Comparing level of accessibility with aesthetic experience on recreational trails in west Michigan dune environments.

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Abstract

Our research pioneers its way into a relatively untouched area of study on dunes We assessed the level of accessibility and the aesthetic experience on the recreational trails of Rosy Mound Natural Area, Kirk Park, Tunnel Park, and North Beach dune, all parks in Michigan. After creating a carefully-crafted rating scale, we assessed how accessible each path was, and GPS mapped each trail. In analysis, we compared the aesthetics of non-accessible recreational trails and accessible recreational trails. Each trail was assigned point values for width, length, maximum slope, average slope, rest-areas, surface type, signs, stairs, parking lot connections, and whether or not there were stairs before it. Additionally, observations were recorded about the surrounding area (wooded area, dunes present, Lake Michigan etc.) Data collection resulted in very high scoring trails, and low scoring trails. The trails marked as "accessible" on park maps were not aesthetically pleasing, while the trails that scored lower on our accessible scale were more aesthetically pleasing.

Introduction

Recent studies have identified the importance of designing trails in our nation's parks and forests that are not just accessible to average person, but for the disabled as well [1]. We agree with the belief that having access to dune environments along with having an aesthetically pleasing area to be in are equally as important for those with and without disabilities [2]. Although parks and forests claim to offer accessible recreational trails, many of these routes do not lead to an aesthetically pleasing experience. Our study compares the aesthetic experience of accessible and non-accessible recreational trails in West Michigan Dune environments. We created a rating scale which was applied to trails and was used to analyze our results.

Study Locations

Our study locations were Rosy Mound Natural Area, Kirk Park, Tunnel Park, and North Beach Park which are all located in Ottawa County, Michigan (fig.1)

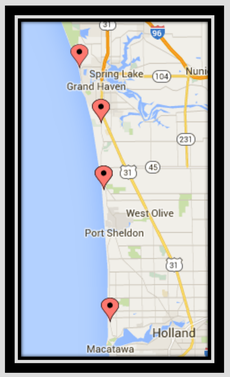


Figure 1 (right). Locations of four parks included in study

Methods

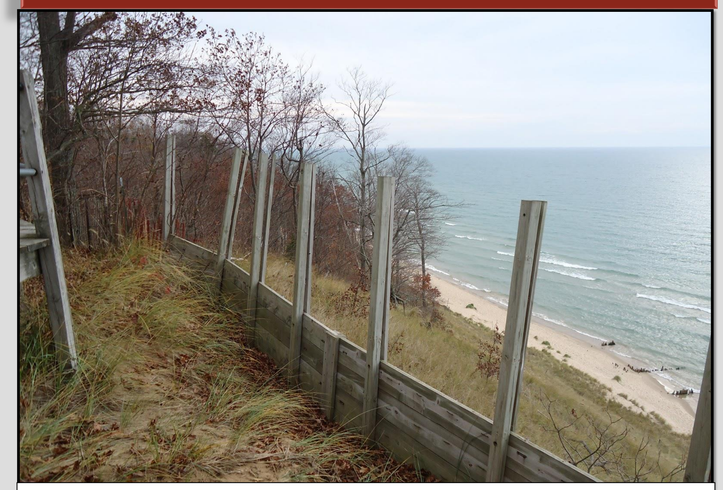


Figure 2. Aesthetically pleasing dune environment of trail C at Kirk Park (Accessibility rating: 11)

Before data collection, we created a 34 point rating scale in order to analyze our results. For our data collection, we used two GPS units to find the total distance of each trail and record each point of data collection (every 50 meters). For each point of data collection, the width was measured with a tape measure while the slope was measured with a Brunton compass. Additionally, we developed an aesthetic checklist which included wooded areas, sand, views of Lake Michigan and the beach, lookout points, visible roads, and if the trail led to a top of a dune.

Results

Rating System

Our accessibility rating scale assigns points for measures of trail characteristics to produce a total rating out of 34 points (figure 3). We assessed accessibility using USDA standards for width and slope, but used our own standards for things like trail surface, length, presence of signs, stairs, and rest areas using knowledge of the USDA standards and DFI to aid in our decision making. We applied the rating scale to trail B of Tunnel Park and trail C of Kirk Park, which showed trail B was more accessible (figures 4 and 5).

Elements	points
Trail Width (3 pts possible) Average of measurements taken every 50 meters: _____cm □ ≥48in = 3 pts □ 36-48 = 2 pts □ <36in = 0 pts	/3
Type of Trail Surface (4 pts possible) □ Hard = 4 pts □ Moderate = 3 pts □ Soft = 2 pts □ Very Soft = 0 pts	/4
Trail Length (3 pts possible) As measured by GPS:_____ km □ 0-1 km = 3 pts □ 1-1.5 km = 2 pts □ 1.5-2 km = 1 pt □ > 2 km = 0 pts	/3

Figure 3. Examples of rating elements and points

Results

Accessibility vs. Aesthetics

We found that the trails that received high accessibility ratings lacked an aesthetically pleasing experience. Figure 4 shows that trail B of Tunnel Park was highly accessible yet a road was visible and it did not offer a lookout point, a view of the beach, lake, or go through a wooded area.

We also discovered that trails that received low accessibility ratings offered a highly aesthetically pleasing experience. Figure 5 shows trail C of Kirk Park has a low accessibility rating, yet it goes through a wooded area, it leads to the top of a dune, offers a lookout point, a view of both the lake and sand, and no roads are visible.

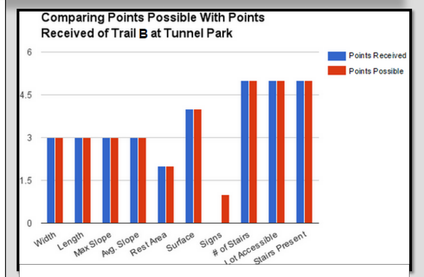
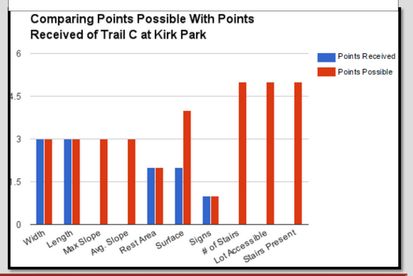


Figure 4 (above) and figure 5 (below). Graphs of points



Discussion

This study found highly accessible trails often lead to poor aesthetic environments; however trails with low accessibility lead to aesthetically pleasing views. This finding agrees with studies that state trails with aesthetically pleasing views are often inaccessible to those with disabilities and health conditions [3]. Finally, we developed a useful rating scale that we feel can be adapted in the future to accurately assess the accessibility of trails.

Conclusion

Our study developed an accessibility rating scale for recreational trails in the dune environment. The rating scale showed a difference in the results for accessible and non-accessible trails. When the results are compared with aesthetic assessment of the same trails, we concluded that accessible recreational trails are often less aesthetically pleasing than non-accessible recreational trails.

Acknowledgements

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Sources

[1] Burns, Robert C., and Alan R. Graefe. 2007. "Constraints to Outdoor Recreation: Exploring the Effects of Disabilities on Perceptions and Participation." *Journal of Leisure Research* 39 (1): 156-181.

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