



# City of Rio Dell

Humboldt County  
California

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## WATER SHORTAGE CONTINGENCY PLAN

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Updated June, 2021



## OVERVIEW

The City of Rio Dell was incorporated in 1965 and provides municipal water and wastewater services. The population of Rio Dell is approximately 3,400 serving 1,292 accounts. Rio Dell is located in Humboldt County in the Eel River watershed and approximately 2 miles upstream of the river's confluence with the Van Duzen River.

## WATER USAGE

Current annual customer water usage, based on consumption from January 2020 through December 2020 (a non-drought year) is 89.754 million gallons (MG). Of this total amount, 87.728MG or 97.75 percent was derived from the City's infiltration gallery located in the Eel River and 2.026MG or 2.25 percent was derived from the City's backup water supply at the Metropolitan Wells in the Eel River Groundwater Basin. Consumption ranged from a monthly low of 4.24MG in February 2020 to a high of 11.088MG in July of 2020. During 2020, the Metropolitan Wells were utilized only in January during a short period of high river turbidity. The City of Rio Dell provides water to single family residences, multi-family residence, commercial, institutional and irrigation customers.

Accounts		
Type	Number	Approx. Percentage of Use
Residential	1,223	95
Non-Residential	69	5
Total	1,292	100

## WATER SUPPLY

The City of Rio Dell's main source of water is an infiltration gallery located on a bank of the Eel River adjacent to the Eagle Prairie Bridge and the Scotia gauge. The system came online in 2006. The system is capable of extracting up to 600gpm under ideal river conditions, and 400gpm under low flows or high turbidity. The system is prone to complications from clay and silt deposits on top of the gallery that vary from year to year. In 2014, the city acquired emergency permits to excavate these deposits across the top of the gallery to maintain water supply during the summer. The system reaches a critical point when the river flows are below 40cfs.

In 2018 the City brought the Metropolitan Wells site online as a backup supply. The site was previously the primary source of municipal water for the community since 1955 through 2006. The wells were discontinued due to high manganese and iron in the well supply. Beginning in 2016, two wells were rehabilitated at the site and an extensive manganese and iron filtration system were added. The site is surrounded by monitoring wells for early detection of pollutants. The system is capable of providing 300gpm and derives water from the Eel River Groundwater Basin aquifer. This aquifer has been identified by the State as being a medium priority basin in the Sustainable Groundwater Management Act. To date, no Groundwater Management Agency has been formed as no



unsustainable draw of groundwater has been detected in either the short or long term including no saltwater intrusion from the Pacific Ocean since monitoring began in 1975. Studies are ongoing however as of 2021. Evidence shows the aquifer is recharged annually, most likely from the areas heavy rains.

Additionally, the City's wastewater operations dispose of 45.053mg of treated wastewater in an irrigation field (installed 2013) located 1/8 of a mile downstream from the Metropolitan Wells site and also located in the Eel River Valley Groundwater Basin. It is estimated that 40.548mg is returned to the aquifer annually through this facility. This is a net contribution considering the total draw out of the basin through the Metropolitan Wells was 2.026mg in the year 2020.

## **WORST CASE SUPPLY SITUATION**

Under a worst case scenario, both the Eel River Infiltration Gallery and Metropolitan Well Site would need to fail in order for the City's water supply system to fail. The system has had a redundant supply since 2018 making this less likely. Prior to this date the system has experienced periodic service interruptions related to construction of the Infiltration Gallery, well site failure due to high manganese concentrations and decades of deferred well site maintenance. Additionally the Metropolitan wells service the city via a pipeline that utilizes a Caltrans bridge. The bridge partially collapsed during the 1964 flood events and the line was eventually moved to the cement southbound bridge. This bridge does not meet current seismic safety standards and both northbound and southbound bridges are being look at for replacement.

