

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), through its Tribal Council and with the concurrence of the Kashaya Utility District, hereby adopts the following Drought Contingency Plan.

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 the Plan, and the contingency planning process, is to facilitate rapid emergency response. The intention of the Plan is to be functional, flexible, and easy to implement, and also serve as a tool for maintaining control over the events or limiting the risk of loss of control. The 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 the 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 of this, the 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, are:

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; and
4. New demand: projects without permits when 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

The Kashia Tribal Council and Kashaya Utility District (KUD) shall participate in a Drought Task Force established 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 Tribal Council
- 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 Tribal officials listed below, or their designee(s), are 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. Such officials shall have the authority to initiate or terminate drought or other water supply emergency response measures as described in this Plan. The Designated Officials are: Tribal Chair or, in his/her absence or inability to timely act, Tribal Vice-Chair; and/or KUD Board Chair or, in his/her absence or inability to timely act, 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 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 the irrigation and maintenance of landscaped areas, whether publicly or privately owned, including residential and commercial lawns, gardens, golf courses, parks, and 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:** the term is also referred to as commercial or institutional water use.
- H. **Public water system:** a system for the provision to the public of water 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

Living in the western regions of the United States, the Kashaya (Kashia) were accustomed to natural variations in climate cycles, and drought conditions have impacted the Tribe since before recorded history. Like other Native Americans living in this region, 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 our ancestors to adapt to periods of both 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. This created new challenges, because the Tribe had to remain in one place and survive off of local water sources, regardless of whether rainfall was plentiful or limited.

Since the formation of the Reservation/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, 2013 the Kashia experienced declining groundwater levels and reduced surface water flows.

The water shortage conditions caused the Kashaya (Kashia) to implement the following response actions:

- voluntary water use reduction

- water allocations
- use of alternative water sources. The Tribe did not have a community water system until the late 1980's. Until then, alternative sources were individual wells or springs where water was hauled by buckets or containers.

6. Criteria for Initiating 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 the Plan based on the specified triggering criteria. The triggering criteria are based on public health risks (likelihood and impacts) and an analysis of the anticipated vulnerability of the water source under drought conditions, and system capacity limits.

7. Coordination with Regional Partners

The public water system is in 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 Gualala, CA
- B. Gualala River Watershed Council
- C. Anchor Bay Waste Water District – Gualala, CA
- D. Sonoma County Office of Emergency Services
- E. Indian Health Service, Ukiah Field Office Stewarts Point, CA
- F. Odiyan Buddhist Retreat Center, Cazadero CA
- G. Liahona Redwoods Camp, Stewarts Point CA

8. Public Involvement

Opportunities for public input in the Plan were provided by the following methods including:

- The Plan was distributed at a General Council Meeting.
- Making the Plan available on the official tribal Website.
- Providing the Plan to anyone requesting a copy.
- Accepting comments on the Plan at a designated office.
- Review by Tribal Council.

9. Public Education and Notification

Community outreach, education, and public notification about the Plan will include information concerning the conditions under which each stage is to be initiated or terminated, the drought response measures to be implemented in each 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 communications strategy undertaken in connection with a water shortage should contain the following fundamental attributes:

- **Timely:** Information should be disseminated well in advance of voluntary or mandatory actions that are to take effect; repeated often; and updated at regular intervals.
- **Credible:** Information should strive to be clear, professional, consistent, straight forward, reasoned, and honest in order to build trust and community support.
- **Multi-modal:** Information should be made available to the public using a variety of methods; for example, using the internet, newsletters, radio, and public meetings.
- **Open:** The Water District and Tribal Council will actively listen to, engage, and involve its customers, solicit feedback, address identified concerns, and respond to public input in a manner that is respectful, appreciative, open to creative solutions, and acknowledges each individual's sacrifice, inconvenience, and contribution to the solution.
- **Coordinated:** The KUD and Tribal Council should collaborate with other Tribal departments and other impacted entities to ensure that the community as a whole has a synchronized and coordinated approach.
- **Action oriented:** Information should always contain positive action steps that can be taken to help foster a spirit of cooperation and create an overall atmosphere that encourages conservation of water for the public good.

