Fact Sheet

Water Unavailability in the Russian River Watershed

Why is the State Water Board issuing notices of water unavailability in the Russian River watershed?

The Board is issuing notices of water unavailability to implement the California water rights system of "first in time, first in right." This action follows the Governor's April 21, 2021 proclamation that the Russian River watershed is experiencing a drought emergency. There is not enough water for many water right holders due to extremely low flows and dry conditions this year.

Although the recipient of a notice may observe water flowing past their point of diversion, that water now is unlikely to be natural or abandoned flow that the water user may divert. Water stored in Lake Mendocino is released downstream to maintain flows in the Upper Russian River, which extends from roughly 20 miles north of Ukiah down to the confluence with Dry Creek near the City of Healdsburg. During dry periods, these storage releases can account for almost all water in the river. The released water protects multiple species, including endangered coho salmon and threatened steelhead and Chinook salmon, and supports municipal and agricultural uses.

After an unseasonably dry winter and spring, Lake Mendocino is well below historic storage levels. The lake is at risk of draining completely by the end of the year unless urgent action is taken to reduce diversions in the watershed. Diversions require additional releases from the lake to maintain river flow; preserving water in storage ensures the lake can continue to support minimum health and safety needs and threatened and endangered fisheries if dry conditions persist into 2022.

What is a notice of water unavailability? How does a notice of water unavailability differ from a notice of curtailment?

Notices of water unavailability (also referred to as "notices") are letters used to inform diverters that, based on the best available information, there is insufficient water available to divert under their priority of right. Notices are not directives to stop diverting and are different from curtailment orders. Rather, they inform affected diverters that water is currently expected to be unavailable for their diversion or may be unavailable in the near future. Like weather forecasts, they allow diverters to prepare for expected future conditions and take proactive action. These notices also play an important policy role by offering the opportunity for voluntary compliance prior to the initiation of any formal enforcement action by the State Water Board.

How can diverters respond if they received a notice of unavailability?

Right holders who received a notice of water unavailability should respond through the online form that is called a Water Unavailability Certification Form. The form will request information about whether you will cease diversions, if you have alternative sources of water, and if you need an exception to the notice due to a need to divert water for human health and safety. Questions regarding the form or information from this Fact Sheet can be emailed to RussianRiverDrought@waterboards.ca.gov. You may also leave a message at our Drought hotline at (916) 341-5318 and State Water Board staff will return your call.

Which water right holders are affected?

Current data indicate that water is not available for water rights with a priority date of January 28, 1949 or later, and by June 1 will not be available for any post-1914 appropriative water rights nor sufficient to fulfill riparian or pre-1914 claims.

Water use restrictions generally are determined based on seniority and the type of water right. In times of shortage, those with more junior rights may be required to stop diverting from rivers and streams before restrictions are imposed on more senior water right holders. Those who illegally divert when there is insufficient water under their priority of right are subject to potential enforcement actions, including fines of up to $1,000 per day and $2,500 per acre-foot of unauthorized water. Before the board takes enforcement action, diverters are notified and afforded an opportunity for a hearing.

Right holders who receive the notices generally can still access water they previously stored in reservoirs. If that option is unavailable, they will have to find alternative sources such as groundwater or purchased water. Water stored in Lake Mendocino and released to support minimum stream flow is not available for other diverters.

When did the board distribute the notices?

On May 25, 2021, notices of water unavailability were sent to numerous water right holders in the Upper Russian River basin. The action follows an assessment of the inflow projections, along with forecasts for future precipitation. The notices are likely to remain in effect until winter rains restore flows. Given that it is still early in the dry season, it is likely that conditions will worsen and notices or formal curtailment orders will be issued to additional right holders.

What methodology is used to determine if water is unavailable for diversion?

The State Water Board has developed a methodology for identifying when available data indicates that natural and abandoned water supplies are unavailable for diversion or diversion to storage for consumptive use by diverters in the Russian River watershed (Water Unavailability Methodology) during the 2021 irrigation season. Diversions of previously stored water and water supplied by contracts or transfers are not part of this methodology. The methodology evaluates water supplies and demands on a monthly timestep across the watershed. Water right demands are based on water use data provided to the State Water Board through annual water use reports. Errors in reported water use data were corrected using a standardized QA/QC methodology. The average of 2017 through 2019 water use was then used to estimate monthly demands. Supply was estimated using the United States Geological Survey's Precipitation Runoff Modeling System (PRMS) to estimate natural cumulative runoff in the watershed, as well as to forecast monthly supplies through September. Monthly amounts of supply were then compared against monthly demands to identify to which priorities of water rights would not be satisfied.

Will the Water Unavailability Methodology affect riparian and pre-1914 appropriative water rights?

Not now. At present, the Water Unavailability Methodology is not being used for a detailed evaluation of water unavailability for pre-1914 appropriative rights or riparian water right claimants, in part due to more limited authorities to regulate pre-1914 and riparian diversions without an emergency regulation in place. Water Board staff plan to conduct additional analysis and determine how the methodology could be applied or made useful for evaluating water unavailability and shortages for riparian and pre-1914 diverters.

Will water quality standards and public trust resources be affected by the Water Unavailability Methodology?

The methodology does not incorporate: (a) water needs for public trust resources; (b) natural instream losses and evaporation; or (c) non-agricultural consumptive uses in the Russian River watershed (e.g., open water evaporation, riparian vegetation, etc.). Notices will only be issued to make water available for senior water right holders and claimants.

How was supply data processed/refined for use in the Water Unavailability Methodology?

The United States Geological Survey's PRMS was used to model water supply flow data for the Russian River watershed. The model considers real world terrain, vegetation/land use, soil properties, and meteorological data to simulate streamflow spatially within the watershed. The Russian River model was calibrated to simulate natural runoff and streamflow conditions, with a focus on the spring recession and summer months to better capture low flows. Climate is the underlying dynamic variable that is used to simulate flows. Observed climate station precipitation and temperature data was used to simulate streamflow up to the current conditions (mid-May of 2021). Analysis of current and historical climate data indicated trends toward zero precipitation and hotter than average temperatures. To forecast flows from mid-May to the end of September, zero precipitation and temperatures like the year 2014 were used to run the model simulation.

What should diverters expect in the coming months?

Conditions will be closely monitored, and junior water right holders will be updated if flows improve and water becomes available. The State Water Board is encouraging diverters to collaborate and help local communities adapt to water shortages, conserve water, prevent impacts to other legal water right users, and benefit fish and wildlife. We will provide updated information on the availability of water on our Russian River Drought website and through our email subscription list. You can sign up to receive email updates by subscribing to the Water Rights "Russian River Drought" at: http://www.waterboards.ca.gov/resources/email_subscriptions/swrcb_subscribe.shtml.

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