INTRODUCTION

The National Park Service has recently extended the definition of the landscapes it protects to include darkness and the night sky, or lightscapes. Biological processes of plants, animals, and humans depend on darkness. The night sky also serves as a cultural resource rich in navigational, symbolic, and spiritual value. National parks serve as some of the last places where one can observe a natural night environment almost free of light pollution from cities and development. Acadia National Park prides itself as a premier location to view the night sky in the eastern United States.

OBJECTIVES

Previous research shows a positive NPS attitude toward night resources, such as darkness and the night sky (Smith & Hallo, 2011). Little is empirically known, however, about why and how visitors value these resources. Two paper surveys were developed and administered in 2012 to:

1) explore visitor perceptions of and attitudes toward darkness and the night sky.

2) identify indicators and standards of quality for night sky viewing experiences in national parks.

METHODS

Surveys were administered in Blackwoods and Seawall Campgrounds in Acadia National Park. Visitors were asked to rate how the ability or inability to see certain objects in the night sky and varying light sources added to or detracted from their park experience on a scale from -4 (detracted from a lot) to +4 (added to a lot).

RESULTS

A modified version of Importance-Performance analysis visualizes the resulting data in a way that’s easy to interpret and offers management suggestions (Figure 1). These suggestions are based on where the data points fall into four quadrants, as shown below.

Figure 1. Importance-Performance analysis of items seen and not seen by visitors.

DISCUSSION

Few visitors saw celestial objects (poor weather, weren’t observant), but the ability to see celestial objects in the sky tended to add to visitor experiences in the park. Many visitors did not see these objects, and the inability to see them tended to slightly detract from their experiences. This suggests that park managers should focus efforts on protecting and enhancing opportunities to observe these objects.

Most of the human-caused light sources went unseen or unnoticed by many visitors, which added to their experiences. Seeing campfires, however, added to their experiences. Similarly, few visitors saw flashlights and lanterns, which added slightly to their experiences. These findings suggest that managers should continue to reduce the ability to see certain human-caused light sources that may impede natural darkness and the ability to see the night sky.

CONCLUSIONS

Our results suggest that the ability to see objects in the night sky and experiencing natural darkness plays an important role in the quality of experiences in Acadia National Park. The ability or inability to see the items mentioned in this survey can be linked to the amount of light pollution experienced in the park. Therefore, the amount of light pollution, or unwanted light, may serve as an indicator of quality for night sky viewing experiences at Acadia National Park.