

City of Etna - Water Conservation and Outreach Plan

Background

Along with the rest of California and much of the Western United States, the City of Etna is experiencing a prolonged drought and above-average heat temperatures. Precipitation in Scott Valley during the 2020-2021 winter was below average and, combined with the historical trend, has resulted in current, low instream flows in the region, including in Etna Creek.

The City of Etna, its residents, and businesses are entirely dependent on diverted water from Etna Creek for all uses. While the City has a water right that allows for substantial diversion, California law requires Etna, as well as any other diverters, to leave water instream for the benefit of other diverters, as well as wildlife. Thus, as instream flow continues to decrease over the summer, so will the amount of water that Etna may lawfully divert. Less water diverted will, in turn, will place pressure on the City of Etna, its residents and businesses to conserve water and potentially even eliminate discretionary uses altogether as those uses increasingly conflict with higher priority uses such as public health (e.g., drinking water, sanitation, etc.) and public safety (e.g. fire protection).

The following Water Conservation and Outreach Plan is intended to provide background information on Etna's current water supply, identify the current uses of water, prioritize them, and create guidelines as well as a plan for water conservation in the City of Etna. The plan is currently a proposal and, thus, subject to revision as appropriate. Ultimately, enforceable ordinances are intended to be developed from this plan and adopted into law.

Clearly, consensus on water management and conservation is already and will continue to be a challenge. However, this is a challenge that the City of Etna, its residents, businesses, and surrounding community face together. Within that challenge also lies an opportunity to strengthen our bonds and mutual trust in the premise that all parties share a vision of collective well-being and prosperity.

On April 20, 2020, the City of Etna's City Council created a Drought Response Committee to help address potential consequences of extended drought as it relates to the City's water supply. The City's water source comes solely from Etna Creek in the form of a pre-1914 appropriative water right to divert a maximum 2.4 cubic feet per second (cfs) or 1,077 gallons per minute (gpm), as confirmed by the court in the 1980 Scott River Decree. The City maintains a surface water diversion dam and pipeline intake located at approximately Etna Creek 9.0 river mile.

The City's use of water is governed by a body of legislative law that governs the use of surface water, as well as court decisions, such as the Scott River Decree. One of these laws is California

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Code, Fish and Game Code - FGC § 1602 which allows diverting water from the natural flow of a stream, in this case Etna Creek. While diversion may be lawful, Fish and Game Code - FGC § 5901 states that it is unlawful to maintain any instream device that prevents, impedes or tends to prevent or impede the passing of fish up and down stream. Furthermore, Fish and Game Code - FGC § 5937 states that the owner of a dam shall allow sufficient water at all times to pass through a fishway or over, around or through the dam, to keep in good condition any fish that may exist below the dam. The City intends to fully comply with the laws set forth so as not to jeopardize this critical resource or our access to it.

In 2004, a Water Master Plan Report was prepared for the City of Etna Water System to identify problems and recommended improvements (Oscar Larson & Associates). Since then, upgrades have been accomplished to help make the system more reliable in both quantity and quality. In 2010, the City made substantial improvements to the point of diversion which included the construction of a fish ladder over the dam. From the point of diversion, the City's water is piped by gravity to a series of 3 storage reservoirs (tanks), where the water is treated with alum and polymer then run through a sand filter and chlorinated. Then the water is gravity fed to the City's residents, businesses, schools, parks, cemetery and pool. In 2018, the City completed the installation of additional storage so that the City's current tank storage capacity is approximately 493,000 gallons.

The availability of potable water must meet minimum health and safety allocation for human consumption, sanitation and fire protection needs. It is also understood the City's water supply is finite and will fluctuate based on the water year. Per California's Water Code *"the governing body of a distributor of a public water supply, whether publicly or privately owned and including a mutual water company, shall declare a water shortage emergency condition to prevail within the area served by such distributor whenever it finds and determines that the ordinary demands and requirements of water consumers cannot be satisfied without depleting the water supply of the distributor to the extent that there would be insufficient water for human consumption, sanitation, and fire protection."* (Division 1. General State Powers Over Water [100-540] (Enacted in 1943, Ch. 368; Amended by Stats. 2018, Ch. 14, Sec. 1. (SB 606), effective January 1, 2019.)

Purpose of Plan

To ensure the integrity of the City's water supply for the near and long term, the purpose of this Water Conservation Plan is to promote the wise and responsible use of water as a scarce and valuable resource by: (1) encouraging programs to minimize waste; (2) supporting public education programs that promote water conservation and a better public understanding of water usage; and (3) working through the City Council to develop, adopt, and implement water conservation policies and ordinances that help the City meet its mandate of delivering an adequate

water quantity for the needs of the City of Etna's residences, businesses and schools and for fire protection in a manner consistent with the law.

