Exploring the human dimension: visitor use analysis of Willmore Wilderness Park, Alberta, Canada

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There have been few studies that have focused on park visitors in provincial wilderness areas within Alberta, Canada. Visitor information for Willmore Wilderness Park has been identified by park managers as an important knowledge gap and relatively little is known about park visitation in Willmore. Historical existing user-profile data collected for Willmore Wilderness Park are sparse and out-of-date. Willmore was created in 1959 (officially named in 1965) and is located in the Rocky Mountains straddling the Alberta and British Columbia provincial border. It lies adjacent to Jasper National Park which is a member of the UNESCO Rocky Mountain World Heritage Site (Figure 1). Willmore is a remote and extensive natural landscape that is approximately 4,600 km² in size, and consists of a variety of rugged mountains, gentle ridges, extensive valleys, important headwaters, and a diversity of flora and fauna species. Being Alberta's largest wilderness provincial park, Willmore is popular both recreationally and also politically, so a solid evidence-based management plan is required that is based on sound visitor information.

Gathering visitor use information in protected areas is challenging, particularly in wilderness areas. This is because wilderness areas typically have multiple access points, light and variable use levels, and low densities (Dawson and Hendee, 2009). Gathering visitor information is important as described by Dawson and Hendee (2009, pp.370) "an understanding of the amount, character, and distribution of recreational user is essential to wilderness management because such use is the cause of many impacts, the source of many wilderness values and potential funding". The combination of traditional visitor monitoring study instruments (e.g., surveys) along with emerging technologies (e.g., trail cameras) may improve the collection of information about park visitors. Recent studies have utilized mixed-methods approaches to combat strengths and weaknesses of individual study instruments and appear to have good potential for future development, refinement, and applications. Some examples of mixed-methods studies have utilized on-site surveys/interviews coupled with personal data assistants (PDA) equipped with a Geographic Information System (GIS) and Global Positioning System (GPS), (Lai, Li, Chan, and Kwong, 2007), trail counters, trail cameras, GPS tracksticks, and trail intercept surveys (Simic, 2008), and self-registration books and infrared trail counters (Shoji, Yamaguchi, and Yamaki, 2008).

The purpose of this study is to address the need for acquiring an improved understanding of Willmore visitors. Specifically, this study will examine the demographics, trip patterns, motivations, park management preferences, visitor knowledge about the park, and the sense of place relationship of visitors to Willmore. This project utilizes a mixed-methods approach including: trail surveys, in-depth mail surveys, trail cameras, GPS tracksticks, and in-person/ telephone semi-structured interviews. Trail surveys were distributed through trailhead kiosks, local visitor information centers and through the Internet. In-depth surveys were mailed out to users who provided their contact information on the trail surveys. Visitor characteristics and visit information were acquired by placing trail cameras (Reconyx PC) at the main trail entrance at each of the four staging areas into Willmore (on the Alberta side). GPS tracksticks were deployed to capture satellite-based route information about users and to also test their practicality within a wilderness setting. Lastly, a series of semi-structured questions, either through the telephone or in-person, were posed to park users in an in-depth interview that focused on sense of place. Interview participants were selected through a snowball sampling technique. The fundamental research questions include the following and mainly focus on park visitors using the four main Alberta staging areas for Willmore:

1. What is the visitation level in Willmore Wilderness Park?
2. What are the visitor characteristics, motivations, level of knowledge of the park, and park management preferences of Willmore users?
3. What are the spatial patterns of visitor use?
4. What are the trip characteristics and the main activities of Willmore users?
5. What is the relationship and sense of place between visitors and the park?

Preliminary project results related to these main research questions will be discussed through this poster presentation including selected results from trail cameras and trail surveys, GPS tracksticks, and in-person interviews. This project contributes to protected areas management in five ways:

1. It fills a knowledge gap and provides visitor information for the study area;
2. Supplies a pilot approach that can be applied to other protected areas, parks, natural areas or recreation areas;
3. Creates foundational information for future research in Willmore;
4. Enhances the understanding of sense of place, which is important in forecasting points of future conflict in the park; and
5. Contributes to the body of knowledge related to visitor monitoring.

