

Applegate Watershed

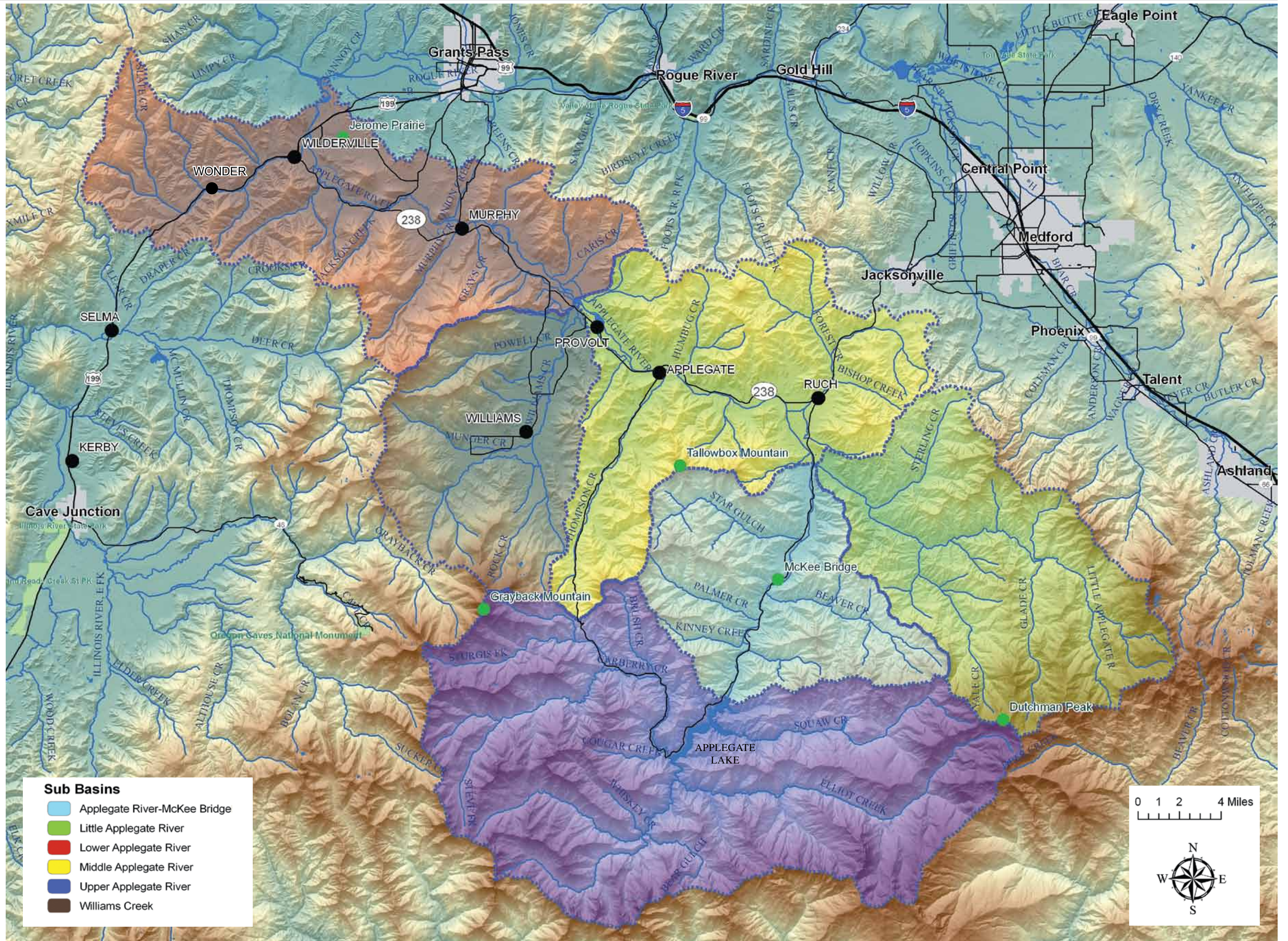
BY ED REILLY

A watershed is a basin-like landform defined by highpoints and ridgelines that descend into lower elevations and stream valleys. A watershed carries water "shed" from the land after rain falls and snow melts. Drop by drop, water is channeled into soils, groundwaters, creeks, and streams, making its way to larger rivers and eventually the sea. Water is a universal solvent, affected by all that it comes in contact with: the land it traverses, and the soils through which it travels. The important thing about watersheds is: what we do on the land affects water quality for all communities living downstream.