There are direct threats to the City of Etna's water supply both for quantity and quality:

1. Drought
2. Fire within city limits or wildfire within the watershed
3. Chemical spill or other contamination
4. Water theft

This conservation plan targets the quantity issues and does not directly address future water quality issues.

City of Etna Water Use

Water use depends on various factors such as population, climate, land use patterns, (lot sizes, square footage of irrigated landscape), the age and condition of the water distribution infrastructure (water losses), and industrial and socioeconomic characteristics (the cost of water and income level of residents) of the City.

The City, and its duly authorized agents, and employees, shall have the exclusive right to deliver water within the city's water service area. The city shall also have the right to manage water demand within the city's water service area.

Priorities of Water Deliveries

The use of available potable water allocations in a water emergency are recommended for all customers, in accordance with the California Water Code (Sections 350-358), and in the following order of priority:

- Minimum health and safety allocation for residential domestic use, sanitation, and fire protection.
- Commercial, industrial, institutional operations to maintain jobs and the economic base of the commercial (not landscape uses).
- Permanent commercial agriculture.
- Annual commercial agriculture.
- Existing landscaping.
- New Customers

Wasteful Use of City Water

Any of the following acts or omissions, whether intentional, unintentional, willful or negligent, shall constitute the wasteful use of water:

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- a) Water flowing away from a property caused by excessive application(s) of water beyond reasonable or practical irrigation rates, duration of application, or other than incidental applications to impervious surfaces.
- b) Causing or permitting an amount of water to discharge, flow, run to waste into or flood any gutter, sanitary sewer, water course or storm drain, or to any adjacent lot, from any tap, hose, faucet, pipe, sprinkler, or nozzle.
- c) Allowing water fixtures or heating or cooling devices to leak or discharge water.
- d) Maintaining ponds, waterways, decorative basins or swimming pools without water recirculation devices or with known leaks, both seen and unseen.
- e) Discharging water from, and refilling, swimming pools, decorative basins or ponds in excess of the frequency reasonably necessary to maintain the health, maintenance or structural considerations of the pool, basin or pond, as determined by the City.
- f) Continued operation of an irrigation system that applies water to an impervious surface.
- g) Use of a water hose not equipped with a control nozzle capable of completely shutting off the flow of water except when positive pressure is applied.
- h) Irrigation of lawns or landscaping when it is raining.
- i) Overfilling of any pond, pool or fountain which results in water discharging from the pond, pool or fountain.
- j) Failure to repair customer pipes, faulty sprinklers or other water-related fixtures that leak water within five working days, unless the director informs the customer that the leak must be repaired more quickly, in which case the customer shall repair the leak in the time specified by the City.
- k) Irrigating lawns or landscaping between the hours of 10:00 a.m. and 6:00 p.m., with the exception of drip irrigation.
- l) Using potable water from the city water system for compaction, dust control or other construction purposes without first obtaining approval from the City.
- m) Installing a single pass cooling system, such as a water-cooled air compressor, in any property that is newly connected to the city water system. This does not apply to evaporative cooling systems.

City of Etna's Waste of Water Ordinance Code 13.08.100 gives City Staff authority to notify and/or inspect for the waste of water. If the waste of water is determined and situation is not corrected within 5 days, water may be disconnected.

Water Conservations Actions

This Plan includes four Water Conservation Levels that have been identified and methodology of setting these levels, are set by the use of triggers developed by availability of water resources information.

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The four water conservation levels of the City of Etna's water supply will be determined, initially by the U.S. Forest Service (USFS) Klamath National Forest (KNF)'s annual May 1st Snow Surveys taken at two stations in the Etna Creek watershed: Swampy John (elevation 5,500') and Etna Mountain (elevation 5,900'), both established in 1951. The relevant parameter that will be used is snow water content or also known is the "snow water equivalent". This information will be used as the initial trigger to establish the Level in which the City finds itself after May 1st for its potential water supply, as the city's water source from Etna Creek is highly dependent upon snow melt into the upper watershed's groundwater to help sustain creek flow during the summer and fall.

At any time after May 1st, if the flow becomes less than the City's water right of 2.4 cubic feet per second (cfs), the City will declare the water conservation level to automatically increase to the highest stage of concern at Level IV.

Public Education and Notification

The City will notify residents of changing conditions through bill messages, mailing inserts, and public announcements, website, Facebook postings and provide relevant information regarding the personal conservation strategies. City will develop a widely visible kiosk or sign ("Drought-Meter") as well as a public messaging board that will to stay current on flow conditions within Etna Creek. Additionally, the City may notify customers of unusually high-water usage based on billing records.

