

Eureka County Water Resources Master Plan Highlights

Note: Here is a summary of the draft Water Resources Master Plan. The Plan's executive summary is the source for these highlights.

WATER RESOURCES IN EUREKA COUNTY

Groundwater Resources: The footprint of Eureka County touches on portions of 16 hydrographic areas within two regions – the Humboldt River Basin and the Central Region containing the Diamond Valley Flow System. All but one hydrographic area is shared with neighboring counties – Lander, White Pine, Elko and Nye Counties. The combined estimated perennial yield of the 16 basins is about 181,000 acre-feet per year (af/yr.) More than 3,000 wells have been drilled within the County, mostly for mining and agriculture.

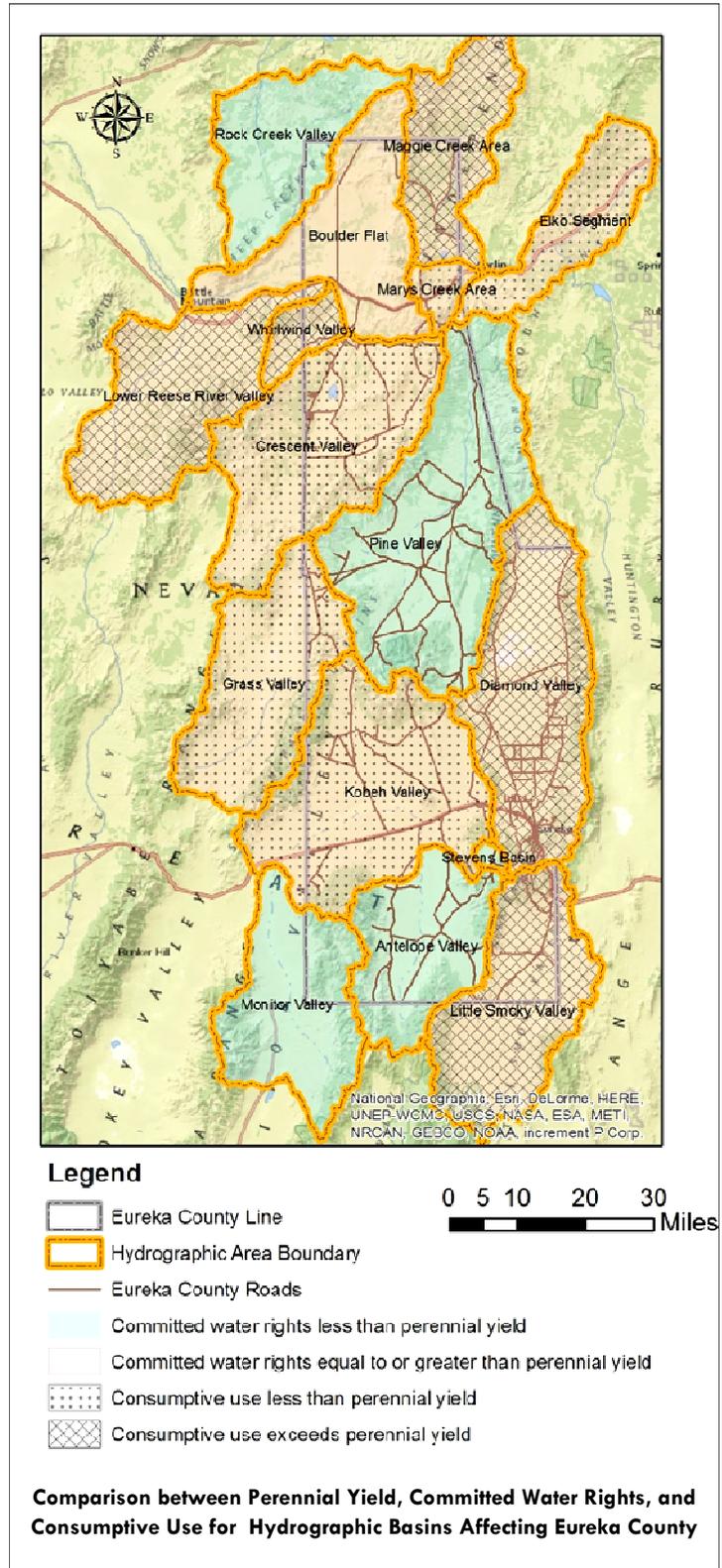
Surface Water Resources: More than 1,600 springs and seeps have been catalogued within the County and about 325 miles of streams are “perennial” or flowing year-round. The principal perennial stream entirely within Eureka County is Pine Creek, a tributary to the Humboldt River. Most streams in the County's planning area are perennial only in the mountains or for relatively short distances below the range front. Stream flow that infiltrates the underlying geologic deposits represents a major component of recharge to aquifers. Intermittent streams provide valuable sources of water supply for the period of the year when there is flow and also recharge basin aquifers.

