



## Research Paper

## User fees displace low-income outdoor recreationists



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## ABSTRACT

The arguments for, or against, the use of user fees at outdoor recreation settings are often based upon philosophical, moral, and ethical grounds. Empirically-grounded research on the debate has been sparse. In this study, we report on a unique natural experiment comparing the incomes of individuals visiting very similar outdoor recreation settings which differ only in their requirement of a marginal user fee. Our comparison of the incomes of outdoor recreationists using the settings requiring a fee versus those that do not suggest user fees do play an important role in how low-income individuals choose outdoor recreation settings. Low-income outdoor recreationists tended to choose non-fee settings when they are available and if they support similar activities and opportunities as settings which require a fee. Low-income outdoor recreationists' aversion of settings which require a fee is not a product of their inability to pay the fee, but rather a product of their unwillingness to pay the fee. Low-income outdoor recreationists reported traveling over three times as far to reach non-fee settings relative to comparable settings which require a fee. If user fees are being considered as a visitor management tool, land-use and outdoor recreation planners should not only expect a shift in the socioeconomic composition of visitors to the areas where the fee will be enforced, they should also anticipate displacement and increased use at nearby non-fee settings. Recreation managers should avoid requiring fees at all outdoor recreation settings within an area to ensure displacement does not become exclusion.

## 1. Introduction

Few, if any, issues related to the management of outdoor recreation on public lands are as controversial as user fees. These fees are created by land management agencies to either generate revenue for the agency, which is most commonly used to fund labor and maintenance-related costs, or in rare cases to restrict use (Manning, 2011). The controversy surrounding user fees has been a persistent point of focus for the land-use planning and outdoor recreation research communities.

Some academics as well as land-use and outdoor recreation planners advocate for user fees for a variety of reasons: User fees allow public land management agencies to be more self-sufficient and less-dependent upon erratic and unpredictable appropriations from federal, state, or local governing bodies (Fretwell, 2000; LaPage, 1994; More, 1998); user fees provide a much needed stream of revenue to fund agencies' large deferred maintenance backlogs (General Accounting Office, 1998); and lastly user fees provide an indirect, yet efficient, way to restrict use to an area, limiting the environmental impacts associated with rising visitation levels (Hammit, Cole, & Monz, 2015; Manning & Baker, 1981; Stankey & Baden, 1977).

Other academics as well as land-use and outdoor recreation

planners believe the benefits associated with user fees are irrelevant because: User fees are antithetical to public land management agencies' mandates to provide outdoor recreation opportunities to all members of the public and not just those who can afford it (Fix & Vaske, 2007); because user fees require the public to 'pay twice' for one service (i.e., the fee and the portion of their federal, state, or local taxes that go to public lands management) (Crompton & Lamb, 1986).

The controversy surrounding user fees arises because many of the arguments for, or against, user fees are true. User fees allow outdoor recreation managers to generate revenue, fund local maintenance and improvement projects, and reduce environmental damage. In many contexts, such as on federally-managed public lands, user fees require outdoor recreationists to pay for a service that they are obligated to receive as part of their rights as a citizen. It is unclear whether the final argument, whether or not fees are discriminatory, is true. Scholarship focused on this question has been limited to findings that are correlational (as opposed to causal) (Taylor, Vaske, Shelby, Donnelly, & Browne-Nunez, 2002) or based on hypothetical scenarios presented to individuals via mail or online surveys (More & Stevens, 2000; Reiling, Cheng, & Trott, 1992; Reiling, McCarville, & White, 1994). Only three studies have used observational data of actual

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**Table 1**  
Previous studies examining whether or not user fees discriminate against low-income individuals.