A valuable technique in communication is to have a prepared and concise public message for each stage of the water shortage as described in the Plan. These statements are included within the response action for each stage, and are intended to ensure that communications are consistent, "stay on message," and set the tone for subsequent communications through the duration of the incident.

There are various methods available to communicate and enact public outreach. The Designated Officials will consider the following techniques and methods:

- Announcement at Tribal Council and General Council meetings. If there is an emergency

situation, a community meeting will be held.

- Presentations and open forums at community meetings.
- Publication in quarterly newsletters of general circulation.
- Press releases using other local media; e.g. television, radio, E-mail.
- Direct mail to each customer; e.g. utility bill inserts.
- Public service announcements.
- Signs posted in public places; e.g. posting a bulletin at the 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.
- Outdoor signs.
- Formation of a Drought Task Force.
- Announcements on the official Tribal Website.
- Notifying other tribal offices, departments, schools, and other agencies as appropriate.

The Designated Officials will notify the following individuals and/or agencies about current public notices:

- Kashia Department of Environmental Planning
- Kashia Tribal Housing Department
- Local fire chief
- Local police chief
- Critical water users, e.g. health clinics, schools
- County Office of Emergency Services (OES) director
- Indian Health Service District/Field Office
- 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. There is also a hand-dug well supplied by groundwater on-reservation and ephemeral streams and springs. However, neither are used as potable water sources as they do not provide sufficient water supply for the entire community and have some contamination concerns. A brief description of each source is provided in Table 1 below.

While production from specific water supply sources will often vary year to year due to a variety of factors, it is anticipated that during a drought condition, the water supply would

drastically change in quantity and quality.

Table 1: Estimated Minimum Water Supply

Water supply source	Estimated minimum water supply [gallons per day (gpd)]/[acre-feet per day]
Wheatfield Fork of Gualala River	Appropriative water rights for up to 16,280 gallons per day, and 14.7 acre feet per year.
On-reservation ephemeral streams and springs	Zero
Hand dug well	Zero
Total all sources	14.7 acre feet per year

10.2. Water demand

The public water system has a current water demand from uses including residential, schools, tribal offices, irrigation and fire suppression.

A brief description of each water use demand is provided in Table 2 below.

Table 2: Average Water Use Demand

Customer type	Number of connections	Average water demand (gallons per month based upon 6/13 – 6/14 data)
Residential	17	119,509
Non-residential (school/garden/ community center)	3	* 3,513
Irrigation	0	0
Total all demands		203,022

* The Kashia School Buildings were used for previous non-residential activities, such as School Board Meetings and Tribal Council Meetings. In 2014, a new Community Center was built on the Rancheria. In time the use of this building for non-residential community activities is expected to increase.

In addition, actual water use data during the winter months (November through February) has been utilized to evaluate the water use allotments for the most restrictive stages. 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 is likely to be minimal during this time of year (e.g. limited use for lawn irrigation, swimming pools, gardens, etc.).

The average wintertime water use was found to be approximately 32% lower than average summertime use.

11. Determining if a Water Shortage is Imminent

In normal or wet years when the water supply outlook is favorable, there is generally sufficient supply to meet the existing demand. However, after an unusually dry winter or period of consecutive dry years, there is an increased likelihood the water supply will not meet the demand. It is critical during this situation to undertake an analysis of whether water supplies will be deficient relative to the estimated water needs for the coming dry season. If possible, 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. There is a chance that late winter rains will change the water supply outlook, and therefore, the situation often remains dynamic through the end of April.

Generally, the period of May 1st to October 31st is considered the critical period for the purpose of defining the degree of water supply shortfall and for selecting the appropriate demand reduction strategy and goals. This period is when water supply is the lowest and demand is the highest, potentially creating a summer water shortage.

