

Drought Contingency Plan



Kashia Band of Pomo Indians of the Stewarts Point Rancheria

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1. Declaration of Policy, Purpose, and Intent

1.1. General

In order to conserve the available water supply and protect the integrity of water supply facilities, with particular regard for domestic water use, sanitation and fire protection; and to protect and preserve public health, welfare and safety; and minimize the adverse impacts of water supply shortage or other water supply emergency conditions, the Kashia Band of Pomo Indians of the Stewarts Point Rancheria (Tribe) hereby adopts the following regulations and restrictions on the delivery and consumption of water through an ordinance or resolution.

This Drought Contingency Plan (Plan) provides a framework of forward-leaning planning for scenarios and objectives, managerial and technical actions and potential response systems in order to prevent or better respond to, a drought-related emergency or critical situation. The overall goal of this Plan, and the contingency planning process, is to facilitate rapid emergency response. The intention of this Plan is to be functional, flexible, and easy to implement, and serve as a tool for maintaining control over the events or limiting the risk of loss of control. This Plan should be periodically updated.

The primary focus is placed on best management practices to manage water use demand, while evaluating options for alternative water supply sources. Water uses regulated or prohibited under this Plan are considered to be non-essential and continuation of such uses during times of water shortage or other emergency water supply condition are deemed to constitute a waste of water which subjects the offender(s) to penalties as defined in this Plan.

1.2. Water use priorities

The risks to public health from water shortages could be high and include issues of water quality, water quantity, sanitation, and hygiene for personal use and food preparation. As a result, this Plan establishes the following priorities for use in developing demand reduction programs and allocations during a water shortage emergency. Priorities for use of available water, from highest to lowest priority, include the following:

1. Health and safety: residential home interior uses, sanitation and fire fighting.
2. Commercial, industrial, and governmental: maintain jobs and economic base.
3. Existing landscaping: especially trees, shrubs and heritage apple trees.
4. New demand: projects without permits when a water shortage is declared.

1.3. Application

The provisions of this Plan shall apply to all customers and property utilizing water provided by the public water system.

2. Drought Task Force

A Drought Task Force shall be created by the Kashia Tribal Council and Kashaya Utility District (KUD) in order to assist in further developing and implementing effective drought monitoring, mitigation and response actions. The Drought Task Force consists of representatives from the following:

- Kashia Band of Pomo Indians of the Stewarts Point Rancheria
- Tribal Administrator
- Kashaya Utility District
- Kashia Department of Environmental Planning
- Kashia Housing Department
- Kashia School District
- Sonoma County Sheriff's Department
- Sonoma County Water Agency
- Cal Fire: Sonoma-Lake-Napa Unit
- Tribal Liaison, California Office of Emergency Services
- Indian Health Service
- Sonoma County Indian Health Project
- Sonoma County Office of Education
- Critical water users, e.g. health clinics, schools

3. Authorization

The designated official listed below, or his/her designee, is hereby authorized and directed to implement the applicable provisions of this Plan upon determination that such implementation is necessary to protect public health, safety and welfare. The designated official or his/her designee shall have the authority to initiate or terminate drought or other water supply emergency response measures as described in this Plan. The authorized designated official is: Chairman and in his/her absence, Vice-Chair, KUD Board Chair and in his/her absence, Tribal Administrator.

4. Definitions

For the purposes of this Plan, the following definitions shall apply:

- A. **Conservation:** those practices, techniques and technologies that reduce the consumption of water, reduce the loss or waste of water, improve the efficiency in the use of water or increase the recycling and reuse of water so that a supply is conserved and made available for future or alternative uses.

- B. **Customer:** any person, company or organization using water supplied by the KUD.
- C. **Domestic water use:** water use for personal needs or for household or sanitary purposes such as drinking, bathing, heating, cooking, sanitation, or for cleaning a residence. The term is also referred to as residential water use.
- D. **Drought level or stage:** severity of the water shortage or drought conditions indicated by the impact and/or vulnerability triggering criteria for the water source and capacity to meet demand and corresponding best management practices to mitigate impacts.
- E. **Landscape irrigation use:** water used for irrigation and maintenance of landscaped areas, whether publicly or privately owned, including residential and commercial lawns, gardens, golf courses, parks, rights-of-way, and medians.
- F. **Non-essential water use:** water uses that are neither essential nor required for the protection of public, health, safety and welfare.
- G. **Non-residential water use:** water not used for domestic water use. The term is also referred to as commercial or institutional water use.
- H. **Public water system:** a system for the provision of water to the public for human consumption through pipes or other constructed conveyances. The term is also referred to as community water system.
- I. **Residential water use:** the term is also referred to as domestic water use.

5. Previous Water Shortage Conditions

Drought conditions have impacted the Kashaya (Kashia or Tribe) since before recorded history. Like many other Native Americans living in western regions of the U.S., the Tribe moved seasonally between the ocean and the mountains, according to rainfall and temperature cycles. The ability to move tribal villages as necessary to be near water sources allowed Kashaya ancestors to adapt to periods of abundant rainfall and drought conditions. This cultural adaptability remains, however, the physical ability to move tribal homes to new areas was lost when the Tribe was required to live on a reservation. Living restricted to the reservation created new challenges, because the Tribe had to remain in one place and survive off of local water sources, regardless of whether there was plentiful rainfall or drought.

Since the formation of the Stewarts Point Rancheria (Reservation or Rancheria) in 1916, the Tribe has been impacted many times by drought. During previous water shortages and droughts in 1917, 1924, 1931, 1976, 1987, 1994, 2002, 2012, and 2013 the Tribe has experienced declining groundwater levels and reduced surface water flows. The Tribe did not have a community water system until the late 1980's. Until then the Tribe relied on individual wells or springs where water was hauled by buckets or containers.