The greatest threats to the system remain flood and seismic in nature. While drought occurrences are increasing, water supply diversification and access to the Eel River Groundwater Basin have significantly reduced this threat. However, additional concerns have emerged in recent years related to extended electrical supply disruptions and subsequent fuel supply disruptions. The city is seeking grants for seismically resilient Eel River crossings and is actively pursuing power supply diversification through solar and battery storage.

Should the city's two main sources of water fail, the City would rely on a 150,000 gallon, 250,000 gallon and 500,000 gallon storage tanks, collectively 900,000 gallons split across two pressure zones. The tanks provide pressure to the system via gravity. This supply is estimated to cover a three day period, possibly up to five days for the main pressure zone with strict conservation. A significant fire event, or damaged mains would drain this supply within hours if the two main sources remained offline.

Historically, both the City of Rio Dell and "Town of Scotia LLC" (Currently the Scotia Community Services District) have stretched fire hose lines along the Eagle Prairie Bridge to supply water to either jurisdiction during major crises. The last known time this occurred was in 2000 when the city wells were unable to keep up with water demand due to the build-up of manganese on the well casings. This method's usefulness remains dubious at best as either a short-term or long-term solution.

## **EMERGENCY ACTION STAGES AND TRIGGER LEVELS**

The following action stages and trigger levels have been developed to implement this plan. These stages are intended to serve as guidelines. However, unforeseeable circumstances may cause



declaration of a higher action stage or postponement of an action stage other than when trigger levels occur. The Director of Public Works will determine the action stage. All restrictions under each applicable action stage shall be implemented immediately upon declaration of such stage. The Director of Public Works based upon current conditions affecting the water supply will determine lifting of an emergency action stage and resumption to the normal operating stage. The action will be put forward to the City Council for ratification at the next regularly scheduled City Council meeting.

**Stage 1 – Voluntary Conservation Measures.** Voluntary compliance with conservation measures and groundwater augmentation.

Drought Contingency (200 cfs): The City will activate the Metropolitan Wells site with a daily goal to diversify the City's water supply by no less than 20% groundwater and reduce the use of the Eel River Infiltration Gallery by the same percentage.

The City will initiate a water conservation program to provide public information on ways to reduce water use. Water customers and the community will be made aware of the emergency action stages and restrictions under the water storage contingency plan.

Customers are encouraged to reduce water usage by taking the following voluntary water conservation measures:

- Refrain from landscape watering between the hours of 10:00 a.m. and 6:00p.m.;
- Restrict outdoor water usage to an 'Odd Even' water conservation plan. Under this plan
- Odd numbered homes and businesses will be asked to restrict outside water usage to Wednesday and Friday. Even numbered homes and businesses will be asked to water outdoors only on Tuesday and Thursday;
- Refrain from allowing water to run off any lawns, landscape, or garden into adjoining streets, gutters, sidewalks, parking lot or alley;
- Refrain from hosing or washing sidewalks, walkways, driveways, parking lots or other hard surfaced areas;
- Refrain from washing cars, boats, trailers, or other vehicles except by hose with a shut off nozzle and bucket;
- Equip any hose with a shut off nozzle;
- Promptly repair all leaks in plumbing fixtures, water lines, and sprinkler systems;
- Equip ornamental fountains, ponds or lakes with a water recycling system;
- Equip commercial car washes with a water recycling system;
- Refrain from filling or refilling a swimming pool, spa or hot tub;
- Install low flow shower heads, low flush water closets and faucet aerators;
- Operators of restaurants provide on each table a notice of water emergency and refrain from serving drinking water except upon specific request by a customer;
- Operators of hotels and motels provide in each room a notice of water situation or emergency.

**Stage 2 - Mandatory Conservation Measures.** Mandatory implementation of conservation Measures with increased augmentation.

The City will increase daily supply from the Metropolitan Wells site to no less than 30% and reduce the use of the Eel River Infiltration Gallery by the same percentage.



