

Opal Creek Wilderness & Scenic Area:  
Tourism Mapping for an  
Educational Land Stewardship Organization



Battle Ax Mountain, Oregon

Location: 44.9N, 122.2W

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### *Introduction*

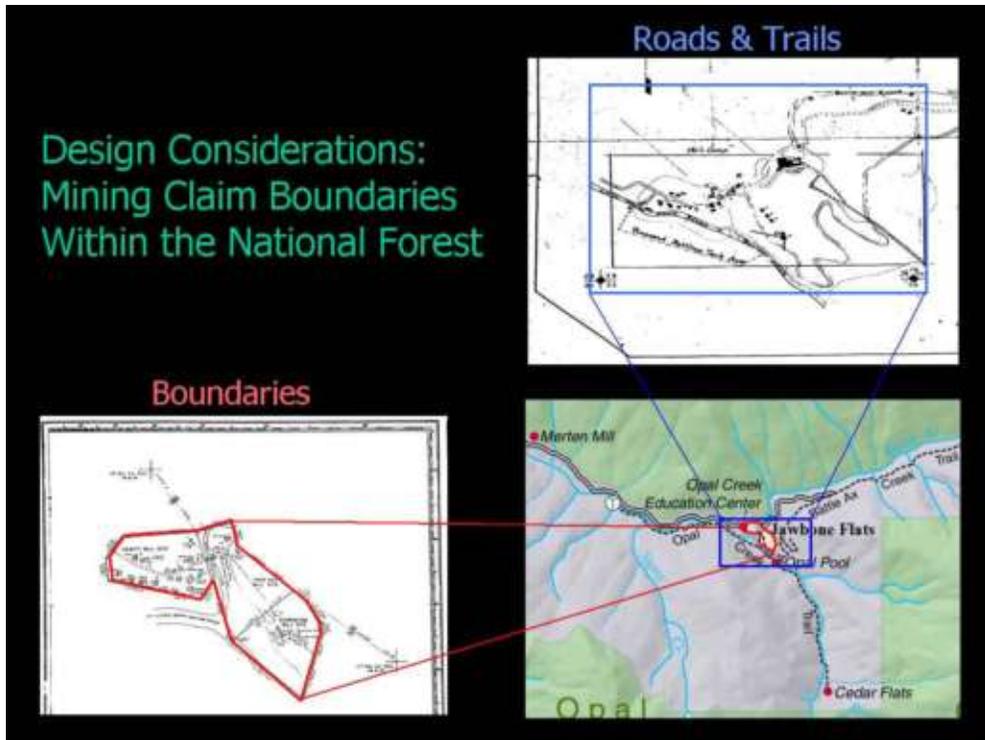
The general topic of this paper describes a unique cartographic project depicting a mountain landscape for the Friends of Opal Creek (F.O.C.), a non-profit organization. The F.O.C. desired a map that reflected their mission to “To inspire understanding of ancient forest ecosystems through education and interpretation, and to work with others in the stewardship of the natural, historic and cultural values of the Opal Creek Wilderness and Scenic Recreation Area”. The maps function is to show the infrastructure of roads, trails, facilities and the dynamic mountain landscape. The overall purpose is to raise public interest in the recreational opportunities in the area and the activities of the non-profit organization.

### *Overview*

The FOC maintain and steward the Opal Creek Educational Center. The education center was built in the rejuvenated historic mining town of Jawbone Flats, which is in the heart of a 35,000 acre old-growth forest of the Opal Creek Wilderness & Scenic Recreation Area. The area lies within the Willamette National Forest, on the west slope of the Oregon Cascade Mountains. The Opal Creek Wilderness and Scenic Recreation Area are a result of legislation that passed in 1996. The wilderness and scenic recreation area boundaries went into effect during 1998 therefore few maps reflect these changes.