Water shortage conditions prompted the Tribe to implement the following response actions:

- voluntary water use reduction;
- water allocations; *and*
- use of alternative water sources.

6. Criteria for Initiation and Termination of Drought Response Stages

The designated official shall monitor water supply on a periodic basis as determined by the severity of the drought, and determine when conditions warrant initiation or termination of each stage of this Plan based on the specified triggering criteria. The triggering criteria are based on the likelihood and impacts of public health risks, analysis of the anticipated vulnerability of the water source under drought conditions and capacity limits of the public water system.

7. Coordination with Regional Partners

The public water system is at or adjacent to an area with other potential regional partners. As appropriate, this Plan will be provided to other regional partners for the purpose of effective and efficient planning and coordination of resources for drought emergency response. The regional partners for drought emergency response include:

- A. Manchester Band of Pomo Indians – Point Arena, CA
- B. Gualala River Watershed Council - Gualala, CA
- C. Anchor Bay Waste Water District – Gualala, CA
- D. Sonoma County, Emergency Management Division - Santa Rosa, CA
- E. Indian Health Service, Ukiah Field Office - Ukiah, CA
- F. Odiyan Buddhist Retreat Center- Cazadero CA
- G. Camp Liahona Redwoods - Annapolis, CA

8. Public Involvement

Opportunities for public input into this Plan were provided by making copies of the draft Plan available:

- at a General Council Meeting;
- on the Tribe’s Website;
- to anyone who requests a copy; *and*
- to the Tribal Council.

9. Public Education and Notification

Community outreach, education and public notification about this Plan will include information concerning the conditions under which each drought stage is to be initiated or terminated, the drought response measures to be implemented at each drought stage and the specific actions required of the public.

The more severe the water shortage the more vigorous the public information campaign will need to be. Any public communication strategy undertaken in connection with a water shortage will contain the following fundamental attributes:

- **Timely:** Information will be disseminated well in advance of voluntary or mandatory actions that are to take effect, repeated often and updated at regular intervals.
- **Credible:** Information will be clear, professional, consistent, straight forward, reasonable, and honest in order to build trust and community support.
- **Multi-Modal:** Information will be made available to the public using a variety of methods, for example, using the internet, newsletters, radio, and public meetings.
- **Receptive:** The KUD and Tribal Council will actively listen to, engage, solicit feedback, address concerns, and involve public water system customers in decision making. Responses to public input will be in a manner that is respectful, appreciative, open to creative solutions, and in a manner that acknowledges each individual's sacrifice, inconvenience and contribution to a solution for the prevailing incident.
- **Coordinated:** The KUD will collaborate with other Tribal departments and impacted entities to ensure that the community as a whole has a synchronized and coordinated approach to the prevailing water shortage or other emergency water supply condition.
- **Action Oriented:** Response actions will contain actionable steps that can be applied to foster a spirit of cooperation and establish a positive atmosphere that encourages conservation of water for the public good.

Included in the response action for each water shortage or other emergency water supply conditions of this Plan are prewritten public statements to be used as a communication technique with the public. The public statements are intended to give context and ensure consistency during subsequent communication with the public throughout the duration of the water shortage or other emergency water supply condition.

The designated official will consider the following methods to communicate with the public throughout the duration of a water shortage or other emergency water supply condition:

- announcement at Tribal Council and General Council meetings;
- hold emergency community meetings;
- announcements and open forums at scheduled community meetings;
- publication in quarterly newsletters for general circulation;
- press releases through local media, e.g. television, radio and E-mail;
- direct mail to each customer, e.g. utility bill inserts;
- public service announcements;
- signs posted in public places; e.g. post bulletins at tribal offices;
- take-home fliers/posters made available at schools, community buildings, and other locations;
- public information booths at annual picnics and other local tribal events;
- drought Task Force meetings;
- announcements on the official Tribal Website; *and*
- notify other tribal offices, departments, schools, and agencies as appropriate.

The designated official will notify the following individuals, departments and/or agencies:

- Tribal chairperson and members of the Tribal Council;
- Kashaya Utility District (KUD);
- Kashia Department of Environmental Planning;
- Kashia Tribal Housing Department;
- local fire chief;
- local police chief;
- critical water users, e.g. health clinics, schools;
- Sonoma County Office of Emergency Services (OES) director;
- Indian Health Service (IHS) Area and/or Field Office; *and*
- other Federal entities, e.g. BIA, BOR, EPA

10. Summary Inventory of Water Supply and Demand

10.1. Water supply

The public water system is currently supplied by the Wheatfield Fork of the Gualala River. Other water sources on the Reservation include a groundwater (hand-dug) well, two ephemeral streams and one spring. None of these water sources are connected to the public water system

as they do not provide sufficient water supply for the entire community and contamination concerns have arisen with monitoring of the water sources. A description of each water source is provided in Table 1 below.

While water supply from each water source often varies from year to year, water supply during a drought is anticipated to drastically change in quantity and quality.

Table 1: Estimated minimum water supply

Water Supply Source	Estimated Minimum Water Supply
Wheatfield Fork of the Gualala River	Appropriative water rights for up to 14.7 ac ft/yr* and 16,280 gpd**
ephemeral streams and springs	zero
groundwater (hand-dug) well	zero
Total all sources	14.7 ac ft/yr*

*acre-feet per day (ac ft/yr), **gallons per day (gpd)

10.2. Water demand

Residential homes, school, tribal offices, irrigation, and fire suppression contribute to the public water system’s water demand.

A description of water demand for each water usage customer type is provided in Table 2 below.

Table 2: Average water use demand

Customer type	Number of connections	Average water demand based on 6/2013–6/2014 data (gpm)*
residential	17	119,509
non-residential (School, Community Center, garden)	3	3,513**
irrigation	0	0
Total demands		119,509

* gallons per month (gpm)

** The School was used for non-residential activities, such as School Board Meetings and Tribal Council Meetings from 6/2013-6/2014. In 6/2014, a Community Center was built on the Rancheria. In time, the use of the Community Center for non-residential activities is expected to increase while the School will be used less for non-residential activities.

