

THE IMPACTS OF EXTERNAL DEVELOPMENT ON THE ECONOMIC AND
AESTHETIC VALUES OF THEODORE ROOSEVELT NATIONAL PARK

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Problem

Theodore Roosevelt National Park (THRO) is a unique part of the National Park system in that it represents a mixed grass prairie eco-region. At pulloffs and integral vistas in THRO, views of the landscape in this badland setting are sweeping and open offering a long view. Such vistas have become increasingly impacted by man-made or man-caused features on the landscape outside the park but visible from within its boundaries. These features include gas and oil field structures, roads, power lines, communication towers, large vehicles, dust and smoke. Additional external development and activity is planned and park managers are in need of information that can help them determine how park values, and resources are being affected. To do this also requires that information be obtained about visitor characteristics, preferences, satisfaction, and expenditures that are in need of being updated.

Objectives

The research has several objectives. The first is to survey THRO visitors regarding the value that they place on the open space, prairie, wildlife, solitude, scenic vistas and other values and resources protected by the park. Secondly, we wish to determine visitor attitudes and perceptions about the effects of external development on these park values and on their use and enjoyment of THRO. Third, we will provide park managers with basic data about THRO visitors including the average length of stay, group sizes, user types, preferred activities and outcomes, socio-economic, demographic characteristics, along with other information that they have requested. Finally, we are attempting to determine the regional and local economic values derived from park visitation and describe any projected changes in visitor

behavior that may be attributed to external impacts and which might in turn affect economic benefits provided by the park.

Methods

A combination of on-site interviews and mailback surveys have been used to obtain information from visitors. We have conducted the research over a period of two summers, sampling more than 900 visitors (250 during the pilot test in 1988 and 665 during 1989). The on site interviews took place at six different integral vistas - three in each of the park's north and south units. The sampling plan took into account the frequency of visitation at each site. The on-site survey included the use of large paired photos that served as queues for viewing the landscape and enabled the interviewer to ask a series of comparative questions at each site. One photo allowed visitors to view the landscape in its pristine condition and the other with man-made or man-caused features. This technique required simulations that both included new features and removed existing features from the "as is" photographs. All simulated features were previously identified as probable and inserted at the proper scale.

Each person interviewed on-site about their perceptions of the landscape, park values, things that added or detracted from their visit, was also given a mailback questionnaire, to be completed at the end of their stay at THRO. Among other things, the mailback collected data about previous visits to the park, group composition, travel patterns, length of stay, activities pursued, activities valued most, expenditures and included other standard socio-economic and demographic items. To date, the response rate for the mailback portion of the research is nearing 45 percent.

Data obtained about visitor expenditures will be used with overall park expenditures, salaries etc. and the economic input-output model for North Dakota to describe the contribution of THRO to the local and regional economy. Items administered during the on-site interviews are enabling us to report how visitors predict changes in their own behavior as man-made or man-caused landscape features increased or decreased at a given vista. Behaviors probed include viewing, picture taking, use of the area for hiking, picnicking, or camping, use of backcountry areas near the interview site and future visitation.

Data Analysis

During October of 1989 THRO staff requested preliminary results for their use during public and inter-agency discussions over a proposed power transmission line near the park's east boundary. We ran preliminary descriptive statistics on the first summer's data using SYSTAT statistical package and summarized the results for park staff.

Preliminary Results (1988)

Salient preliminary results indicated that: a) park visitors rate their experience and the personnel at THRO highly; b) THRO is a very visually oriented park where viewing wildlife and viewing from scenic vistas are the most popular activities (more than hiking, camping, horseback riding, etc.); c) people are aware of man-caused landscape features - especially structures, roads and power lines as well as oil and gas development near the park; d) perceptions of those developments - based on responses given at integral vistas and in reaction to viewing photo simulators - indicate that many features impact the visitor experience negatively and are likely to affect future visitation and activities in the park; e) visitors do not wish to see the impacts compromised in order to permit additional oil or gas development near the park; f) that visitors value the mixed grass prairie ecosystem and environment found in THRO equally if not more than ecosystems protected by other national parks. These are only a few preliminary findings in a study that contains much more data, and many details of interest to park staff that go beyond the main theme of economic and aesthetic impacts.

Last December we learned that the Western Area Power Authority decided to move a proposed power line further to the east and out of the view of park visitors. The staff at THRO informed us that our preliminary results had played an important role in influencing their decision.

Data Analysis - 1989

During this past summer we conducted 685 interviews at THRO. Recently completed follow up on the mailback portion of the survey has raised the response rate to 47 percent. We are in the process of completing the data entry for this larger sample. Once again SYSTAT will be used for data analysis which will begin the second week in December and should be completed by the second week in January. Theodore Roosevelt staff are scheduled to arrive for a work session in January and a draft of results should be ready for National Park Service review and comment in February.