

THE TECHNICAL EFFICIENCY OF STATE PARK SYSTEMS: RESULTS FROM 31 YEARS OF DATA



INSTITUTE OF
OUTDOOR
RECREATION
AND TOURISM
UTAH STATE UNIVERSITY



Lael Gilbert
Jordan W. Smith, PhD
Yu-Fai Leung, PhD



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abstract Using budgets efficiently allows managers to offer outdoor recreation opportunities to more visitors at a higher quality of service while keeping costs as low as possible. This research identified which state park systems have been most, and least, cost efficient in producing outdoor recreation opportunities within their state between 1984 and 2014.

State park system managers have the daily challenge of providing outdoor recreation opportunities while simultaneously protecting resources and managing day-to-day operations with budgets that have steadily declined since 2006. Budgets for state parks in the US range from \$4.3 million (North Dakota in 2014) to \$443.9 million (California in 2014). State park systems vary in size, provide a wide variety of different activities and services, and serve extremely diverse user groups. Despite these differences, all managers are tasked with working harder to provide high quality opportunities to as many visitors as possible while keeping costs low.

Recent research, conducted by the Institute's Director Dr. Jordan W. Smith, looks at which state park systems in the US have been the most and the least cost efficient in producing outdoor recreation opportunities over the past three decades (Smith and Siderelis, 2016). Dr. Smith and his colleague estimated and documented temporal trends in state park systems' operating inefficiencies using a longitudinal panel dataset detailing state park system operations over a 31-year period. They used a zero-inefficiency stochastic frontier model to estimate an annual operating inefficiency metric for each state park system. These annual operating inefficiency metrics were subsequently used to identify state park systems that have exhibited consistent,

significant positive and negative long-term trends in inefficiency.

Data on state park systems were obtained from the Annual Information Exchange database, which has tracked numerous variables related to the operations of all 50 state park systems since 1984. Variables considered included visitation levels (visitor-hours), non-recurring capital improvement such as investments in new amenities (capital expenditures), and the effort spent by state park system employees servicing and managing the state park system (labor). State park system directors have discretionary operating budgets to fund or maintain each of these product outputs. Efficient directors and managers will have facilitated more visitation, maintained more capital improvement projects, and employed more personnel dedicated to maintaining and servicing outdoor recreation resources within their park system. Average inefficiencies by state, are shown in Figure 1.

Dr. Smith and his co-author found decision-making trends among states with the best track records for efficiency. Systems that worked to generate more visitation per acre had long-term reductions in inefficiency. These successful systems also tended to allow for more investments in one-time capital improvements and used more employee labor hours per acre to maintain their parks.

There are certainly no simple factors to describe efficiency within these systems, and spurious circumstances could affect a state's ranking. For instance, if visitor numbers plateaued, or if a state reduced the size of their park system without adjusting the budget, the analysis would register as inefficient. The same would be true for a shift in the hours worked by seasonal staff in response to a change in state policy.

This research provides the first nationwide determination of which states have exhibited positive and negative trends in the efficient use of operating budgets over time. We can look to systems that have consistently demonstrated efficiency to discover more ways of providing high quality, outdoor recreation opportunities to more visitors with increasingly limited budgets.

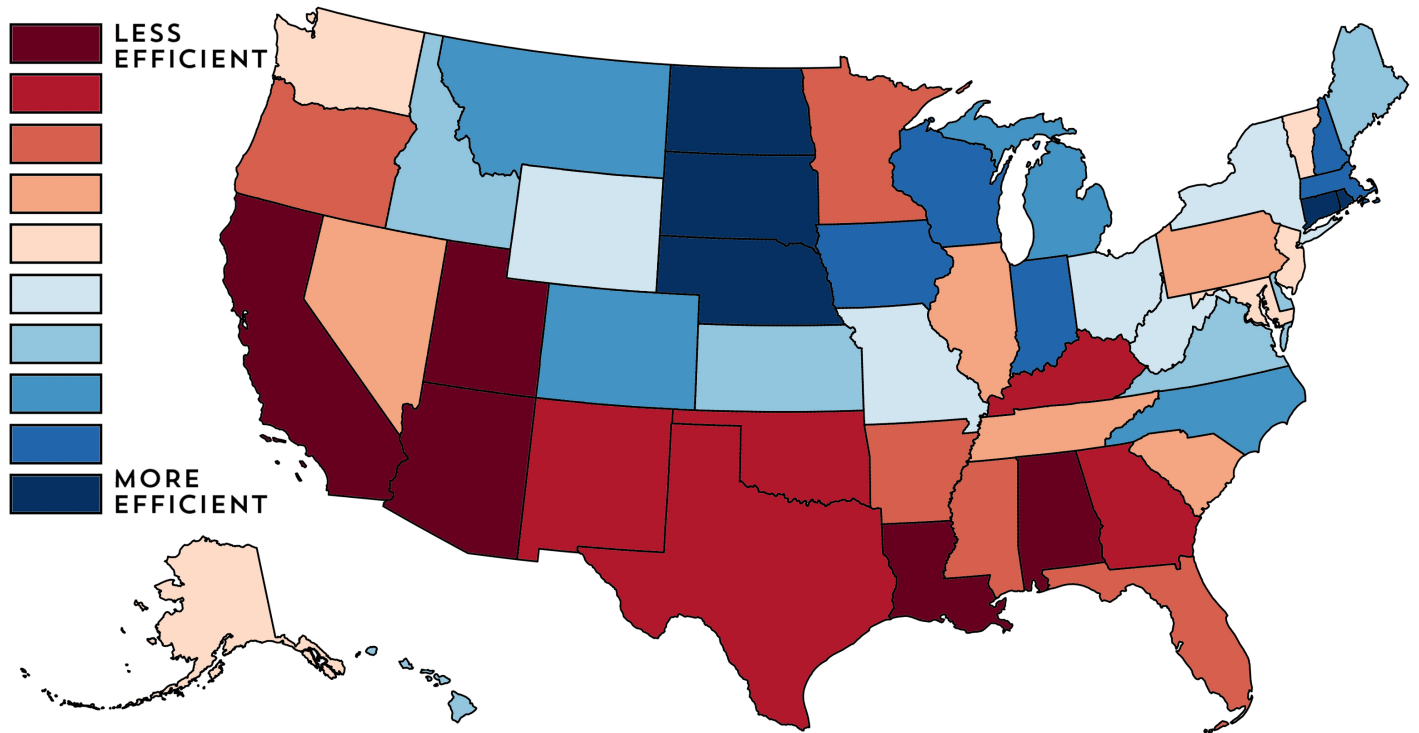


Figure 1. The relative efficiencies of each state park system.

reference

Smith, J. W., & Siderelis, C. (2017). Temporal trends in the operating inefficiencies of US state park systems. *Journal of Outdoor Recreation and Tourism*, 18, 105-112.

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