There is often no single criterion, trigger, or definition that can be used to determine if a water shortage exists. The determination of a water shortfall involves consideration of all the relevant factors listed in the Plan which generally involve both the supply and demand.

Generally, forecasting water supplies available from all potential sources (e.g. surface and ground water sources) involves a range of certainty due to the availability of historic information and variance in weather patterns and subsurface conditions. Using the best available information, the Designated Officials will determine the degree of the water shortfall following a three-step process, which includes:

1. Developing a monthly forecast of water supply available from all sources.
2. Comparing the water supply available to the anticipated water demand.
3. Evaluating whether the available water supply is adequate to meet the demand over the projected time period of dry weather conditions, and any anticipated water shortfall; implementing any water shortage/drought response actions as necessary.

12. Triggering Criteria and Stages of Action

One of the key elements of the Plan is a framework of incremental or staged triggering criteria for the drought severity 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 water source under anticipated drought conditions and system capacity limits. The drought condition stage, water shortage triggering criteria, and corresponding demand reduction 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	Abnormally dry, minor shortage: 0-10%	10%	Voluntary
2	Alert	Moderate shortage: 10-25%	25%	Mandatory
3	Warning	Severe drought: 25-35%	35%	Mandatory
4	Critical	Extreme drought: 35-50%	50%	Mandatory
5	Emergency	Exceptional drought: over 50%	Over 50%	Mandatory

A water shortage may trigger any stage of response actions and include best management practices for supply management and demand reduction. The Designated Officials will determine the most appropriate stage to implement based on actual 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 a Designated Official to immediately implement an advanced stage of the Plan. This may occur due to information that indicates likely increased severity in the drought conditions (e.g. to serve as a preemptive action) or when the health and safety of the community are at an increased risk. The response actions are designed to be flexible so that there is an appropriate response to the specific situation occurring at a particular time. The conditions that may trigger specific stages of the Plan are specified below.

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

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

- Annually, beginning on March 1st through November 1st.
- State Governor or local authority issues a drought declaration at Level/Stage 1.
- When the 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 **10%** or more.

12.2. Stage 2: Moderate conditions (Alert)

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

- State Governor or local authority issues a drought declaration at Level/Stage 2.
- When the water supply available to the public water system is reduced by **25%** of the long-term average.
- When 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 drought declaration at Level/Stage 3.
- When the water supply available to the public water system is reduced by **35%** of the long-term average.
- When 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 **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 drought declaration at Level/Stage 4.
- When the water supply available to the public water system is reduced by **50%** of the long-term average.
- When 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 drought declaration at Level/Stage 5.
- When the water supply available to the public water system is reduced by over 50% of the long-term average.
- When flow in the Wheatfield Fork of the Gualala River is greater than 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% or more.

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 drought situation occurring at a particular time.

The response actions included in each stage are cumulative, meaning that if Stage 2 is implemented than all of the measures in Stage 1 and 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.

The KUD and Tribal Council are responsible for implementing each stage of response under this section.

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 (KUD and Tribal Council) 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 customer meter reading program.
 - Request customers to reduce their water use by the percentage listed above.

- 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. Supply management - best management practices

Best management practices for supply management include:

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

13.1.4. Demand reduction best management practices

Best management practices for demand reduction include:

- A. Water customers are requested to voluntarily limit the 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 to minimize or discontinue water use for non-essential purposes.
- C. Actions to be avoided 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. 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. Irrigation or sprinkling of lawns for a period that exceeds 15 minutes per station at one time, or a total of 30 minutes per station during a 24 hour day, if water is applied either 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 an air-conditioning systems (including portable systems)

- without a water conservation device which is properly maintained; and,
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. Our 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 KUD and 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 that 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 major customers to develop conservation plans; and,
 - 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 and in particular 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 (e.g. FEMA, BOR, BIA, IHS, EPA, USDA/RD, State, etc.).
- E. Develop strategy to mitigate revenue losses.

13.2.3. Supply management best management practices

Best management practices for supply management include:

- A. Discontinue flushing of water mains; for emergency purposes only.