Customers shall comply with the following water conservation measures:

- Refrain from landscape watering between the hours of 10:00 a.m. and 6:00p.m.;
- Restrict outdoor water usage to an 'Odd Even' water conservation plan. Under this plan
- Odd numbered homes and businesses will be asked to restrict outside water usage to Wednesday and Friday. Even numbered homes and businesses will be asked to water outdoors only on Tuesday and Thursday;
- Refrain from allowing water to run off any lawns, landscape, or garden into adjoining streets, gutters, sidewalks, parking lot or alley;
- Refrain from hosing or washing sidewalks, walkways, driveways, parking lots or other hard surfaced areas;
- Refrain from washing cars, boats, trailers, or other vehicles except by hose with a shut off nozzle and bucket;
- Equip any hose with a quick acting shut-off nozzle;
- Promptly repair all leaks in plumbing fixtures, water lines, and sprinkler systems;
- Equip ornamental fountains, ponds or lakes with a water recycling system;
- Equip commercial car washes with a water recycling system;
- Refrain from filling or refilling a swimming pool, spa or hot tub;
- Restaurants provide on each table a notice of water emergency and refrain from serving drinking water except upon specific request by a customer;
- Hotels and motels provide in each room a notice of water emergency.

Customers will be notified via news media and other methods of this stage of water shortage emergency and implementation of mandatory conservation measures.

Industrial water users will be specifically notified via telephone and City staff will make every attempt to keep them informed of the status of the water emergency so they can prepare for a possible shutdown of production.

This stage takes effect when tank levels drop below 50% of their capacity or the river level is below 30 cfs.

Warnings will be issued for water waste, over-watering and water leaks. Citations will be issued and Fines and Penalties imposed in accordance with City Ordinances.

**Stage 3 - Serious Water Shortage. Mandatory Reduction.** Increased mandatory water conservation and augmentation.

The City will increase daily supply from the Metropolitan Wells site to no less than 40% and reduce the use of the Eel River Infiltration Gallery by the same percentage.

Customers will be notified via news media and other methods of this stage of water shortage emergency. Industrial users will be notified specifically via telephone and will be asked to voluntarily shutdown production during a Stage 3-water emergency.

City staff will make every attempt to keep the industrial users informed of the status of a water emergency prior to the declaration of a Stage 3 water emergency so they can prepare for a possible shutdown of production.

The following water uses will be prohibited for all water users:

- Landscape irrigation or watering of lawns or gardens;
- Washing of cars, boats, trailers or other vehicles;
- Filling of swimming pools or hot tubs;
- Serving of drinking water at restaurants unless requested;
- Filling or operating ornamental fountains, ponds or lakes;
- Sewer system maintenance, fire protection training or flushing of hydrants;
- Street cleaning or dust control;
- Use of hydrants for anything other than an emergency.

This stage takes effect when tank levels drop below 10 feet, or river levels drop below 25 cfs.

Citations will be issued for water waste, over-watering and water leaks. Fines and Penalties will be imposed in accordance with City Ordinances.

**Stage 4 - Disaster Shortage/Rationing.** Major catastrophe or contamination of the water supply. Priorities for all water use will be for human consumption, sanitation and fire protection.

All water users will be limited to amounts required for human consumption, sanitation and fire protection. No water will be available for nonessential use or for commercial or industrial processes.

Customers will be notified via news media and other methods of this stage of water emergency. If contamination of the water supply occurs, consult with County/State health officials on the need to institute a boil order before use of any water.

This stage will take effect when a disaster related event impacting the water supply occurs. Citations will be issued for water waste, over-watering and water leaks. Double Fines and Penalties will be imposed in accordance with City Ordinances.

## **WATER USE MONITORING**

Our water source is metered and readings are recorded daily. All customer accounts are metered and read monthly. Water production records are reviewed on a regular basis.

The water system facilities, including storage tanks levels, system pressure and pump operations are inspected daily.

When emergency action Stages 2, 3 and 4 are in effect, system facilities will be monitored (around the clock) as often as needed each day with the results reported to the Director of Public Works and the City Manager.

Existing record keeping and monitoring methods will allow us to determine actual reductions in water use during a water shortage emergency. ///