Water Conservation Levels:

The different water conservation levels are as follows:

Level I - Basic (Blue) - Voluntary Conservation: Voluntary Conservation would apply when the Etna watershed has received near normal or above normal snowpack levels. This is the normal mode of operation. Voluntary water conservation are measures suggested to encourage prudent water use, as an unreasonable waste of water is not allowed at any time.

Level II - Water Alert (Yellow) - Elevated Voluntary Conservation Measures: Voluntary Conservation Measures would apply when the Etna watershed has received significantly below normal snow water equivalent at 75% of average. Elevated voluntary conservation measures shall limit residential use to 400 gallons per day per residence, as measured at the water meter. Assumption is that the City's residences average 4 people, at 100 gallons per day per person. Penalties for unnecessary water usage may be enacted by the City Council.

Level III - Water Shortage (Orange) - Mandatory Conservation Measures: Mandatory Conservation Measures would apply when the Etna Creek watershed has received an extremely below normal snow water equivalent of 50% of average. Mandatory conservation measures shall

limit residential use to 340 gallons per day per residence, as measured at the water meter. Assumption is that the City's residences average 4 people, at 85 gallons per day per person. Penalties for unnecessary water usage may be enacted by the City Council.

Level IV - Water Emergency (Red) - Maximum Conservation Measures: Maximum Conservation Measures would apply when the stream flow as measured at the Etna Creek gage near the diversion dam becomes less than 2.4 cfs. Maximum conservation measures shall limit residential use to 280 gallons per day per residence, as measured at the water meter. Assumption is that the City's residences average 4 people, at 70 gallons per day per person. Penalties for unnecessary water usage may be enacted by the City Council.

Water Use Restrictions

The following water use restrictions apply for the severity of the conditions as described above:

Level I - Basic (Blue) - Voluntary Conservation: Voluntary conservation measures are proposed in this stage to embed water efficiency programs into the fabric of the community and achieve permanent reductions in per capita water use. Similarly, the City already encourages energy conservation through the use of additional energy efficient technologies in residential units, subdivisions, and commercial developments. Since the community's structures tend to be older, the City encourages customers to update to modern, low flow, high efficiency water using fixtures and appliances. Under this level of normal water conditions, the following measures are suggested to encourage prudent use of this scarce natural resource:

Water Line Leak Detection

Minor leaks - The goal should be for both the City and its residents, to identify and repair minor leaks within 48 hours.

Major leaks - The goal should be to identify and repair major leaks within 8 hours.

Infrastructure - The goal should be to identify and pursue opportunities to enhance and upgrade the service infrastructure whenever possible to minimize waste on a system wide scale. The City should actively fund its Water Department's capital replacement programs.

Outdoor Landscaping - Outdoor water use for landscaping most often represents the highest water use for residential users. As such, conservation efforts in the city should encourage drought tolerant landscaping.

Irrigated Turf Area - Minimize the amount of irrigated turf in new development to permanently reduce system-wide per capita water use.

Irrigation Control Systems - New and renovated irrigation systems should include automatic timers and rain or soil moisture sensors that can automatically override the timer control of the sprinkler system.

Drip Irrigated Area - Drip irrigation is more efficient than spray for many applications, especially those where bushes, flowers, gardens and areas of unusual shape are being irrigated.

Sidewalk and Driveway Design - Lot design should be configured such that spray irrigation does not overspray and pavement areas. Landscape areas can be designed to catch any runoff instead of allowing water to drain off.

Landscape Plants – Seek to use low water using plants that are drought tolerant.

Individual water conservation habits

Bathroom - Turn off water while brushing teeth and shaving. Bathe using half=full tubs and take shorter showers.

Piping - Insulate hot water heaters and pipelines to reduce the time needed to get hot water at the tap.

Kitchen - Store drinking water in refrigerator and run dishwasher only when full.

Laundry - Purchase high efficiency appliances and wash full loads of laundry.

Watering Hours – Watering during the heat of the day allows for high evaporation rates, therefore, watering should be done before 10:00am and after 6:00pm.

Drip Irrigation - Use drip irrigation wherever possible for deep watering of trees, bushes, flowers and gardens.

Hose Shutoff Valves - Equip hoses with a shutoff valve that requires hand pressure to open.

Exterior Cleaning - Sweep patios, sidewalks, driveways, and other hard exterior surfaces.

Car Washing - Use spray from a hose equipped with a shutoff valve and/or a bucket of water to wash cars.

Hot Water Lines Insulation - Insulating hot water lines or installing a recirculation pump in new construction will reduce heat losses and the amount of time the water has to ‘run’ before it gets to the proper temperature. Pipe insulation can save both water and energy.

Thermostatic Mixing Devices - By running the hot water and cold-water lines into a single mixing valve, the person taking a shower can set and get the target water temperature much more quickly, especially when the hot water line is insulated.