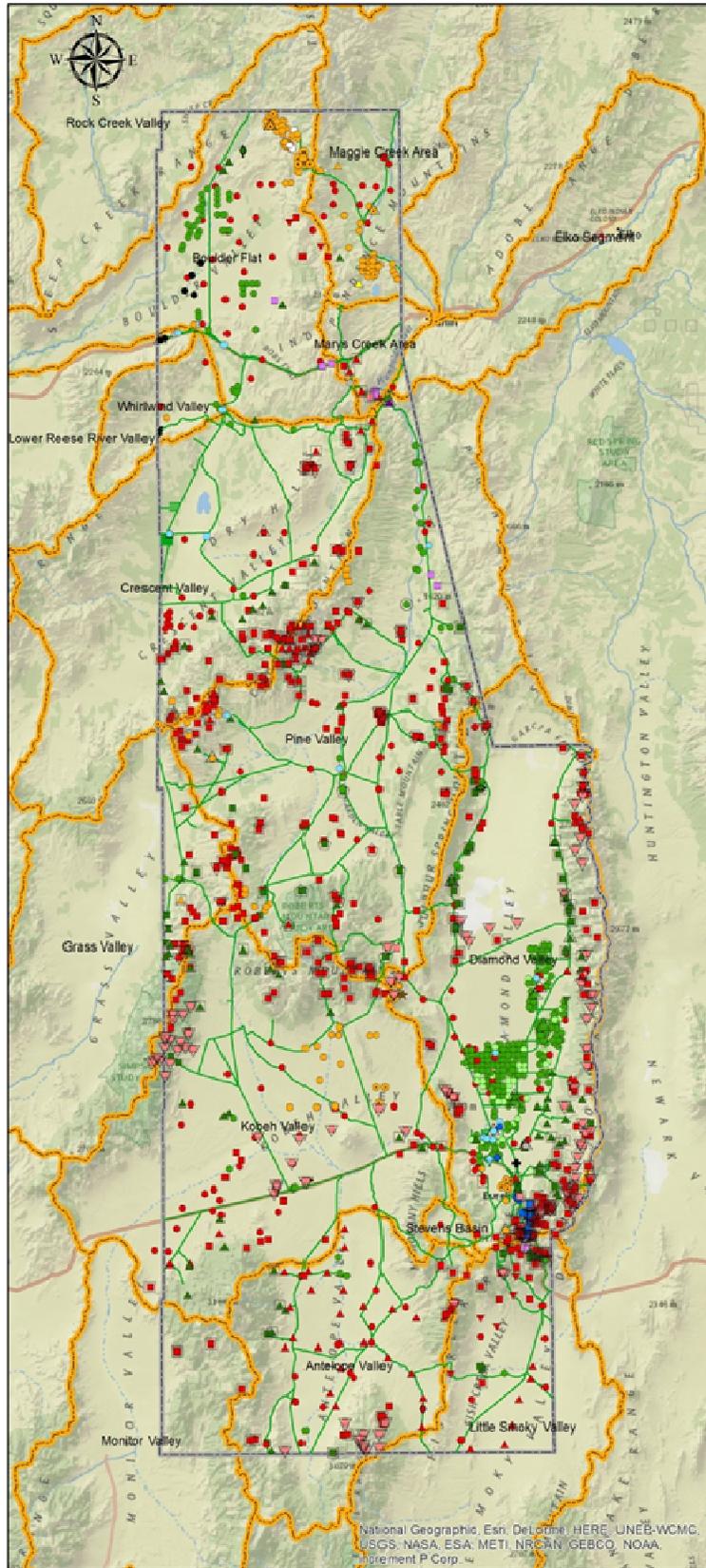
The small amount of unappropriated groundwater in Eureka County underscores the need to plan for future use of the resource.

Virtually all streams in Eureka County are fully appropriated or have been adjudicated. Water from many springs has been appropriated and the flows of literally hundreds of springs and seeps are the subject of claims to vested rights yet to be determined through the adjudication process.

Groundwater Rights: The NSE has approved more than 400,000 af/yr of groundwater rights in the 16 basins. This equates to about 2.5 times the combined estimated perennial yield of the 16 basins. Committed groundwater rights exceed perennial yield in 11 hydrographic areas. Committed groundwater rights are presently less than perennial yield in Pine Valley,

Rock Creek, Monitor Valley, Antelope Valley, and Stevens Basin. If pending Pine Valley applications are approved, only 3 of the 16 basins will have unappropriated water, totaling less than about 4,000 af/yr. The small amount of unappropriated groundwater in Eureka County underscores the need to plan for future use of the resource.