- B. Intensify leak detection and repair program.
- C. Intensify program for water waste patrols.
- D. Use of reclaimed water for non-potable purposes.
- E. Plan for use of an alternative water source(s).

13.2.4. Demand reduction best management practices

Best management practices for 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, except that 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. Prohibitions 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. 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. Irrigation or sprinkling of lawns or gardens, for a period that exceeds 15 minutes per station at one time, or a total of 30 minutes per station during a 24 hour day, if water is applied either 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 an 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; and

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 it has become necessary to institute a water allocation program for all residential customers. Our goal is to reduce system water demand by 35%. While water allocation amounts are adequate for normal domestic needs, significant cuts to outdoor water use 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 ban on open burning; and,
 - Expand and strengthen water conservation education, activities, and programs.
- B. Identify priorities for water supplies.
- C. Coordinate with Federal, State, and Local (County) entities, and in particular, the County Office of Emergency Services (OES), and any mutual aid assistance.
- D. Coordinate with local health directors to assess public health treats 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 such as 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 appeals board to process requests for exceptions.

13.3.3. Supply management best management practices

Best management practices for supply management include:

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

13.3.4. Demand reduction best management practices

Best management practices for 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. The 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 on conservation, water use allocations, etc.; and,

- Set-up and/or confirm emergency notification lists for high priority water users including health clinics, schools, stores and restaurants, and other large or critical users.
- B. Identify priorities for water supplies.
- C. Coordinate with Federal, State, and Local (County) entities, and in particular, the County Office of Emergency Services (OES), and any mutual aid assistance.
- D. Coordinate with local health directors to assess public health treats and take appropriate actions.
- E. Provide regular situational reports to Federal entities and County OES.
- F. Continue use of water supply augmentation measures such as emergency interconnection, use of existing water wells, use of new water wells, water hauling etc.
- G. Continue 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. Supply management best management practices

Best management practices for supply management include:

- A. Discontinue flushing of water mains; for emergency purposes only.
- B. Intensify leak detection and repair program.
- C. Intensify program for water waste patrols and consider expansion to 24/7 with additional staff if necessary.
- D. Use of reclaimed water for non-potable purposes.
- E. Use of an alternative water source(s).

13.4.4. Demand reduction best management practices

Best management practices for 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, and time limits for approval of such applications are hereby suspended for such time as 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 water system does not run dry. Everyone is urgently requested to do whatever 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; and,
 - Notify vulnerable populations of potential movement/relocations.
- B. Identify priorities for water supplies.
- C. Coordinate with Federal, State, and Local (County) entities, and in particular, the County Office of Emergency Services (OES), and any 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 such as emergency interconnection, use of existing water wells, use of new water wells, water hauling etc.
- G. Continue 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. Supply management best management practices

Best management practices for supply management include:

- A. Discontinue flushing of water mains; for emergency purposes only.
- B. Intensify leak detection and repair program.

- C. Intensify program for water waste patrols.
- D. Use of reclaimed water for non-potable purposes.
- E. Use of an alternative water source(s).

13.5.4. Demand reduction best management practices

Best management practices for 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 Officials are 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 use for Residential is based on the last 5 years of community usage. Average use for Commercial is based on 12 month 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 washing clothes. In addition, these water uses have been compared to actual data, in particular during the wintertime period. The Table below provides a more detailed presentation of the basis for the residential water uses and requirements for Stage 4, 5, and more severe, rationing water allocations.

Table 5: Stage 4, 5, and Emergency Residential Water Use Allocation Requirements

Residential water uses	Stage 4 requirements (gpcd)*	Stage 5 requirements (gpcd)*	Emergency 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
Washing clothes	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 may have some livestock, and will be entitled to an allocation to meet the needs of the animals. 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 daily water needs of some common animals.

Table 6: Water Needs for Farm Animals

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

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 that number of individuals who are authorized by the Assignee, in writing, to reside on the Land Assignment and who are currently physically residing at the approved premises and are expected to reside there for the entire billing period.

