

# In-depth knowledge of visitors: a key element to awareness raising in the context of environmental controversy in protected areas.

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The practice of outdoor sports has massively increased since the end of the 20<sup>th</sup> century. According to a survey lead in France in 2011, 25 million people practice an outdoor activity (Thiery, 2013). However, as practitioners seek contact with nature, their activities bring them to the great outdoors where the increased human presence is causing more pressure on the environment, including on wildlife.

Contrary to obvious impacts such as those caused by infrastructure (ski lifts etc.), it is difficult to comprehend the impact of the activities themselves (Mounet, 2007). This is especially true for wildlife since responses to disturbance include a modification of habitat use and physiological and behavioural responses (Marchand et al. 2014), consequences that are not necessarily observable on the spot but also not observable at a shorter term. Indeed, impact studies often represent a long and costly process which implies that factual data on wildlife disturbance are not always available to recreationists. Nonetheless scientific uncertainty, or at least perceived as such, represent a source of power in the arguments of those who refuse the exclusions from the sites of practice in the context of a controversy between visitors and land managers (Mounet, 2007). This can be illustrated by this quote found on the ski touring website *skitour.fr*: “Someone who skies past a capercaillie probably disturbs it. But it still has to be proven that flying away 5, 10 or 20 times in winter can be harmful to the animal”.

Fortunately, there are also, and probably to a larger extent, ski tourers who are more sensitive to wildlife. However, since recreationists are often self-organized they are very difficult to count, to know and to reach, making it challenging for land managers to raise awareness among visitors, and thereby to reduce the potential for controversy.

This talk offers to present the early results of a research lead in three French alpine mountain ranges of various protection statuses with summer and winter recreationists. The aim is to gain in-depth knowledge of these visitors to understand which factors determine their perception of wildlife disturbance. This expertise of visitors will allow managers to improve the actions implemented on the territories and to target them better with awareness-raising campaigns.

Numerous factors will be explored during the course of this research, however for the purpose of this talk, we will focus exclusively on the reasons listed by practitioners as their main motivations to practice the activity and whether or not they believe they can be a source of disturbance for wildlife. The cross-analysis is expected to reveal the following results:

- There are four types of motivations: sport and physical involvement, contact with nature, hedonism and self-growth.
- Visitors who are mainly motivated by the contact with nature will tend to be more aware of wildlife disturbance while the others might not consider their practice as a source of disturbance.

The data that will be presented was collected with ski tourers and snow-shoers during winter 2018 through a questionnaire survey. Data collection took place in natural areas of high human pressure: A Natural Reserve, a Game Preserve, and ordinary nature. Amongst other

topics, the survey questions (1) the involvement in the activity, including the motivations (2) visitors' attitudes towards wildlife in general, including perception of wildlife disturbance. In order to assess the motivations and the attitudes and perceptions we used two scales. The first scale was adapted from Ko et al.'s (2008) consumer motivation in action sports participation. As for the second scale, it relies on Fulton et al.'s Wildlife Value Orientation scale (1996) and on the work of Sterl et al. (2010) on ski touring and attitude towards environmental management in Switzerland.

The questionnaire (q=82) was presented and self-administered to hikers on six sites in three different mountain ranges: Aiguilles Rouges (Natural Reserve), Bauges (Game Preserve), and Belledonne (ordinary nature). The sites were chosen because they are the starting and/or returning points of ski touring itineraries of various levels of difficulty, allowing us to be in contact with hikers of different profiles. 700 questionnaires were collected between January and May 2018.

Expected results include a strong correlation between motivations and the perception of disturbance. Besides, strong interrelations between sociodemographic data (in particular gender, geographical origins, education and profession) and the above mentioned variables should also be expected.

## References

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