Type of method	Specific method	Reference	Managing agency	Outdoor recreational activity	Finding
Revealed behavioral responses to fees	On-site experiment combined with a survey administered both on-site and via mail	Manning et al. (1984)	Vermont State Parks	Overnight-use visitors	Lower income recreationists were more likely to report the amount of an overnight-use fee was an important factor influencing their campsite selection. After assigning campsites differential fee levels, <sup>a</sup> the authors found no significant differences between the campsites chosen by lower income individuals when compared to higher income individuals. Lower income recreationists were significantly less likely to pay for 'prime' campsites when compared to wealthier recreationists. <sup>a</sup>
	On-site experiment combined with a survey administered both on-site and via mail	Bamford et al. (1988)	Vermont State Parks	Overnight-use visitors	The incomes of visitors to Linville Gorge Wilderness Area, which did not charge user fees, were not statistically different than the incomes of visitors to Grandfather Mountain, which charged a \$2.50 per person day-use fee and a \$5.00 per person overnight-use fee. <sup>c,d</sup>
	Mail survey	Leuschner et al. (1987)	USDA Forest Service, Linville Gorge Wilderness Area in the Pisgah National Forest; Privately-owned Grandfather Mountain <sup>b</sup>	Day- and overnight-use visitors	The implementation of a user fee would affect the behavior of low-income anglers more than that of high-income anglers. The welfare cost of a user fee would be greater in absolute terms for high-income anglers, but smaller relative to their income when compared to low-income anglers.
Simulated behavioral responses to fees	Intercept and telephone survey	Kim et al. (2007)	Recreational fishing sites throughout the southeastern US (Alabama, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina)	Recreational fishers	Reservoir recreationists were segmented into two regimes using a finite mixture model. Simulated welfare losses due to a \$5 user fee were substantially higher for one regime type (Regime II, higher income recreationists) than for the other (Regime I, lower income recreationists).
	Mail survey	Shonkwiler and Shaw (2003)	Four reservoirs on the Columbia River	All types of reservoir recreationists	Lower income individuals <sup>c</sup> were more likely to change their plans to visit National Wildlife Refuges if fees were put in place
Stated behavioral responses to fees (not using stated choice methods)	On-site survey	Taylor et al. (2002)	U.S. Fish and Wildlife Service	Not specific to any one activity	Lower income individuals <sup>c</sup> were more sensitive to access fees <sup>c</sup> associated with a series of hypothetical outdoor recreation trips.
	Mail survey	More and Stevens (2000)	Vermont and New Hampshire state park systems; USDA Forest Service, Green Mountain National Forest and White Mountain National Forest	Not specific to any one activity	Lower income individuals indicated they would camp for significantly fewer nights than higher income individuals if user fees <sup>c</sup> were to be increased; the differential effect increased as the amount of the hypothetical fee increased.
	Mail survey	Reiling et al. (1992)	Maine State Parks <sup>b</sup>	Overnight-use visitors	A larger proportion of low-income users would stop visiting the U.S. Army Corps of Engineers' projects if a fee system were implemented; Users with lower incomes were also more sensitive to the magnitude of proposed fees, <sup>c</sup> suggesting higher fees would displace a higher proportion of users with lower incomes.
	On-site survey	Reiling et al. (1994)	U.S. Army Corps of Engineers, six projects (Burnsville, Strom Thurmond, Truman Canyon, and Mendocino)	Day-use site visitors	Lower income individuals were significantly less likely to believe fees or a combination of fees and taxes should be used to fund recreation services on public lands.
Non-behavioral	Telephone survey <sup>k</sup>	Bowker, Cordell, and Johnson (1999)	Not specific to any one agency	Not specific to any one activity	Lower income individuals were significantly less likely to believe that fees at the Flaming Gorge National Recreation Area were acceptable. <sup>l</sup>
	On-site survey	Fix and Vaske (2007)	USDA Forest Service, Ashley National Forest	Rafters, anglers, and day-use site visitors	

<sup>a</sup> The user fees examined in this study were a \$4.50 per night fee and a \$8.50 per night fee in 1982; these are equivalent to a \$11.25 per night fee and a \$21.26 per night fee in 2016.

<sup>b</sup> Grandfather Mountain is now part of the North Carolina State Parks system.

<sup>c</sup> A \$2.50 per person day-use fee and the \$5.00 per person overnight-use fee in 1985, when data for the Leuschner et al. (1987) study was collected, is equivalent to a \$5.61 per person day-use fee and a \$11.22 per person overnight-use fee in 2016.

<sup>d</sup> The user fees examined in this study were a \$2.50 per person day-use fee and the \$5.00 per person overnight-use fee in 1985; this is equivalent to a \$5.61 per person day-use fee and a \$11.22 per person overnight-use fee in 2016.

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