In addition, water use data during the winter months (November through February) has been evaluated to determine the actual **minimum** domestic water use for water utility customer allotments. The average wintertime water use was found to be approximately 32% lower than average summertime use. Wintertime water use is considered to be more representative of actual **minimum** domestic water use because it consists primarily of domestic uses, as exterior water use (e.g. lawn irrigation, swimming pools, gardens, etc.) is likely to be minimal during winter months. The actual **minimum** domestic water use data will be utilized during the most

restrictive water stages.

11. Determining if a Water Shortage is Imminent

In normal or wet years there is generally sufficient water supply to meet water demand. However, during an unusually dry winter, there is an increased likelihood that water supply will not meet water demand. It is critical during this situation to analyze whether water supply will meet water demand for the dry season before the dry season arrives. The analysis should be performed before the end of the rainy season in time to decide appropriate actions and to provide adequate notice to the public. The situation often remains dynamic through the end of April because late winter rains can potentially change the water supply outlook for the dry season.

May 1st to October 31st is generally the critical period when water supply is the lowest and demand is the highest and the period when a water shortage is most likely to occur. If there may be a water supply shortage during the critical period it is important to define the degree of water supply shortage and then select the appropriate water demand reduction strategy and goals.

There is often no single criterion, trigger or definition that can be used to determine if a water shortage will occur. The determination of a water shortage involves consideration of all the relevant factors listed in this Plan including water supply and water demand.

Generally, the available water supply from all potential sources, i.e. surface and ground water sources, can be forecasted to a range of certainty from historical data, weather patterns and subsurface conditions. The designated official will use this information to determine the degree of water shortage following a three-step process:

1. Develop a monthly forecast of the available water supply from all sources.
2. Compare the available water supply to the anticipated water demand.
3. Evaluate whether the available water supply is adequate to meet the anticipated water demand through the projected critical period of dry weather conditions, determine any anticipated water shortage and implement water shortage response actions as necessary.

12. Triggering Criteria and Stages of Action

Key to the Plan is a framework of incremental or staged triggering criteria for the water shortage and corresponding response actions. Each stage is triggered by an anticipated or actual water shortage condition and has several triggering criteria. The triggering criteria

described below are based on an analysis of the vulnerability of the public water source under anticipated water shortage conditions and system capacity limits. The water shortage condition, water shortage triggering criteria, and corresponding water demand reduction strategy and goals are presented in Table 3 below.

Table 3: Level of water shortage, triggering criteria and demand reduction goals

Stage Level	Stage title	Water shortage condition and triggering criteria	Demand reduction goal	Program type
1	Normal	Minor/Abnormally dry conditions: 0-10%	10%	Voluntary
2	Alert	Moderate conditions: 10-25%	25%	Mandatory
3	Warning	Severe conditions: 25-35%	35%	Mandatory
4	Critical	Extreme conditions: 35-50%	50%	Mandatory
5	Emergency	Exceptional conditions: over 50%	Over 50%	Mandatory

A water shortage may trigger any stage of response actions and include best management practices for water supply management and water demand reduction. The designated official will determine the most appropriate stage to implement based on conditions at the time of the event. Successive stages of response actions will be declared only after exhausting efforts to make a prior stage successful.

In some cases it may be necessary for the designated official to immediately implement an advanced stage. Implementation of an advanced stage may occur after information indicates a likely increase in water shortage severity and that preemptive action may help mitigate the severity of the water shortage or when the health and safety of the community are at risk without the implementation of an advanced stage. Water shortage response actions are designed to be flexible for responding to a variety of events. The conditions that may trigger different stages of the Plan are specified below.

12.1. Stage 1: Minor/abnormally dry conditions (Normal)

Triggering criteria and conditions:

- Annual reoccurring time period: March 1 through November 1.
- State Governor or local authority issues a Level/Stage **1** Drought Declaration.
- Water supply available to the public water system is reduced by **10%** of the long-term average.
- A combination of the above mentioned circumstances reduces the public water system’s overall water supply or production capabilities by **10%** or more.

12.2. Stage 2: Moderate conditions (Alert)

Triggering criteria and conditions:

- State Governor or local authority issues a Level/Stage **2** Drought Declaration.
- Water supply available to the public water system is reduced by **25%** of the long-term average.
- Flow in the Wheatfield Fork of the Gualala River is **25%** less than its annual average.
- A combination of the above mentioned circumstances reduces the public water system's overall water supply or production capabilities by **25%** or more.

12.3. Stage 3: Severe conditions (Warning)

The triggering criteria and conditions for this drought level or stage include:

- State Governor or local authority issues a Level/Stage **3** Drought Declaration.
- Water supply available to the public water system is reduced by **25%** of the long-term average.
- Flow in the Wheatfield Fork of the Gualala River is **35%** less than its annual average.
- A combination of the above mentioned circumstances reduces the public water system's overall water supply or production capabilities by **35%** or more.

12.4. Stage 4: Extreme conditions (Critical)

The triggering criteria and conditions for this drought level or stage include:

- State Governor or local authority issues a Level/Stage **4** Drought Declaration.
- Water supply available to the public water system is reduced by **50%** of the long-term average.
- Flow in the Wheatfield Fork of the Gualala River is **50 %** less than its annual average.
- A combination of the above mentioned circumstances reduces the public water system's overall water supply or production capabilities by **50%** or more.

