105 Counting on success: Implementing a new approach to visitor data collection and usage in a national environmental public sector body

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Introduction

Monitoring visitor use is critical for Natural Resources Wales (NRW) to protect ecosystems and to manage green space adequately, whilst maximising visitors' wellbeing and enjoyment benefits. This research aims to explore the effectiveness of different types of people counters used concurrently on NRW managed land in the Summer of 2021. It presents an opportunity to review the type of data collected and its application to support decision-making. This is timely given the changing societal backdrop pre-empted by Covid-19 and its associated impacts on nature and wellbeing.

Currently NRW uses sensor and data counting technologies to measure visitor numbers. These monitor trail and car park usage in more than 120 sites managed by NRW across Wales. These technologies do not need main power, mobile phone signal or WIFI and have been in place since 2004. This emerging research is necessary to address four questions:

- Is the data produced by these counters still fit for purpose?
- Has the purpose itself changed?
- How is disruption minimised in longitudinal data collection when switching from one technology to another?
- How can technology be futureproofed in the face of rapid advances over the next 15 years?

The anticipated outcomes from this work will be the selection of the most appropriate visitor counter technology capable of informing NRW recreational and wellbeing policy and practice across Wales. Having this in place will better enable NRW to discharge its regulatory, advisory, land manager and wellbeing provider roles for current and future generations.

Materials and Methods

This research will review the effectiveness of the contract NRW holds with an external contractor who currently provides, installs and manages visitor counters. This contractor also collects, analyses and writes up the data.

The criteria for overall effectiveness will include:

- Practical considerations such as technology used, unwanted attention leading to damage/theft, maintenance.
- The ability of the data to contribute to the organisation's decision-making with regards to recreation and wellbeing policy and practice.
- Value for money, for example overall contract cost, maintenance cost, and prior infrastructure investment.

This work will involve several phases in order to examine each of the criterion above. One of these phases for example will be to test several new counters at the same time in the same place to assess their concurrent validity. Another phase will be to test whether the difference of technology will disrupt the longitudinal time series.

This research will focus on one site in North West Wales in the region of Anglesey; Newborough National Nature Reserve. This site is a multi-use visitor site with walking, cycling and running trails, and horse-riding facilities. It is also home to wildlife and red squirrels and includes a highly visited beach. It attracts nearly 400 000 visitors annually.

Alongside the visitor counter already in place at the Newborough site, 3 other counters will be installed. These counters will be from 3 different contractors and each will use different technologies. The counters will be positioned near the existing counter and record cars entering and leaving the car park. These counters will be placed from Spring 2021 to collect data over both the Easter and the Summer periods which are busy times for the Nature Reserve. With regard specifically to concurrent validity, this will test several criteria:

- How accurate each counter is in counting the number of cars.

- How often the counter needs to be maintained (for example for battery changes, physical inspections).
- How visible counters are to the public and if they are attracting unwanted attention (possibility of theft).

Other data that can possibly be collected by these different technologies will also be identified.

In parallel, this research will also identify the current and future purpose(s) for which the data will be used in internal as well as partnership-based organisational decision-making processes. This will involve identifying as many relevant staff as possible and surveying them regarding their potential use of the different datasets produced by the different counters. It is anticipated that a snowball sampling technique will be used to identify staff, asking questions on their current use of the data and on their operational need for data collected from visitor counters.

One limiting factor is that of time. This research is restricted by the current contract running out at the end of 2021, therefore creating the need for a decision to be made by December 2021.

Results

Initial analyses will be completed by the beginning of August in time to present at the conference. This will include the results of the concurrent validation of the counters. This will also include a demographic qualitative and quantitative analyses of the results of staff survey items regarding counter data usage.

Conclusion

This body of work describes the process of identifying the most effective people counter and accompanying dataset to support NRW decision-making in the area of recreation, access and wellbeing for current and future generations. It has outlined the challenges facing the current approach and described the method by which alternative people counters will be evaluated. Furthermore, this piece recognises the need to revisit the applications for which the data collection will be used by staff. This will contribute to the overall evidence needs of a multi-disciplinary organisation with a national and complex remit. It has the potential to inform national policy in the areas of nature and wellbeing. It also informs the practical challenges experienced in the field by operational staff as a result of changing methodologies after collecting valuable longitudinal data since 2004.The results of this work will inform common issues faced by partner organisations across the public sector and their operational, research and policy needs with respect of the management of green spaces. At a time of changing societal patterns regarding volume and characteristics of visitors to green spaces within the UK, this visitor research makes a valuable contribution to understanding how best to capture and apply data to decision-making.