A Long-term State Park Operations Database for Academic Research: Examples and Suggestions

Yu-Fai Leung, Anna Miller, Chelsey Walden-Schreiner, Christos Siderelis
Department of Parks, Recreation, and Tourism Management, North Carolina State University

Introduction
State parks are an integral component of America’s outdoor recreation provision system, with over 6400 operating units and 44,000 miles of trails spanning all 50 states (ASP, 2011). In 2009-2010, 740 million visits were recorded for state park units across the United States (NASPD, 2011), generating an estimated economic impact of over $20 billion on communities (ASP, 2011).

Effective management of state parks requires timely information such as facility inventory, attendance, expenditures, revenues and personnel. To facilitate information collection and exchange among state park systems, an annual survey of state park operations, referred to as the “Annual Information Exchange” (AIX), was conceived in the mid 1970s by the National Association of State Park Directors (NASPD) (Landrum, 2004). The AIX survey was not implemented systematically until the early 1990s when the types of data collected were expanded and better defined. Since 2006 this survey has been administered by North Carolina State University.

The AIX reports and associated database are designed and intended primarily for use by the state park directors and their staff for various purposes, such as identifying program, facility and personnel needs, formulating budget requests for state legislatures, and comparing their programs with those of the other states. Over the years, the AIX database has been increasingly requested by academic/research entities, other governmental agencies, and business and industry, but published research using this long-term database is still very limited.

This presentation aims at encouraging a greater utilization of the AIX survey database for academic research in parks, recreation and tourism fields. To do so we will provide an overview of the database and summarize examples of published research. We will also offer some suggestions on research questions that may benefit from this resource.

AIX Survey Database
The AIX Survey is conducted every Fall and participated by all 50 states. This web-based survey comprises 7 sections on various aspects of state park operations. Data collected include amount and types of state park units, land areas, facilities, attendance, finances and fees, personnel and salaries, and friends group (see Table in top center). Only aggregate data are reported at the state level (i.e. no data on individual park units).

Survey data are checked for errors and corrections are made by individual states before the final report and dataset are released. The annual AIX report provides a basic statistical summary of collected data (e.g., NASPD, 2011) while the actual dataset is produced as an EXCEL spreadsheet. Additional analyses may be provided as an addendum to the AIX report based on current issues and needs (Siderelis et al., 2011). Besides serving the NASPD, the AIX database also contributes state park-related information to the annual edition of Statistical Abstract of the United States (USCB, 2011).

Sample AIX Variables

<table>
<thead>
<tr>
<th>Category</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inventory</td>
<td>Total No. of Areas, Types of Park Units, Total Acreage, Trail Mileage</td>
</tr>
<tr>
<td>Facilities</td>
<td>No. of Campsites, Cabins, Group Facilities, Lodges, Restaurants, Golf Courses</td>
</tr>
<tr>
<td>Attendance</td>
<td>Day Use, Overnight Use (both fee and non-fee areas), Facility Use</td>
</tr>
<tr>
<td>Capital Expenditures</td>
<td>Land Acquisition, Construction Costs, Source of Funds</td>
</tr>
<tr>
<td>Operating Expenditures</td>
<td>Source of Funds, Parks’ Share of State Expenditures, User Fees, Revenues</td>
</tr>
<tr>
<td>Personnel and Salaries</td>
<td>No. of Different Positions, Salaries, Supporting Group</td>
</tr>
<tr>
<td></td>
<td>No. of Support Groups, Endowment Funds</td>
</tr>
</tbody>
</table>

Published Research Using the AIX Database
We perform periodic keyword searches on multiple reference databases to identify publications that utilized the AIX survey data. A small number of studies have been identified though the searches are an ongoing effort. We found that researchers had utilized the AIX database in several different ways; examples of three types of research follow:

Type 1: Contribution to National Databases/Recreation Assessments
The first type of research incorporated the state parks/AIX data into national assessments of outdoor recreation supply and demand (Cordell, 1999).

Type 2: Trends Analysis
The second type of research performed trend analyses on various aspects of state park operations, with fiscal and attendance being the most common variables (McLean et al., 2000; Siderelis et al., 2012).

Type 3: Comparisons of Park Systems
The third type of research examined differences in state park management between groups of parks which were classified through policy analysis (Davis, 2008) or multivariate statistics (Candey et al., 2009). For example, Candey et al. (2009) identified 7 clusters of state park systems based on the types of land resources and facilities. They found these clusters useful in formulating marketing campaigns. Davis (2008) demonstrated that state park facilities and operations are strongly associated with land management orientations, such as preservation, recreation and resource extraction.

Suggestions for Future Research
Future academic research using the AIX database is strongly encouraged. Nationwide or regional trend analysis and comparative studies are particularly useful. While the types of research analysis are inherently limited by the level of data aggregation, this database does afford various analyses due to its completeness and long-term data availability. Examples of research questions that may benefit from the AIX database include:

- What are the spatial and temporal trends in state park attendance, expenditure, revenues and personnel?
- How are trends in state park operations associated with changes in important economic, social and environmental indicators?
- How do state park facilities, attendance and expenditures vary in different types of state park systems or broader ecosystems?
- What are the most meaningful metrics to characterize state park operations?
- These and other questions can be examined using the AIX database, contributing to a better understanding of state park operations. This is one of the most effective ways to articulate the social relevance of state parks and support their sustainable management.

References available upon request
Abstract
State parks are an integral component of America’s outdoor recreation provision system. In 2009-2010, 740 visits were recorded on 6400 state park units across the United States, with economic impact estimated to be over $20 billion. An annual survey of state park operations, referred to as the “Annual Information Exchange” (AIX), has been conducted since the mid1970s to collect and share data meaningful to state park operations across the country. While the primary audience is the state park administrators, the database has been utilized for scholarly research. This presentation is intended to encourage a great utilization of this database for academic research in the parks, recreation and tourism fields. We will provide an overview of the AIX survey database and summarize examples of published research. We will offer some suggestions on future research that may benefit from this long-term database.

Preference on Presentation Format: POSTER
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References Cited