12.5. Stage 5: Exceptional conditions (Emergency)

The triggering criteria and conditions for this drought level or stage include:

- State Governor or local authority issues a Level/Stage **5** Drought Declaration.
- Water supply available to the public water system is reduced by over **50%** of the long-term average.
- Flow in the Wheatfield Fork of the Gualala River is over **50%** less than its annual average.
- A combination of the above mentioned circumstances reduces the public water

system's overall water supply or production capabilities by over **50%**.

13. Response Actions

This Plan provides stages of response actions to manage and mitigate the impacts indicated by each triggering criteria and condition. The response actions provide for a combination of best management practices for both water supply management and reduction in water demand. The response approaches are designed to be flexible so that there is an appropriate action to the specific water shortage or drought situation occurring at a particular time.

The response actions included in each stage are cumulative, meaning that if Stage 2 is implemented then all of the measures in Stage 1 and Stage 2 shall be implemented. Likewise, if ultimately Stage 5 is implemented, all of the measures in Stages 1, 2, 3, and 4 shall be implemented as well.

A brief description of the response actions for each stage of the Plan are specified below.

13.1. Stage 1 response actions

13.1.1. Target and public message

Target: Achieve a voluntary reduction of **10%** of total daily water demand.

Public message: *Due to abnormally dry conditions this winter, we are asking all customers to voluntarily cut back on water use (by 10%) in order to stretch the available water supply. Water users should stop using water for non-essential purposes and conserve where possible in case the dry period continues through the year. If everyone cooperates and the water supplies are not impacted further, more stringent water restrictions may be avoided. Wasting water hurts everyone!*

13.1.2. Communication, coordination and planning

Communication, coordination and planning activities include

- A. Initiate public information outreach campaign to
 - Prepare and distribute educational information.
 - Notify customers of the water shortage, the need to conserve water and the importance of significant water use reductions.
 - Notify customers with large landscapes of irrigation restrictions.
 - Provide customers with practical information on ways to improve water use efficiency.
 - Implement a customer meter reading program.
 - Request that customers reduce their water use by 10%.

- B. Notify Federal (e.g. FEMA, BOR, BIA, IHS, EPA, etc.), State, and Local (County) entities.
- C. Begin initial evaluation of potential temporary and/or long-term needs for infrastructure improvements and funding opportunities.

13.1.3. Water supply management - best management practices

Best management practices for water supply management include:

- A. Reduce flushing of water mains.
- B. Initiate leak detection and repair program.
- C. Develop a program for water waste patrols, i.e. hire and train staff.
- D. Initiate use of reclaimed water for non-potable purposes.

13.1.4. Water demand reduction - best management practices

Best management practices for water demand reduction include:

- A. Water customers are requested to voluntarily limit irrigation of landscaped areas to two days a week between the hours of 8:00 P.M. and 8:00 A.M.
- B. Water customers are requested to practice water conservation and minimize or discontinue water use for non-essential purposes.
- C. Actions to be avoided:
 - 1. Willfully or negligently wasting water.
 - 2. Improperly designing, installing and/or maintaining irrigation, sprinkling systems and devices that may lead to wasted water.
 - 3. Irrigation or sprinkling of any yard, ground, premise, or vegetation unless the watering device is controlled by an automatic shut-off device, or a person is in immediate attendance of the hose or watering device.
 - 4. Lawn irrigation for a period that exceeds 15 minutes per station, or a total of 30 minutes per station per 24 hour day, if water is applied through a sprinkler system, or through a hose with or without a sprinkler device.
 - 5. Use of water for dust control.
 - 6. Use of water to wash down buildings or structures for purposes other than immediate fire protection.
 - 7. Flushing gutters or permitting water to run or accumulate in any gutter or street.
 - 8. Use of water to fill, refill or add to any indoor or outdoor swimming pools or Jacuzzi-type pools.
 - 9. Installing or replacing air-conditioning systems (including portable systems) without a water conservation device which is properly maintained.

10. Failure to report a controllable leak(s) or faulty water fixture(s) to the Kashia Housing Department or KUD within a reasonable period time.

13.2. Stage 2 response actions

13.2.1. Target and public message

Target: Achieve a **mandatory** reduction of **25%** of total daily water demand.

Public message: *It is necessary to impose mandatory restrictions on water use to ensure that throughout the duration of this water shortage event an adequate supply of water is maintained for public health and safety purposes. The overall goal is to reduce water use by 25%, which can be achieved if everyone cuts back their outdoor watering and other non-essential uses. We, the Tribal Council, are relying on cooperation and support of all water users to abide by all restrictions and to reach this goal. Otherwise, the shortage could deteriorate into a more serious emergency that requires household water allocations to avoid depleting the available water supply.*

13.2.2. Communication, coordination and planning

Communication, coordination and planning activities include:

- A. Increase public information outreach campaign to:
 - Notify customers of the mandatory reductions.
 - Notify customers of the water shortage, the need to conserve water and the importance of significant water use reductions.
 - Generate publicity about customers demonstrating significant water savings.
 - Consult with priority water customers including health clinics, schools, stores, restaurants, and other large or critical water customers to develop conservation plans.
 - Publicize weekly water consumption graph/data.
- B. Identify priorities for water supplies.
- C. Begin to coordinate with Federal (e.g. FEMA, BOR, BIA, IHS, EPA, etc.), State and Local (County) entities especially the County Office of Emergency Services (OES).
- D. Initiate evaluation and plan for potential temporary and/or long-term needs for infrastructure improvements and funding opportunities from Federal, State and Local (County) entities (e.g. FEMA, BOR, BIA, IHS, EPA, USDA/RD, State, etc.).
- E. Develop a strategy to mitigate revenue losses.

13.2.3. Water Supply management - best management practices

Best management practices for water supply management include include:

- A. Discontinue flushing of water mains except for emergency purposes only.
- B. Intensify the leak detection and repair program.
- C. Intensify the water waste patrol program.
- D. Use reclaimed water for non-potable purposes.
- E. Plan to use alternative water source(s).

