PROVIDING A LONG-TERM CONTEXT FOR THE 2007 MILFORD FLAT FIRE: A 13,000-YEAR SEDIMENTARY CHARCOAL FIRE HISTORY
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Historical fire regimes can be considered quasi-cyclic patterns of fire frequency occurring in certain vegetation types. Measuring the past frequency and magnitude of a fire, captured by the relative abundance of burned plant material produced from each fire event, provides a window into how fire regimes have changed through time. Fires directly influence vegetation composition over decades and centuries, but ultimately respond to changing climate conditions through time. In more recent times, human activities during the past ~170 years have altered the fire regimes in the Great Basin through a combination of land conversion, intensive grazing, fire suppression and the introduction of non-native plants. These anthropogenic factors have all contributed to a shift towards more frequent fires and larger magnitude fires as evident through increasing abundance of charcoal during the past two centuries. The lack of archived data for the Intermountain West (east of the Cascade and Sierra Nevada Range and west of the Rocky Mountain Range) creates a gap in our long-term knowledge of the regions’ fire history. In this study, I have focused on analyzing charcoal deposits in sediment cores collected from a low elevation site near the 2007 Milford Flat fire in Beaver County, Utah, and provide a charcoal record for the past 13,000 years. This research approach demonstrates an effective method for (1) reconstructing the fire history of the Intermountain West and (2) interpreting the resulting charcoal record to understand how changes to the landscape affect the regions’ fire regime. This research provides insight for land managers into on how fire regimes change through time and the important role of historical processes that contributed to shaping the modern landscape in the Intermountain West region.
Total Burn Area of the 2007 Milford Flat Fire within Milford and Beaver Counties, Utah
(Total Acreage 369,192)

Figure 1. Location of the Spring Lake study area, approximately 122 kilometers northwest of Fillmore, Millard County Utah.