Methodology Statement

Project Name: **Utah Wildfire Risk in Roadless Areas GIS Analysis**

Project Date: **February 2019**

Key Finding:

The Pew Charitable Trust's analysis of data from Utah demonstrates that less than 7% of Forest Service roadless areas in Utah are at a high risk to wildfire, and just a fraction of 1% of the total acreage of roadless areas are both high risk and within 0.5 miles of communities.

Technical Description of Methods:

All wildfire risk area calculations were executed on the Utah Department of Natural Resources (DNR)-Wildfire Risk Assessment Portal (UWRAP) Wildfire Risk Index dataset (https://utahwildfirerisk.utah.gov/). The data were clipped to the US Forest Service (USFS) Roadless Lands layer (https://www.fs.usda.gov/detail/roadless/2001roadlessrule/maps/?cid=stelprdb5382437), filtered to Utah state. The Roadless Lands data were clipped to a 0.5 mile buffer of Utah's municipality boundaries, using the Municipal Boundaries dataset from Utah's Automated Geographic Reference Center (AGRC) (https://gis.utah.gov/data/boundaries/citycountystate/). The choice of this distance was based on the USFS report *Wildfire, Wildlands, and People: Understanding and Preparing for Wildfire in the Wildland-Urban Interface (2013)* which states that wildfire embers can travel up to one mile and ignite homes. Using the Wildfire Risk Index data, the half-mile strip of roadless lands adjacent to communities was analyzed by fire risk category as defined in the UWRAP data. Geometric area calculations were then made on the identified GIS features. All measurements were conducted in Esri ArcMap 10.5 using the North America Albers Equal Area projection. It should be noted that the data sources for the roadless areas and wildfire risk have different resolutions. This was determined to have minimal influence on overall area measurements due to the discrepancy's distribution along narrow edges of the study area.