13.2.4. Water demand reduction - best management practices

Best management practices for water demand reduction include:

- A. Water customers are required to limit the irrigation of landscaped areas to two days a week.
- B. Use of water to wash any motor vehicle, motorbike, boat, trailer, or other vehicle is prohibited.
- C. Use of water from hydrants shall be limited to firefighting related activities or other activities necessary to maintain public health, safety and welfare. Use of water from designated fire hydrants for construction purposes may be allowed under special permit from the public water system.
- D. Water customers are mandated to practice water conservation and to minimize or discontinue water use for non-essential purposes. Prohibited uses include:
 - 1. Willfully or negligently wasting water.
 - 2. Irrigation or sprinkling systems and devices that are not properly designed, installed, maintained, and operated to prevent wastage of water.
 - 3. Improperly designing, installing and/or maintaining, irrigation or sprinkling systems and devices that may lead to wasted water.
 - 4. Irrigation or sprinkling of lawns or gardens, for a period that exceeds 15 minutes per station, or a total of 30 minutes per station per 24 hour day, if water is applied through a sprinkler system or through a hose with or without a sprinkler device.
 - 5. Use of water for dust control.
 - 6. Use of water to wash down buildings or structures for purposes other than immediate fire protection.
 - 7. Flushing gutters or permitting water to run or accumulate in any gutter or street.
 - 8. Use of water to fill, refill or add to any indoor or outdoor swimming pools or Jacuzzi-type pools.
 - 9. Installing or replacing air-conditioning systems (including portable systems) without a water conservation device which is properly maintained.
 - 10. Failure to report a controllable leak(s) or faulty water fixture(s) to the Kashia Housing Department or KUD within a reasonable period time.

11. Use of water from hydrants for construction purposes without a permit or any other purposes other than firefighting.

13.3. Stage 3 response actions

13.3.1. Target and public message

Target: Achieve a **mandatory** reduction of **35%** of total daily water demand.

Public message: *The Tribe faces a serious water shortage emergency due to prolonged drought. To conserve the available water supply for the greatest public benefit while minimizing impacts on our local economy, it has become necessary to institute a water allocation program for all residential customers. The goal is to reduce water system demand by 35%. While water allocation amounts are adequate for normal domestic needs, significant cuts to outdoor water use and other non-essential uses may be necessary to remain within set allocations. All customers are urgently asked to make every effort to conserve water and abide by watering restrictions or face further reductions in water allotments.*

13.3.2. Communication, coordination and planning

Communication, coordination and planning activities include:

- A. Intensify and expand public information outreach campaign to:
 - Notify customers of the water use allocations.
 - Inform customers of a ban on open burning.
 - Expand and strengthen water conservation education, activities and programs.
- B. Identify priorities for water supplies.
- C. Coordinate with Federal, State and Local (County) entities especially the OES and any entities offering mutual aid assistance.
- D. Coordinate with local health directors to assess public health threats and take appropriate actions.
- E. Provide regular situational reports to Federal entities and County OES.
- F. Deploy temporary and/or long-term infrastructure improvements for water supply augmentation including emergency interconnection, rehabilitation of existing water wells, construction of new water wells, re-confirm arrangements for water hauling, etc.
- G. Invoke ban on open burning.
- H. Increase customer service training for staff.
- I. Review and adopt enforcement rates and an appeals board to process requests for exceptions.

13.3.3. Water supply management - best management practices

Best management practices for water supply management include:

- A. Discontinue flushing of water mains except for emergency purposes.
- B. Intensify the leak detection and repair program.
- C. Intensify and expand the water waste patrols program, e.g. increase staff.
- D. Use reclaimed water for non-potable purposes.
- E. Use alternative water source(s).

13.3.4. Water Demand reduction - best management practices

Best management practices for water demand reduction include:

- A. Implement Stage 3 water consumption allocations for all customers (see Table 4).
- B. Water customers are required to limit the irrigation of landscaped areas to one day a week.
- C. Use of water to wash any motor vehicle, motorbike, boat, trailer, or other vehicle is prohibited.
- D. Use of water for construction purposes from designated fire hydrants under special permit is to be discontinued.

13.4. Stage 4 response actions

13.4.1. Target and public message

Target: Achieve a **mandatory** reduction of **50%** of total daily water demand.

Public message: *Due to continuing deterioration and scarcity of the available water supply all customers are subject to reduced water allocations. The current water shortage has become very severe. We must all continue to conserve water to the maximum extent possible and strive to maintain water use within our established water allocation limits as long as the drought endures in order to prevent a water crisis.*

13.4.2. Communication, coordination and planning

Communication, coordination and planning activities include:

- A. Continue to intensify public information outreach campaign to:
 - Notify customers of the water use allocations.
 - Publicize daily water consumption graph/data.
 - Open a centralized drought public outreach position for issues including conservation and water use allocations.

- Set-up and/or confirm emergency notification lists for high priority water users including health clinics, schools, stores, restaurants, and other large or critical users.
- B. Identify priorities for water supplies.
- C. Coordinate with Federal, State and Local (County) entities especially the OES and any entities offering mutual aid assistance.
- D. Coordinate with local health directors to assess public health threats and take appropriate actions.
- E. Provide regular situational reports to Federal entities and County OES.
- F. Continue use of water supply augmentation measures including emergency interconnection, use of existing water wells, use of new water wells, water hauling, etc.
- G. Continue the ban on open burning.
- H. Plan with local partners for potential movement of vulnerable populations out of areas with limited or no water supply.

13.4.3. Water supply management - best management practices

Best management practices for water supply management include:

- A. Discontinue flushing of water mains except for emergency purposes.
- B. Intensify the leak detection and repair program.
- C. Intensify the water waste patrols program and consider expanding the program to be on duty 24/7 with the hire of additional staff if necessary.
- D. Use reclaimed water for non-potable purposes.
- E. Use alternative water source(s).

