109 The influence of wildfire and smoke on recreation visitation and behavior

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In the U.S. West, the area burned in wildfires has been increasing in recent years leading to a greater number of burned recreation destinations. In addition, prolonged periods of dense smoke have inundated both recreation destinations and urban settings. As climate change progresses and the frequency and severity of natural disturbances, such as wildfire, floods, and windstorms, increases we need to improve our understanding of how wildfire, smoke, and burned landscapes influence recreation behavior. In this presentation, we briefly synthesize the current literature on how recreation behavior is influenced by burned landscapes and discuss findings from our recent efforts, using traditional and crowd-sourced approaches, to understand the response of recreationists to wildfire and smoke. The research literature exploring how burned landscapes influences recreation use levels in the U.S. West is limited (McCaffrey et al 2013). Stated-preference studies exploring the welfare implications for recreationists from hypothetical burned landscapes account for much of the literature (Bawa 2017). Fewer studies have been completed on actual burned landscapes. In general, research conducted in-situ has found that any reductions in recreation visitation in recently burned landscapes is short-lived and modest and visitor satisfaction is largely unchanged (e.g., Brown et al. 2008, Love and Watson 1992). Using traditional on the ground counting and visitor surveys and novel crowd-sourced approaches incorporating visitor contributed content to social media platforms, we measured recreation use before and after wildfire in the Columbia River Gorge of Oregon, USA and found only limited visitation changes post wildfire. Our findings of limited change in recreation use post-wildfire is consistent with the findings with those studying other post-fire landscapes in-situ. However, at our study site where we employed traditional methods, we found evidence that the presence of active wildfire or smoke (as opposed to the presence of a burned landscapes) was influencing where and when visitors recreated (White et al. 2020). Following on that research, we used on-the-ground counts of visitors at trails outside Seattle, WA, to explore whether recreation behavior was reduced during a widespread smoke event that significantly reduced air quality in the US Pacific Northwest in 2020. Across our set of study trails, we found marked reductions in trail use during an extended smoky period in September 2020. More interestingly, perhaps, we found that losses in recreation traffic during the smoky September days was recouped in October with above-average recreation traffic during an unusually sunny period, after the traditional recreation season. Our preliminary findings suggest that the presence of smoke may have a more pronounced influence on recreation use patterns than burned landscapes and that presence of smoke during traditional recreation seasons can lead to increased recreation use in shoulder recreation seasons. Our findings of a strong negative reaction by people to wildfire smoke is consistent with the the finding of other recent research completed in the context of increasingly severe wildfire seasons in the U.S. West (e.g., Sachdeva et al. 2017). Our findings further highlight the need to improve our understanding of the complex relationships between wildfire, smoke, and recreation visitor behavior.

References

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