By understanding more about users and what they prefer or desire in Willmore, this project will help balance conservation with recreation objectives. The information, summaries, figures, and conclusions from this work will be suita-
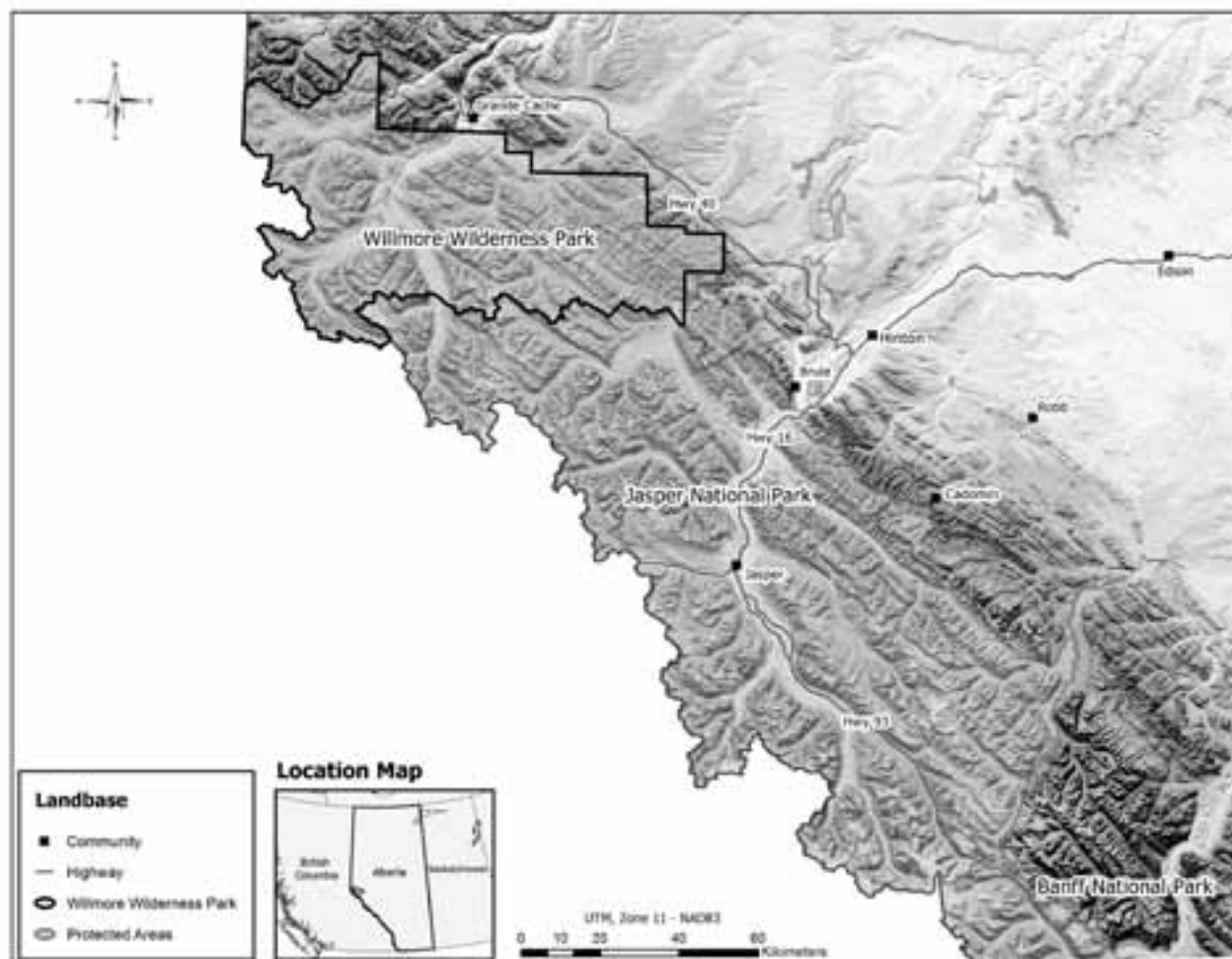
Figure 1. Study Area, Willmore Wilderness Park, Alberta, Canada

ble to integrate directly into a Willmore Park management plan. In addition, the use of emerging technologies, such as trail cameras and GPS for use in visitor monitoring, is a relatively new approach in Alberta's provincial parks. This project is an excellent opportunity to help understand the

utility of these emerging instruments and how they could be applied on a more provincial level to attain visitor characteristics and information.

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