

This paper describes a means for identifying and prioritizing areas for scenic conservation using crowdsourced georeferenced data. The context for this study is the Northern Tier of Pennsylvania, USA, also called the Pennsylvania Wilds and Endless Mountains for its rolling hills and pristine swaths of forest. In the last five years the landscape has experienced much change in the face of shale gas development, in a part of Pennsylvania with a long history of resource extraction. Timber, coal, and now gas are pieces of a complex energy history in Pennsylvania that has negatively impacted and continues to impact the aesthetic and visual quality of this landscape.

Areas identified as scenic resources and points of interest may not always reflect the opinions of all community members, especially in sparsely populated or decentralized communities. These valuations may also disregard the opinions of visitors; an important factor in regions dependent upon tourism, such as the Pennsylvania Wilds and the Endless Mountains.

As in previous studies (Stilgoe 1984; Chenoweth 1984; Hochmair 2010; Sugimoto 2011; Alivand and Hochmair 2013), this paper argues that crowdsourced photography, specifically from on-line digital repositories, is a powerful and appropriate tool for identifying areas of scenic interest. The source of the crowdsourced photos in this study is Google Earth™ and Panoramio™. Panoramio™ is a photo-sharing community owned by Google and all Google Earth™ images originate from Panoramio™. Depending on the scale at which a user is viewing a map in Google Earth™, icons of individual or clusters of photos will appear when the photo layer is turned on. The further the map is zoomed-out the more likely there are to be clusters and the further the map is zoomed-in the more likely there are to be individual photos. These photo clusters are indicators of a popular location from which photos are taken, and their subject matter is what I hope to identify for scenic conservation (Figure 1).

In addition to photo clustering and frequency, Panoramio™ hosts metadata associated with each photo including when it was posted, by whom, “likes”, “favorites”, and how many external views it has had. These external views are another weighted measurement to gauge popularity and importance of a location. In this study, a well-known scenic trail was used as a frame of reference. Points of interest were chosen by identifying locations on or near the trail that had more than one image associated with them. This shows that there is interest from hikers and sightseers in this location. Each photo is also tagged with a cumulative score of the number of views it has received. As well as the scenes' importance to the original photographer, the large numbers of people viewing them online is an additional measure of viewer interest. To rank or prioritize the photo locations based on these metrics it is necessary to standardize the data by determining the average views per day since some have been posted for much longer than others (Figure 2).

Given the limited resources available for conservation, planners seek the most efficient means to prioritize scenic resources at the level of counties and regions. Collecting a wide range of views via crowdsourcing helps this prioritization. Moreover, these methods can be applied to other resources such as scenic byways and waterways, as well as hiking trails, scenic overlooks and wilderness areas. The knowledge and opinion of the public at large are invaluable resources, and with the ease and availability with which this information is able to be gathered and vetted, it is imperative that designers

utilize this data in all public design and planning projects. As an antecedent to the development of conservation ordinances, crowdsourced data helps to prioritize and streamline conservation design.

Works Cited

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Figures

Figure 1 – Google Earth™ Photo Cluster Sizes along the Loyalsock Trail

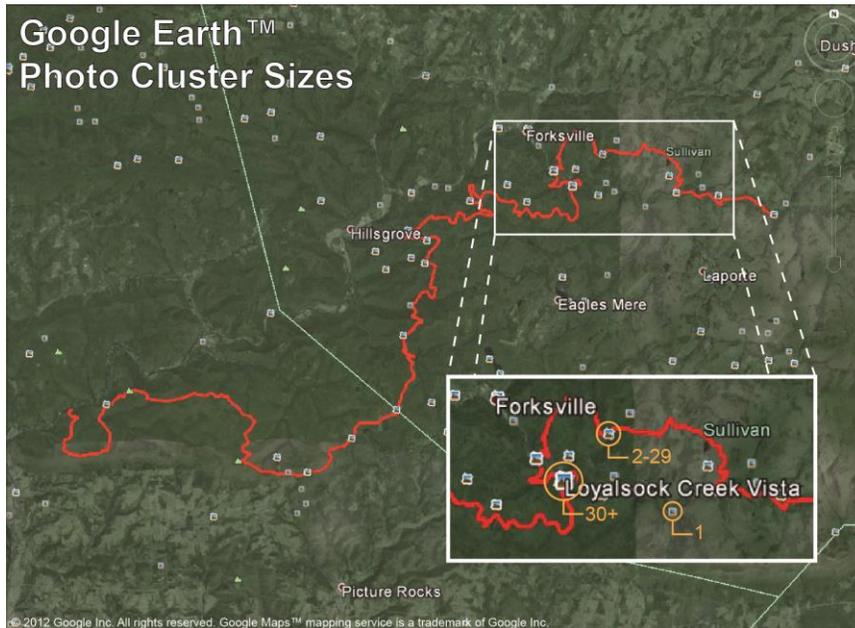


Figure 2 – Ranked Points of Interest along the Loyalsock Trail