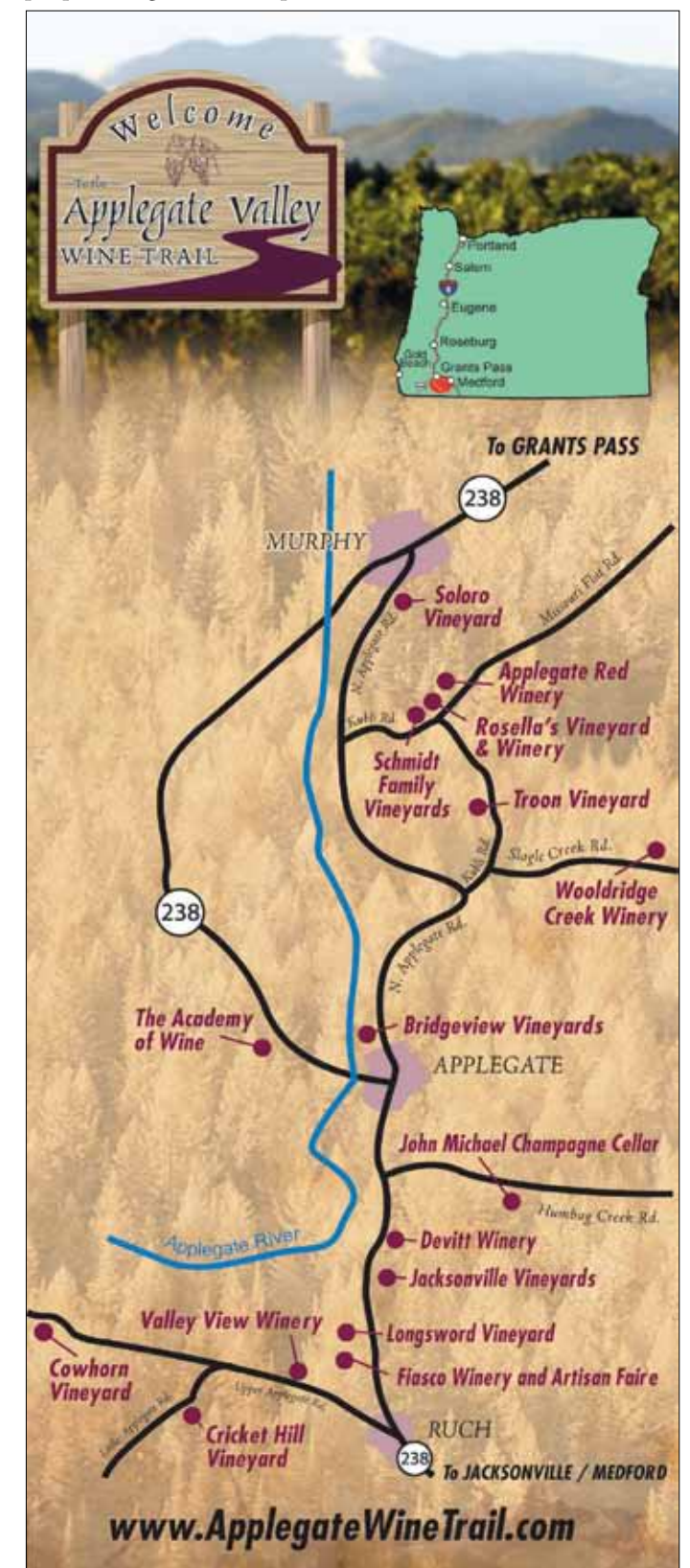
The Applegate River starts in California and flows 60 miles to join the Rogue River. The subbasin covers portions of three counties: Josephine and Jackson in Oregon and Siskiyou in California. Elevations within the subbasin range between approximately 880 feet at the confluence with the Rogue River, to just over 7,400 feet at Dutchman Peak.

Land Ownership and Use
The U.S. Forest Service (USFS) and Bureau of Land Management (BLM) administer 69.6 percent of lands within the Applegate Subbasin. There are two administrative units (Ranger Districts) that manage the USFS lands and two administrative units (Resource Areas) that manage the BLM lands. USFS lands are mostly large, intact blocks, while BLM lands are blocked in some areas and intermingled with private lands in other areas. The U.S. Army Corps of Engineers manages the Applegate Reservoir (less than 0.1 percent) and the State of Oregon manages 0.28 percent within the Applegate Subbasin. The remaining 30 percent of the subbasin consists of private lands, of which eight percent is managed as industrial forest. Ownership of the remaining privately-held land in the watershed is typically held in relatively small parcel holdings; 74 percent of all owners hold 23 percent of the private land in parcels of under 10 acres in size. Records from the 1990s indicate approximately 12,650 people reside in the Applegate Subbasin, with the greatest number of people living in the Murphy and Williams areas.

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Watershed map by Ed Reilly



Geology

The Applegate Subbasin lies entirely within the Klamath Mountains Geologic Province, also called the Siskiyou Mountains. The Applegate Subbasin contains some of the oldest (150-250 million years) and most complex geologic assemblages along the U.S. West Coast. Bedrock in the subbasin is composed of intrusive and metamorphic rock types which have been faulted, folded and broadly uplifted. Major rock types in the headwaters include granite, graphite/mica schist, serpentinite, and medium grade

metamorphosed sedimentary formations. The vast majority of bedrock found in the middle and lowland portions of the basin is composed of weakly metamorphosed volcanic and sedimentary rocks. Notable exceptions are the large granitic intrusion near the confluence with the Rogue River and the large granitic pluton underlying the Williams Valley.

Streamflows

Streamflows in the Applegate River have been regulated by the Applegate Reservoir since its completion in December 1980. The United States Geological Survey

(USGS) has operated a streamflow gaging station near Wilderville (located 7.6 miles upstream from the mouth of Applegate River) from October 1938 to September 1955 and from September 1978 to the present. For the period of record, a maximum discharge of 47,500 cubic feet per second (cfs) occurred on January 18, 1953 and outside the period of record, an estimated maximum discharge of 66,500 cfs occurred on December 22, 1955. Floods of December 22, 1964 and January 15, 1974 are known to have exceeded the December 1955 flood.

Most of the runoff and flooding on the Applegate River and its tributaries are caused by winter rains, with major floods occurring when winter rains combine with melting snow. Summer low flows ranged from less than one cfs to 60 cfs prior to the completion of the Applegate Reservoir, and from 35 cfs to 140 cfs after the reservoir. The reservoir has moderated both high and low flows in the mainstem. There are fewer and smaller peak flows and also fewer extreme low flow conditions.

Sources:
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watershedatlas.org.
All the other paragraphs are from: *Water Quality Restoration Plan Southern Oregon Coastal Basin Applegate Subbasin Bureau of Land Management (BLM), Medford District U.S. Forest Service (USFS), Rogue River-Siskiyou National Forest January 2005*
The entire text can be found at: <http://www.blm.gov/or/districts/medford/plans/files/wqrpapple.pdf>

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