

116 Comparing participatory GIS and social media data with more traditional visitor monitoring methods

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Visitor numbers, new user groups and new activities in recreation areas are increasing and thus creating a need for new visitor monitoring tools. These methods should ideally provide continuously updating, located data of user groups and activities. Our aim was to explore the usability of public social media data, web-shared GIS and online PPGIS surveys for visitor monitoring in remote and less visited protected recreational areas. The study was made as a part of Interreg Nord funded Halti project in a border region of two Nordic countries consisting of popular recreational sites of Käsivarsi Wilderness Area, Malla Strict Nature reserve and Kilpisjärvi village in Finland and Reisa National Park and Kåfjorddalen in Norway.

We conducted a cross-border visitor survey and monitoring pilot in the Halti transboundary area in Finland and Norway in summer 2019. We collected public social media data from Facebook and Instagram, conducted a participation geographic information system (PPGIS) survey and purchased GIS data from Strava Metro. Each data was individually studied and compared with traditional and standardised face-to-face visitor survey from Finnish Metsähallitus. We found out that while social media data has limitations, it can work as a tool to identify themes which require further study. Web-

shared platforms such as Strava and PPGIS data can be used both for monitoring visitor behaviour, but also to identify potential risk areas of heavy use overlapping high natural values. PPGIS survey is becoming a popular tool to reach visitors and it is also an effective tool to reach certain groups, which are hard to reach with on-site survey questionnaires, such as mountain bikers or fishers.

In our region the largest age group of visitors is under 45 years old, which corresponds with high social media use in Finland and Norway. In the traditional visitor survey about 70% of the respondents said they will post about their trip on social media.

The results indicate that public social media data and web-share GIS data can be used to monitor some changes and to identify potential hot spots faster than a traditional visitor survey. Online PPGIS survey results were also very similar to the traditional visitor survey results but as a tool it provides more updated data and reaches larger amount of respondents cost effectively. We conclude that online tools can be considered as an alternative or at least a very good addition to the traditional visitor survey for protected recreational areas.