. The Pilogroep, a group of active citizens in the municipality, asked us for this data.

In the period 2018-2019 we counted the amount of recreational visits for one year with passive infra-red (PIR) sensors at the four entrances. We used LoRaWAN (Long Range Wide Area Network) technique: a telecommunications network that allows data to be sent to and from wireless sensors over a long distance gateway. On eight days, we counted the amount of visitors manually to check the PIR-data. The accuracy of the PIR-sensors was 75%. There are 55,000 visits a year, mainly from residents of the neighbouring villages of Renkum and Heelsum. On average there are 150 visits per day, mainly between 12.00 and 14.00. Sundays are by far the busiest days.

The stakeholder analysis looked at what wishes were involved about management and maintenance and how much influence the various stakeholders have. According to the Pilogroep, the accessibility of the walking paths could be improved in the area. They also have wishes for the preservation of cultural history in the area. These wishes are not directly shared by the owner of the Jufferswaard: **Federal** Forest Staatsbosbeheer. They maintain the area soberly. The wishes for the area were explained on the basis nature images consisting of management. The Pilogroep has a more functional nature image and Staatsbosbeheer a more wilderness nature image, although the Natura 2000 status does not necessarily require a wilderness nature image. The influence of the Pilogroep is limited in contrast to Staatsbosbeheer as an owner. But citizens involvement is important to Staatsbosbeheer.

The inhabitants of the municipality of Renkum were also heard by means of an online survey, partly based on the results of three qualitative interviews. A call to participate in the survey has been posted on facebook of local organizations and a message in the local newspaper. Also 1204 flyers were handed out in the area, at supermarkets and every 5th address in the streets of the villages Renkum and Heelsum. This resulted in 295 respondents. In the survey the respondents were asked about their wishes, nature images, use and recreational motives. The main wish was to clean up waste in the area. Their nature images is more aesthetic. Walking (with or without a dog) is the most popular activity. And 'having a break' was the most mentioned motive to visit the area.

It appears that although the nature images of the most important stakeholders, the Pilogroep and Staatsbosbeheer, differ, a compromise can be reached on the wishes of the Jufferswaard. This requires an improvement in communication on both sides. For the Pilogroep it is important that they present an unambiguous vision to the other stakeholders. For Staatsbosbeheer it is important that they communicate more from nature experiences, because this is closer to the image of nature of recreational users. In this way the tension we see in de Jufferswaard between a more hierarchical role for the manager, who has to comply with statutory agreements related to the Natura 2000 status, and citizens' initiatives that expect a more collaborative and responsive role of the managers, can be resolved. A situation can then be created that leads to cooperation on the basis of knowledge, communication, understanding and trust in which the Pilogroep is heard and in which Staatsbosbeheer can benefit from the involvement

of the Pilogroep. This could ultimately lead to a kind of management covenant.

It is positive for the Pilogroep that it is deploying its waste disposal activities (Staatsbosbeheer as manager is responsible for that) to show that it is in the process of putting into practice one of the most important wishes of the inhabitants and of the stakeholders. Through a networking and cooperative management style, Staatsbosbeheer can fulfill their desired policy of "experiencing nature together".

The results of this knowledge-based project can serve as an example for other Natura 2000 areas in the Netherlands with similar issues and tensions between management styles.