It shall be the customer's responsibility to go to Housing Department 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 with negligence 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 Officials, or their designees, for each non-residential commercial customer. The non-residential customer's allocation shall be based on Table 4, and the customer's usage for 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 Officials shall make their 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 best management practices listed under Section 13. Response Actions for clarification of inappropriate uses. A customer may appeal an allocation to the designated official.

Non-residential commercial customers shall pay the following surcharges:

Customers whose allocation is 10,000 gallons or less per month:

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

Customers whose allocation is 10,000 gallons or more per month:

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

The surcharges shall be cumulative.

15. Enforcement

This Plan is designed to place the responsibility for managing the water resources during a water shortage emergency on the entire community. Care has been taken in the design of the Plan not to penalize any customer who has undertaken good-faith and diligent measures to conserve water. However, for the protection of the water resources and 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 the 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 violation - \$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.
 2. For the second violation, 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 found to have committed three or more violations of this Plan within a one-year period, the designated official shall, upon due notice to the customer, be authorized to:
 - i. Require the customer to repair any defects in the water system of such customer within 14 days of notice;
 - ii. Installation by the designated official of flow restrictors or termination of water service for exterior use;
 - iii. May be subject to reimbursement for utility repair, any necessary clean-up and related costs;
 - iv. May be subject to withholding from, or suspension of, revenue sharing distributions subject to Tribal Council approval;
 - v. May be subject to suspension or loss of other tribal benefits/services subject to Tribal Council approval;
 - vi. Services discontinued under such circumstances shall be restored only upon payment of a re-connection charge, hereby established at \$50, and any other costs incurred by the public water system in discontinuing service. In addition, suitable assurance must be given that no further violations shall be committed while the Plan is in effect.
 - vii. Compliance with this plan may also be sought through injunctive relief in the Kashia Tribal Council/ 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 shall be presumed to be responsible for violations of their minor children and proof that a violation, committed by a child, occurred on property within the parents' control shall constitute a rebuttable presumption that the parent committed the violation, but any such parent 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 could not have reasonably known of the violation.

- D. Any employee of the public water system, police officer, or other designated official, as stated in Section 3, Authorization, may issue a citation to a person 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 the 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 Officials 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 adversely affecting 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 the Plan is in effect; and,
- Alternative methods can be implemented 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 the Plan or a particular drought response stage has been invoked. All petitions for variances shall include the following:

- A. Name and address of the petitioner(s).
- B. Purpose of water use.
- C. Specific provision(s) of the Plan from which the petitioner is requesting relief.
- D. Detailed statement as to how the specific provision of the Plan adversely affects the petitioner or what damage or harm will occur to the petitioner or others if petitioner 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 is taking or proposes to take to meet the intent of this Plan and the compliance date.
- H. Other pertinent information.

Variances granted shall be, in writing, and 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 the Plan is no longer in effect, unless the petitioner 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. Water service to the customers is billed and is based on metered rates. 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 because of increased pumping lifts associated with decreasing groundwater levels.

With assumed increases in certain expenditures, overall water expenditures may increase during the various stages of the 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; and
- Development and use of reserve funds.

18. Mechanism for Determining Actual Water Use Reductions

The system's water 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 would 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, 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, 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 (September/October).
- C. Water source(s) capacity reduced by moderate impact at 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 Level 2 (25% reduction).
- E. During the peak drought conditions, the anticipated water demand level and corresponding water use allocation will be at level 1 to level 2.
- F. Based on a Level 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. New feasible alternative water sources that could be completed within a reasonable timeframe include additional storage tanks for treated and raw water.
- I. Unless water consumption is reduced per the guidelines noted above, it is unlikely that alternative water sources 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.

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 Supply Contingency Plan
6. Contact list for Kashia Tribal Administration Offices
7. Contact list for the Kashaya Utility District
8. Contact list of Drought Task Force Partners
9. Water agreements with water suppliers
10. Kashaya Utility District Ordinance #3