13.4.4. Water demand reduction - best management practices

Best management practices for water demand reduction include:

- A. Implement Stage 4 water consumption allocations for all customers (see Table 4).
- B. Irrigation of landscaped areas is prohibited.
- C. Use of water to wash any motor vehicle, motorbike, boat, trailer, or other vehicle is prohibited.
- D. No application for new, additional, expanded, or increased-in-size water service: connections, meters, service lines, pipeline extensions, mains, or water service facilities of any kind shall be approved. Time limits for approval of such applications are hereby suspended through the drought response stage.

13.5. Stage 5 response actions

13.5.1. Target and public message

Target: Achieve a mandatory reduction of **66%** of total daily water demand.

Public message: *The Tribe is confronted with a critical water shortage emergency of unprecedented proportions. At this time, there exists barely enough drinking water for the most essential human health, sanitation, and safety needs. As a result, all outdoor water use is prohibited. We understand the hardship this extraordinary condition poses to every customer and we appreciate the sacrifices people are making to ensure that the water system does not run dry. Everyone is urgently requested to do whatever is necessary to maintain water use within or below their allotted amount.*

13.5.2. Communication, coordination and planning

Communication, coordination and planning activities include:

- A. Continue to intensify public information outreach campaign to:
 - Notify customers of the water use allocations.
 - Notify customers of public water points; e.g. for bottled water or portable water storage tanks.
 - Notify vulnerable populations of potential movement/relocations.
- B. Identify priorities for water supplies.
- C. Coordinate with Federal, State and Local (County) entities especially the OES and any entities offering mutual aid assistance.
- D. Coordinate with local health directors to monitor and assess public health threats and take appropriate actions.
- E. Provide regular situational reports to Federal entities and County OES.
- F. Continue use of water supply augmentation measures including emergency interconnection, use of existing water wells, use of new water wells, water hauling, etc.
- G. Continue the ban on open burning.
- H. Plan with local partners for monitoring and potential movement of vulnerable populations out of areas with limited or no water supply.

13.5.3. Water supply management - best management practices

Best management practices for water supply management include:

- A. Discontinue flushing of water mains except for emergency purposes.
- B. Intensify the leak detection and repair program.
- C. Intensify the water waste patrols program.

- D. Use reclaimed water for non-potable purposes.
- E. Use alternative water source(s).

13.5.4. Water demand reduction - best management practices

Best management practices for water demand reduction include:

- A. Implement Stage 5 water consumption allocations for all customers (see Table 4).
- B. Water use reduced to health and safety needs only. All other uses are prohibited.

14. Water Use Allocations

14.1. General

In the event that water shortage conditions threaten public health, safety and welfare the designated official is authorized to allocate water according to the following water allocation plan in Table 4 listed below.

Table 4: Stage water use allocations

Customer/Connection type	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
Residential	Normal average use	75% of average use	65% of average use	50% of average use	33% of average use
Commercial/Institutional	Normal	90% of average	85% of average	65% of average	50% of average
Landscape irrigation	Normal	90% of average	50% of average	0% of average	0% of average

Note: Average water use for residential customers is based on the last 5 years of community water usage. Average use for commercial customers is based on 12 months of water usage.

The residential water use allocations are based on water use priorities for health and safety and were calculated based on minimum domestic uses including drinking, cooking, personal washing, sanitation, and clothes washing. These water uses have been compared to actual data; in particular, data collected during the wintertime period. Table 5 below provides a more detailed presentation of the basis for the residential water uses and requirements for Stage 4, Stage 5 and more severe emergency residential water use allocation requirements.

Table 5: stage 4, stage 5, and emergency residential water use allocation requirements

Residential water uses	Stage 4	Stage 5	Emergency
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	requirements (gpcd)*	requirements (gpcd)*	requirements (gpcd)*
Drinking	2.5	2.5	2.5
Cooking	5.0	2.5	2.0
Personal washing	10.0	8.5	8.0
Sanitation	3.0	2.5	1.5
Clothes washing	1.0	1	1
Cleaning home	1.0	1	0
Growing food/garden	4.5	0	0
Total	27	18	15

*"gpcd" refers to gallons per capita (per person), per day

Residential customers that have some livestock will be entitled to an allocation to meet the needs of their livestock. No new livestock shall be permitted during drought conditions. Residential customers with livestock should follow water conservation practices including repairing leaks, dripping faucets, practice of filling water tubs and tanks, and cleaning floors and equipment. The Table below provides a list of the daily water needs of some common farm animals.

Table 6: Water needs for farm animals

Type of animal	Daily water requirements (gpd)*
Horse	12
Cow	20-45
Beef animal	8-12
Swine/pig	3-5
Sheep/goats	2-4
Poultry/fowl (per 100)	8-15

*gallons per day (gpd)

14.2. Residential customer: single-family

The allocation to residential water customers residing in a single-family dwelling shall be based on the historical use of each individual residence as compared to the newly set drought allocations at the level given in Table 4. A "household" means the residential premises served by the customer's water service line and/or water meter. Persons per household include only the number of individuals who are authorized in the Land Assignment, and who are currently physically residing at the approved premises, and that are expected to reside there for the entire billing period.

It shall be the customer's responsibility to go to the office of the designated official to complete and sign the necessary form(s) claiming more than the base allocation of two (2) persons per household. New customers may claim more persons per household at the time of applying for water service on the form prescribed by the designated official. When the number of persons

per household increases so as to place the customer in a different allocation category, the customer may notify the designated official and the change will be implemented in the next practicable billing period. If the number of persons in a household is reduced, the customer shall notify the designated official in writing within two (2) days. In prescribing the method for claiming more than two (2) persons per household, the designated official shall adopt methods to insure the accuracy of the claim. Any person who knowingly, recklessly or negligently falsely reports the number of persons in a household, or fails to timely notify the designated official of a reduction in the number of person in a household shall be fined not less than \$50.