Water Right Status

- ◊ Decree
- △ Application, ready for action
- Application, ready for action, protested
- Claim of vested right
- ▽ Claim of reserved right

Water Right Points of Diversion

Source, manner of use

- Spring, domestic
- Spring, municipal
- Spring, quasi-municipal
- Spring, irrigation
- Spring, stock
- Spring, other
- Spring, mining & milling
- ▲ Stream, quasi-municipal
- ▲ Stream, irrigation
- ▲ Stream, stock
- ▲ Stream, decreed
- ▲ Stream, mining & milling
- ▲ Stream, construction
- ▲ Stream, storage
- ▼ Other surface water, irrigation
- ▼ Other surface water, stock
- ◆ Lake, irrigation
- ◆ Lake, stock
- ◆ Reservoir, irrigation
- ◆ Reservoir, stock
- ◆ Reservoir, mining & milling
- ◆ Reservoir, storage
- ◆ Reservoir, wildlife
- Underground, domestic
- Underground, municipal
- Underground, quasi-municipal
- Underground, commercial
- Underground, irrigation DLE
- Underground, irrigation
- Underground, stock
- Underground, mining & milling
- Underground, mining, milling & dewatering
- Underground, dewatering
- Underground, construction
- Underground, industrial
- Underground, environmental
- Underground, storage
- ★ Other groundwater, mining/milling
- ⌘ Geothermal, power generation
- ⌘ Effluent, other
- Eureka County Roads
- ▭ Eureka County Line
- ▭ Hydrographic Area Boundary

National Geographic, Esri, DeLorme, HERE, UNEB-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, Swiremap P Corp.

source: NSE, 9/16/14



PODs plotted to the nearest quarter-quarter section

Status is permit or certificate unless noted otherwise

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Water Quality: With some exceptions, the chemical quality of groundwater within much of Eureka County meets current drinking water standards. The chemical quality of many streams has been assessed by the Ne-

The total combined quantity of committed water rights for the 16 basins is more than double the estimates of perennial yield.

vada Division of Environmental Protection. Several Eureka County streams do not meet water quality standards including portions of Maggie Creek, Rock Creek, and Trout Creek as well as the Humboldt River from Palisade to Battle Mountain.

Water Resources Available for Growth: The total combined quantity of committed water rights for the 16 basins is more than double the estimates of perennial yield. Current consumptive use over the same area is estimated at approximately 70% of the perennial yield, but there are basins where consumptive use ex-

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ceeds the perennial yield. Water resources to sustain future growth within the county must come from several sources:

- The basins in Eureka County where committed water rights are less than perennial yield (Rock Creek Valley, Pine Valley, Monitor Valley, Antelope Valley, and Stevens Basin). However, the combined amount of unappropriated groundwater in the hydrographic areas is small.
- Water conservation, primarily through improved irrigation efficiency or introduction of low-water use crops.
- Temporary mining water rights reverting back to the source at the conclusion of mining projects.

Future Public Water Supply and Domestic Well Demand: The plan identifies the supply and analyzes projected future water demand for the County's municipal water systems: Town of Eureka, Devil's Gate GID

and Crescent Valley and for domestic wells with particular emphasis on Diamond Valley.

Floodplain Management: A floodplain is the low-lying, relatively flat area along a stream that floods. Within Eureka County, the Federal Emergency Management Agency (FEMA) has classified approximately 340 square miles of land as floodplain for the so-called 100-year flood. FEMA's analysis does not address flash flooding that commonly occurs in the County as a result of high intensity, short duration storms. Virtually all mountain drainages in the County have some chance of experiencing a flash flood in any given year, although flash flooding is nearly impossible to predict.

Management Alternatives: The final section of the document presents options for the County to consider going forward in terms of its participation and clout, especially with projects proposed by the federal government and water rights applications considered by the Nevada State Engineer. The document makes no recommendations, but lays out options for County involvement in projects where water resources are involved.

1. **The No Action Alternative** - Rely solely on the NSE to manage the water resources within the county.
2. **The Review and React Management Alternative** - Rely on the NSE to properly manage the resource, but intervene when the County's Master Plan, Water Resource Master Plan, County Code, or other plan or policy may be or is violated.
3. **The Coordinated Management Alternative** - Provide data and technical assistance to and actively engage with the NSE and federal agencies to enhance science-based decision making.
4. **The Active Management Alternative** - Develop comprehensive land use or other regulations, plans or policies which will enable the County to administer water management plans and policies in parallel with the NSE and other applicable agencies.

Next Steps

The draft Water Resources Master Plan must be reviewed and approved by the Planning Commission and the Board of County Commissioners. Public hearings are part of that process. Upon approval by both Commissions, the Plan will be finalized and submitted to the Division of Water Resources.

For more information, contact the County's Natural Resource Office at 775/237-6010. ●