Water Saving Devices - Install low-flow devices and flow restrictions for high use fixtures like shower heads and install updated, low flush toilets and low water use appliances.

Plumbing Repairs - Promptly repair any leaking fixtures. Test your plumbing by carefully checking the water meter reading and then turning off all water using devices. After 30 to 60 minutes, check if the meter has recorded any usage. Toilets can be checked by placing a drop of food coloring in the water tank and checking in 30 minutes for any coloration of water in the bowl. Toilets are responsible for some of the most common household leaks.

Level II - Water Alert (Yellow) - Voluntary Conservation Measures: Immediate action is necessary in Level II. The City’s primary tool for achieving short-term reductions in water use is public education to encourage additional voluntary restrictions to reduce water consumption until adequate supplies are available.

All water conservation measures contained in previous levels apply to Level II.

Voluntary Restrictions The following voluntary rationing measures will be in effect.

1. Residential use limited to 400 gallons per day per residence, as measured at the water meter. Assumption is that the City's residences average 4 people, at 100 gallons per person.
2. Use of potable water to irrigate turf and landscape vegetation is excluded between the hours of 10:00 AM and 6:00 PM.
3. Equipment hoses with a shutoff valve that requires hand pressure to open.
4. Use of potable water for exterior washing, except at commercial facilities using recycled water, is minimized.
5. Potable water for car washing, construction, compaction, dust control, street or building wash-down shall be from a hose equipped with a shutoff valve and/or a bucket of water for washing. Similarly, sweeping patios, sidewalks, driveways and other hard exterior surfaces will be utilized.

Level III - Water Shortage (Orange) - Mandatory Conservation Measures: Immediate action is necessary in Level III. The City's primary tool for achieving short-term reductions in water use is to declare a water emergency and enact mandatory Level III restrictions to drastically reduce water consumption. The goal is to protect the health, safety and welfare of the public and to ensure that minimum water needs for the City residents are met.

Please note that restrictions other than those identified below may be necessary during prolonged or extreme drought conditions to safeguard the adequacy of the water supply for essential uses. Additional restrictions may include limitations on new connections, water shortage pricing, limitations on non-essential water use, installation of flow restriction devices for excessive use customers or other measures deemed necessary.

All water conservation measures contained in previous levels apply to Level III.

Regulations and Restrictions The following mandatory conservation measures will be in effect.

1. Residential use limited to 340 gallons per day per residence, as measured at the water meter. Assumption is that the City's residences average 4 people, at 85 gallons per person.
2. No customer shall waste water.
3. Use of potable water to irrigate turf/lawn, landscape vegetation and between the hours of 10:00 AM and 6:00 PM or in such a manner that results in runoff for more than 5 minutes is prohibited. Outdoor watering shall be limited to 1-hour total duration.
4. Restaurants and food service establishments shall serve water to customers only upon specific request.

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5. Use of potable water for construction, compaction, dust control, street or building wash down is prohibited.
6. City Pool shall use a pool covering when not in use to minimize evaporation.

Level IV - Water Emergency (Red) - Maximum Conservation Measures:

If Level IV is determined at any time during the year, the City of Etna's City Council and Staff will immediately notify its residences using the Code Red notification system through phone lines, cell phones, emails, Facebook, and other media methods. Additionally, a special meeting will be held with the intent to issue a rate increase for excessive water use. Any said rate increase would stay in effect until the flow within Etna Creek improved to at least 2.4 cfs for at least two consecutive weeks. Other restrictions deemed necessary to safeguard the adequacy of the water supply for the City of Etna are subject to change if conditions warrant additional water conservation measures. Public Works staff and the Code Enforcement Officers has full authority to issue penalty notices when seeing violations.

All water conservation measures contained in previous levels apply to Level IV.

Regulations and Restrictions

1. Residential use limited to 280 gallons per day per residence, as measured at the water meter. Assumption is that the City's residences average 4 people, at 70 gallons per person.
2. Outdoor watering shall be limited to 30 minutes total duration per day.
3. Penalty for excess water use shall be issued on the connection's water bill.

Other Water Users

Schools, parks, cemetery, churches and pool shall use water in a reasonable way so not to directly or indirect harm the City's ability to meet minimum health and safety allocation for human consumption, sanitation and fire protection needs. The City reserves the rights to impose stronger water conservation measures to individual water users who are deemed to have an excessive and/or unreasonable use of water.

Unauthorized Water Use

Unauthorized use of a fire hydrant, public or private, for anything other than fire suppression efforts is not permitted at any time or any water level.

Fire and Other Emergencies

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Nothing in this plan limits or may be construed as limiting the availability of water for extinguishing fires, meeting the demands of any other similar emergency, or routine inspection and maintenance of fire hydrants.