As of November 1, 2014, based upon an analysis of 5 years of residential water bills, the KUD has determined a base allocation of 55 gpcd for each **authorized** individual residing in any given residence. This figure will be reduced by 32% during the winter months (November through February) to allow for a 32% increased allotment during the summer months (June through September) when water demand is at its' peak.

Residential water customers who exceed their authorized allocation shall pay the following surcharges:

- For the first 1,000 gallons over allocation: **\$100.**
- For the second 1,000 gallons over allocation: **\$150.**
- For the third 1,000 gallons over allocation: **\$200.**
- For each additional 1,000 gallons over allocation: **\$200.**

Surcharges shall be cumulative.

14.3. Commercial customers

A monthly water allocation shall be established by the designated official or his/her designee for each non-residential commercial customer. The non-residential customer's allocation shall be based on Table 4, and the customer's usage for the corresponding month's billing period for the previous 12 months. If the customer's billing history is shorter than 12 months the monthly average for the period for which there is a record shall be used for any monthly period for which no history exists.

The designated official shall give his/her best effort to see that notice of each non-residential customer's allocation is mailed to such customer. If, however, a customer does not receive such notice, it shall be the customer's responsibility to contact the designated official to determine the allocation. Upon request of the customer or at the initiative of the designated official, the allocation may be reduced or increased if, (1) the designated period does not accurately reflect the customer's normal water usage, (2) one non-residential customer agrees to transfer part of its allocation to another non-residential customer, or (3) other objective evidence demonstrates that the designated allocation is inappropriate under present conditions. Refer to the best management practices listed under Section 13: Response Actions, for clarification of

inappropriate uses. A customer may appeal a water allocation to the designated official.

Non-residential commercial customers shall pay the following surcharges:

- For the first 1,000 gallons over allocation: **\$100**
- For the second 1,000 gallons over allocation: **\$150**
- For the third 1,000 gallons over allocation: **\$200**
- For each additional 1,000 gallons over allocation: **\$200**

The surcharges shall be cumulative.

15. Enforcement

This Plan is designed to place the responsibility for managing the water resources during a water shortage on the entire community. Care has been taken in the design of the Plan to not penalize any customer who has undertaken good-faith and diligent measures to conserve water. However, for the protection of the water resources and the ability to provide sufficient water for public health and safety priorities, enforcement and penalties are required for those customers who knowingly or intentionally use water in a manner contrary to this Plan, including but not limited to the habitual consumption of water beyond the monthly allocation.

Enforcement provisions include the following:

- A. No person shall knowingly or intentionally allow the use of water from the public water system for any purpose in a manner contrary to any provision of this Plan, or in an amount in excess of that permitted by the drought response stage in effect at the time pursuant to action taken by the designated official in accordance with provisions of this Plan.
- B. Any person who violates this Plan shall be fined:
 1. For the first incident - \$50, however, the fee shall be deferred for customers who attend a course in water conservation. The deferral shall be conditioned upon the customer's successful completion of a water conservation course provided by the authorized designated official and the customer not having an additional incident of water wastage within a one-year period. The deferred fee shall be collected if a second incident of water wastage occurs within a one-year period in addition to the fee for the second incident.
 2. For the second incident, the fee shall be not less than \$75. Each day that one or more of the provisions in this Plan is violated shall constitute a separate offense.
 3. If a person is convicted of three or more distinct violations of this Plan within a one-year period, the designated official, upon due notice to the customer, shall be authorized to:

- i. require the customer to repair any defects in the water system of such customer within 14 days of notice;
 - ii. require installation of flow restrictors or termination of water service for exterior use;
 - iii. terminate the residents' right to occupy the premises unless in the opinion of the designated official such termination would result in an unreasonable risk to the health and safety of the person(s);
 - iv. require reimbursement for utility repair, any necessary clean-up and related costs;
 - v. withhold or suspend revenue sharing distributions from the customer(s);
 - vi. suspend other tribal benefits and/or services from the customer(s);
 - vii. discontinue services under such circumstances in which services shall only be restored upon payment of a re-connection charge, hereby established at \$50; payment of any other costs incurred by the public water system in discontinuing service, and suitable assurance must be given to the designated official clearly indicating that the same action shall not be repeated while the Plan is in effect; *and*,
 - viii. seek compliance with this plan by customers through injunctive relief through the Kashia Tribal Council and/or Tribal Court.
- C. Any person, including a person classified as a water customer of the public water system, in actual or apparent control of the property where a violation occurs or originates shall be presumed to be the violator, and proof that the violation occurred on the person's property shall constitute a rebuttable presumption that the person in apparent control of the property committed the violation, but any such person shall have the right to show that he/she did not commit the violation. Parents and/or guardians shall be presumed to be responsible for violations of minor children and proof that a violation, committed by a child, occurred on property within the parents' and or guardians' control shall constitute a rebuttable presumption that the parent and/or guardian committed the violation, but any such parent and/or guardian may be excused if he/she proves that he/she had previously directed the child not to use the water as it was used in violation of this Plan or instituted control measures designed to prevent such violations, and that the parent and/or guardian could not have reasonably known of the violation.
- D. Any employee of the public water system, police officer or other designated official may issue a citation to a person that he/she reasonably believes to be in violation of this Plan. Service of the citation shall be complete upon delivery of the citation to the alleged violator, to an agent or employee of a violator or to a person over 14 years of age who is a member of the violator's immediate family or is a resident of the violator's residence.
- E. If there are single-family residential customers without a meter who are billed for water

use based on a monthly flat rate and as such penalties cannot be assessed for excessive water use based on a metered volume of water enforcement of violations of this Plan will be made based on other factors, including visual observations of irrigation practices, water used for washing vehicles, dust control, and other acts of negligently wasting water.