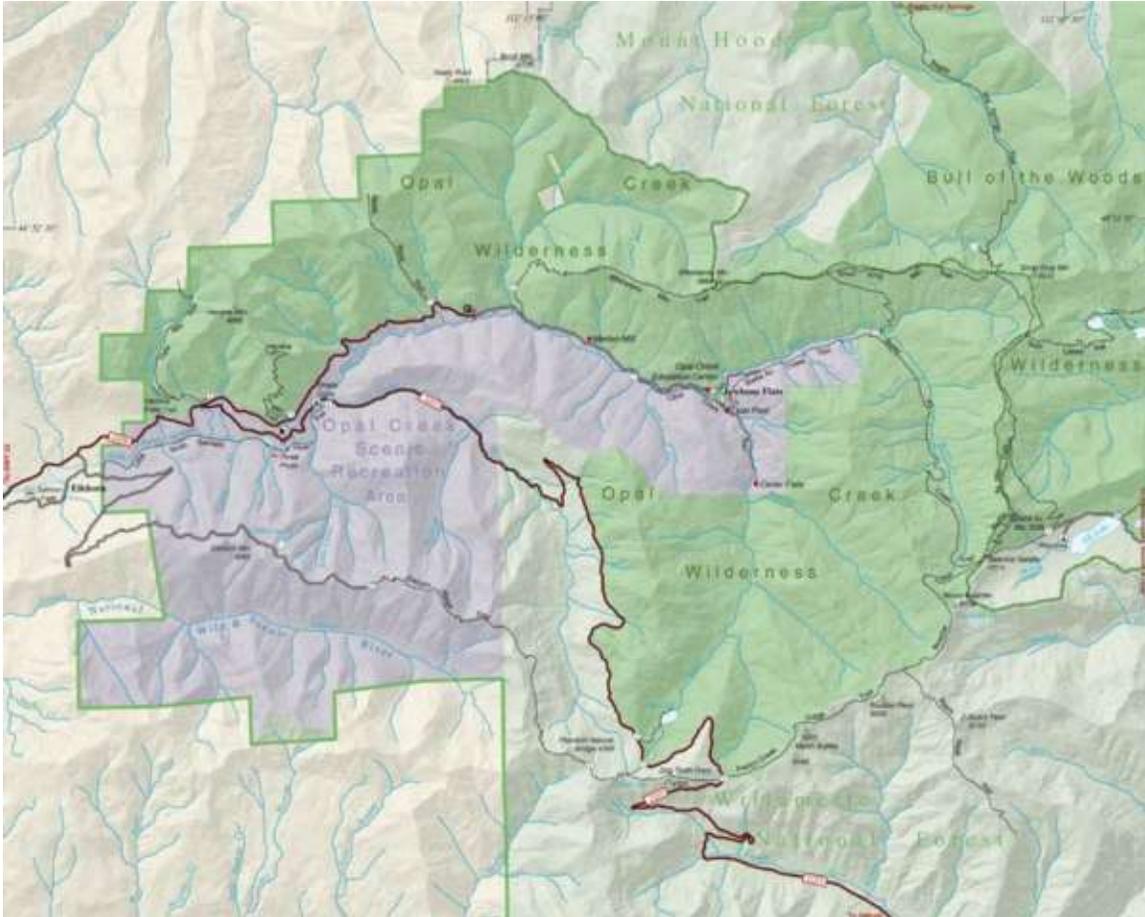
The Friends of Opal Creek organization played a major role in the establishment of the wilderness and the scenic recreation areas depicted on the map. The group provides input to the National Forest Service on the management of the wilderness and scenic recreation area. The organization will use the map as tool for work project proposals that maintain the infrastructure of roads and trails. The group needed a map that clearly delineated boundaries as well as transportation networks to aid in their management. There are certain considerations that I made in the design of this map based on the organization objectives.

The data originated with Willamette National Forest G.I.S. data sets, and U.S.G.S. quadrangles. The data was compiled and edited using ESRI's ArcMap. The compiled G.I.S. data was queried for unique value of attributes to synthesize what ideas were to be communicated on the map. The abstracted data was exported to Adobe Illustrator to create the final map product. The raster image of the hill-shade was created in Adobe Photoshop.



**Figure 1**

The map design took into consideration the influence of historic mining in the area. The land holdings of FOC are artifacts of private mining claims that exist within the Willamette National Forest boundaries. The abstraction process of the complex G.I.S. data for road, trail and boundary features was simplified by consulting historic mineral surveys from 1910 (Figure 1 left) and 1972 (Figure 1 right). The surveys revealed what features in the GIS data directly related to areas under the influence of the organization. Researching the history of the claims revealed patterns in the data that were not readily apparent in the GIS data.



**Figure 2**

The map is designed to display the hierarchy of boundaries and their relationship to the landscape (Figure 2). The color scheme is based on colors which recreational map users are familiar with and associate with the designated areas. The management boundaries are partially transparent over the shaded relief to depict the relationship to the landscape features. The vector data of roads, trails, and hydrological features are designed to show general hierarchy and to compliment the relief image. The mimetic symbols are easily identifiable on the map, so the user may extract the needed information. Text placement, size, font and style were designed for optimum visual interpretation. The project required special use of thematic data presentation such as linear displacement, and formulation of unique mimetic symbols. I believe these techniques led to a more informative and pleasing map design that achieved the intended goals.



**Figure 3**

For a compliment to the map I created a panoramic image, using ESRI's ArcScene (Figure 3). Data layers for the panoramic consisted of 10-meter ArcInfo elevation grid, 24k hydrology and parcel boundary of Jawbone Flats. The footprints of the historic cabins were digitized from the USGS quadrangles and then rendered as 3-D squares in the panoramic. The panoramic image is designed to contrast the built environment of the historic mining town to the dynamic mountain landscape.



**Figure 4**

The completed map also serves as an interactive tool to be hosted on the World Wide Web. The map and its elements are presented in an interface designed in Macromedia Flash (Figure 4). The interface allows the user ability to pan and zoom and to click points of interest. The ability to pan and zoom permits the user to study the map at various scales. The pop up windows for the points of interest are linked to pictures with narrative descriptions. The information about points of interest offers the user information in advance for planning a trip. The ability to host the map on the Internet enables this information to benefit a larger audience.

### *Conclusion*

The map will be offset press published, formatted in 11x 17-inch document size, for the Friends of Opal Creek Organization. The compiled GIS data serves the organization for analysis such as water quality monitoring and data overlays in organizations educational programs. The map's information will be helpful for the organization's future students, interns, and general public. The map also serves a purpose for potential donors and others who want to appreciate the physical setting but are unable to visit. The project has been an enriching cartographic experience to represent this dynamic mountain landscape and a beneficial organization.