



Crook County Soil & Water Conservation District  
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## Exhibit 13

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Paul Stern  
New Sun Energy  
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In response to the information you requested I am providing details about the potential for juniper based restoration projects as a tool for mitigating the impacts of solar developments in Crook County.

Juniper canopy cover has increased significantly across the state of Oregon in the past century as a result of changing fire regimes and climate conditions. In Crook County approximately 627,000 acres of juniper expansion have been documented since 1936. Natural resource experts agree that this expansion is degrading wildlife habitat for several species of concern including sage grouse, mule deer, prong horn antelope and many other sagebrush obligate species. Juniper trees use massive amounts of water and alter hydrology by preventing precipitation from replenishing groundwater and contributing to streamflow. Research from Oregon State University demonstrates that these trees consume approximately 64,480 gallons of water per acre each year based on multiple assumptions, including the presence of 13 trees with a minimum 12in DBH per acre.

Crook SWCD specializes in ecological restoration projects that improve habitat and water quality. Based on a preliminary spatial analysis of aerial imagery we estimate that there is approximately 350,000 acres of private land that is suitable for juniper based restoration projects. The acreage calculation is based on a five year average (2015-2019) of remotely sensed data with 30 m pixel resolution. The data was processed by The Institute for Natural Resources Landscape Planning Tool and then further refined to the area of interest. Within this area I extracted a mask of Crook County private acres and removed the acres that were treated in the last ten years and then deleted the acres where the pixels that were showing up as juniper were likely a majority pine forest in higher elevations around the Ochoco National Forest. This acreage total is based solely on presence of detectable trees and is not a measure of landowner's willingness to cut those trees.

Best,

Rachael Davee  
Project Manager, Crook SWCD