16. Variances

The designated official may in writing grant temporary variances for existing water uses otherwise prohibited under this Plan if it is determined that failure to grant such variance would cause an emergency condition which would adversely affect the health, sanitation or fire protection for the public or the person requesting such variance and if one or more of the following conditions are met:

- Compliance with this Plan cannot be technically accomplished during the duration of the water supply shortage or other condition for which this Plan is in effect.
- Alternative methods can be implemented that which will achieve the same level of reduction in water use.

Persons requesting an exemption from the provisions of this Plan shall file a petition for variance with the public water system within 5 days after this Plan or a particular drought response stage has been invoked. All petitions for variances shall be reviewed by the designated official and shall include the following:

- A. Name and address of the petitioner(s).
- B. Purpose of water use.
- C. Specific provision(s) of this Plan from which the petitioner(s) is requesting relief.
- D. Detailed statement as to how the specific provision of this Plan adversely affects the petitioner(s), or what damage or harm will occur to the petitioner(s) or others if the petitioner(s) complies with this Plan.
- E. Description of the relief requested.
- F. Period of time for which the variance is sought.
- G. Alternative water use restrictions or other measures the petitioner(s) is taking or proposes to take to meet the intent of this Plan and the compliance date.
- H. Other pertinent information.

Variances granted by the public water system shall be subject to the following conditions, unless waived or modified by the designated official:

- Variances granted shall include a timetable for compliance.
- Variances granted shall expire when this Plan is no longer in effect, unless the

petitioner(s) has failed to meet specified requirements.

No variance shall be retroactive or otherwise justify any violation of this Plan occurring prior to the issuance of the variance.

17. Revenue and Expenditure Analysis

17.1. Potential revenue impacts

The public water system's revenues from water use charges are derived from customers and uses including residential, schools, tribal offices, irrigation, etc. Customers are billed based on metered rates by the public water service. Therefore, as customer water use decreases based on the mandatory restrictions and water allocations, revenue decreases.

In the future, **all** customers will be metered and billed based on a metered usage rate. As the transition occurs, the public water system may become potentially more vulnerable to revenue impacts during periods when water use is reduced.

17.2. Potential expenditure impacts

During a water shortage and activation of this Plan, the expenditures for water-related services may be impacted. Expenditures may increase based on numerous factors including:

- Increased water conservation program costs to implement, monitor and enforce new or more intensive activities.
- Increased staffing costs for operation and maintenance of facilities to ensure efficient operation of available facilities.
- Increased costs for acquisition of alternative water supplies and associated facilities including interconnection use agreements purchase of additional water, water hauling services, etc.
- Increased costs for groundwater pumping, if additional groundwater pumping is needed to compensate for decreased surface water supplies, or if more energy is required to pump groundwater due decreased groundwater levels.

Assuming increases in certain expenditures, overall water expenditures may increase during the various stages of this Plan. These increases in expenditures, coupled with reductions in revenue, could potentially impact the public water system's budget and financial status.

17.3. Proposed measures to overcome revenue and expenditure impacts

Measures that may be implemented to overcome revenue and expenditure impacts include:

- Water rate increases.
- Development and use of reserve funds.

18. Mechanism for Determining Actual Water Use Reductions

The public water system's production is continuously monitored by KUD.

During Stage 1 or Stage 2, daily water production figures will be reported to the designated official. The designated official will then compare the weekly production to the target weekly production and verify that the reduction goal is being achieved. Weekly reports will then be forwarded to the Drought Task Force. If the reduction goals are not met, the designated official will notify the Drought Task Force and consider potential corrective actions; e.g. implementation of additional water use restrictions.

During Stage 3 or Stage 4, the procedure would remain the same as during Stage 1 and Stage 2, with the addition of a daily report being provided to the Drought Task Force and other required tribal entities.

During Stage 5, the procedure would remain the same as during Stage 1, 2, 3, and 4; with the addition of an hourly or on-demand report being provided to the Drought Task Force and other required tribal entities.

19. Drought Scenario

For contingency planning purposes, the drought scenario and assumptions include the following:

- A. Drought conditions with below-normal precipitation and snowpack levels have adversely impacted water sources.
- B. Drought conditions progress from abnormally dry to moderately severe conditions through the year with severity increasing into fall, i.e. September or October.
- C. Water source(s) capacity is moderately reduced by 10% to 25%.
- D. Anticipated available water source(s) capacity after reductions from drought will be approximately 2,988 gallons per day or 89,632 gallons per month at a Stage 2 (25% reduction).
- E. During the peak drought conditions, the anticipated water demand level and corresponding water use allocation will be at Stage 1 to Stage 2.
- F. Based on a Stage 2, the total water demand, including anticipated water use reductions,

will be 55 gpcd.

- G. Existing alternative water source(s) include Camp Liahona Redwoods (100,000 gallon storage tank) and Casini Enterprises Water Tenders (water hauler).
- H. Additional storage tanks for treated and raw water are a feasible alternative for adding additional water to the public water supply that could become completed and available within a reasonable timeframe.
- I. Unless water consumption is reduced per the guidelines noted above, it is unlikely that alternative water source(s) could fully meet the current demand.
- J. The duration of reduced water supply is anticipated to be a minimum of 90 days, but subject to change.

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APPENDIX:

1. Resolution forming a Drought Task Force
2. Resolution adopting a Drought Contingency Plan
3. Kashaya Customer Water Use Analysis Spreadsheet
4. Proposed new KUD Utility Monthly Bill
5. Water Source Protection Plan
6. Contact list for Kashia Tribal Administration Offices
7. Contact list of Drought Task Force Partners
8. Water agreements with water suppliers
9. Kashaya Utility District Ordinance #3

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