Drought Panel
Chris Brady, Deputy Director, Division of Sanitation Facilities and Construction
California Area Indian Health Service
U.S. Environmental Protection Agency, Region 9
Regional Tribal Operations Committee (RTOC)
Federal/State Drought Panel
Santa Rosa, CA. May 1, 2014

Christopher Brady
Deputy Director
Division of Sanitation Facilities Construction
Indian Health Service, California Area
Introduction

Topics:

1. Available resources including technical and financial
2. Past and current drought-related activities

Note: Presentation of California Area resources and activities; the scope of other IHS Areas may vary depending on available resources and priorities.
## Resources for drought assistance

<table>
<thead>
<tr>
<th>Resource/Program</th>
<th>Agency / Department</th>
<th>Program Description of Services</th>
<th>Authority</th>
<th>Requires Local Proc, SOE, or Fed Dec</th>
<th>Regularly Funded Program</th>
<th>POC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office of Environmental Health and Engineering (OEHE)</td>
<td>Indian Health Service (IHS)</td>
<td>Technical assistance: Conduct initial rapid drought assessment on tribal water systems. Priority setting (e.g., needs and systems at higher risk).</td>
<td>P.L. 86-121</td>
<td>No</td>
<td>Annual appropriations by Congress</td>
<td>Contact local IHS office in Arcata, Redding, Ukiah, Sacramento, Clovis, and Escondido</td>
</tr>
<tr>
<td>Division of Sanitation Facilities Construction (SFC)</td>
<td></td>
<td>Conduct follow-on expanded rapid assessment of vulnerability and risk. Develop drought contingency plan.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Division of Environmental Health Services (EHS)</td>
<td></td>
<td>Preparing and responding for head start, day care centers, food service operations, etc.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Division of Health Facilities Engineering (HFE)</td>
<td></td>
<td>Projects for long-term water supply/demand facilities through the Sanitation Deficiency System (SDS). Emergency projects with a limit of $50,000 per tribe.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Financial assistance:**

- Projects for long-term water supply/demand facilities through the Sanitation Deficiency System (SDS).
- Emergency projects with a limit of $50,000 per tribe.

**Information:**

- http://www.ihs.gov/california/
- Literature on water conservation
- Emergency preparedness for hospital water use
- Drought Contingency Plan template (MSWord doc)

**Other federal program information:**

- EPA Region 9: Contact EPA General Assistance Program (GAP) project officer to discuss eligible capacity-building activities which may include developing a contingency plan, collecting data, public outreach
## Program Description of Services

### Technical assistance:
- Conduct initial rapid drought assessment on tribal water systems
- Priority setting (e.g. needs and systems at higher risk)
- Conduct follow-on expanded rapid assessment of vulnerability and risk
- Develop drought contingency plan
- Develop proposed projects for IHS and/or outside agency funding for long-term facilities
- Preparedness and response for head starts, day care centers, food service operations, etc.

### Financial assistance:
- Projects for long-term water supply/demand facilities through the Sanitation Deficiency System (SDS).
- Emergency projects with a limit of $50,000 per tribe.

### Information:
- [http://www.ihs.gov/california/](http://www.ihs.gov/california/)
- Literature on water conservation
- Emergency preparedness for hospital water use
- Drought Contingency Plan template (MSWord doc)
## Initial Rapid Drought Assessment

### Indian Health Service, California Area
Office of Environmental Health and Engineering

### Drought Assessment Form
Tribal Drinking Water Systems

**Background:** The drought assessment form for Tribal drinking water systems is to provide data fields for initial information on the system, water uses, observed impacts from the drought, and current planning and management activities.

**Purpose:** Information from the assessment will be used to evaluate drought impacts and prioritize planning activities collaboratively with the Tribes.

**Instructions:** Please complete the fillable PDF form and return it to the local IHS office by email or hard copy.

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Name of Tribe</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Tribal contact (name, title, phone number, email address)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Name of water system</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>EPA public water system ID number</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Number of Indian homes on system</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Number of non-residential and non-Indian homes on system</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Current water demand (gallons per day)</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Average water demand (gallons per day)</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Type of water source</td>
<td>Ground water</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Surface water</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Interconnection with other system</td>
</tr>
<tr>
<td>10</td>
<td>Observed impacts to water source</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Decreased stream/river levels at intake</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Decreased water level in well(s)</td>
</tr>
<tr>
<td>11</td>
<td>Does the Tribe have a drought contingency plan?</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No</td>
</tr>
<tr>
<td>12</td>
<td>Would the Tribe desire assistance to develop a plan?</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No</td>
</tr>
<tr>
<td>13</td>
<td>Does the Tribe have any drought triggers or criteria?</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No</td>
</tr>
<tr>
<td>14</td>
<td>Are there individual customer water meters on the system?</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No</td>
</tr>
<tr>
<td>15</td>
<td>List any water use reduction practices being implemented</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Water conservation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Public outreach</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Restrictions or bans on non-essential water use</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Restrictions or bans on lawn irrigation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Water rate structures</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Water allocations per capita</td>
</tr>
</tbody>
</table>
## Findings of Initial Rapid Drought Assessment

**Indian Health Service, California Area, Office of Environmental Health and Engineering**

**Drought Assessment Form for Tribal Drinking Water Systems**

**Updated: 25 March 2014**

**Update of combined Districts**

<table>
<thead>
<tr>
<th>No.</th>
<th>Indicator</th>
<th>Redding District</th>
<th>Sacramento District</th>
<th>Escondido District</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Total water systems on inventory</td>
<td>42</td>
<td>50</td>
<td>57</td>
<td>149</td>
</tr>
<tr>
<td>2</td>
<td>Total water systems that responded</td>
<td>40</td>
<td>31</td>
<td>34</td>
<td>105</td>
</tr>
<tr>
<td>3</td>
<td>Percentage that responded</td>
<td>95%</td>
<td>62%</td>
<td>60%</td>
<td>70%</td>
</tr>
<tr>
<td>4</td>
<td>Total Indian homes on tribal systems assessed</td>
<td>1,642</td>
<td>1,389</td>
<td>2,808</td>
<td>5,839</td>
</tr>
<tr>
<td>5</td>
<td>Total systems with well/ground water source</td>
<td>19</td>
<td>20</td>
<td>30</td>
<td>69</td>
</tr>
<tr>
<td>6</td>
<td>Total systems with surface water source</td>
<td>8</td>
<td>2</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>7</td>
<td>Total systems with interconnection water source</td>
<td>9</td>
<td>3</td>
<td>1</td>
<td>13</td>
</tr>
<tr>
<td>8</td>
<td>Total systems with multiple water source</td>
<td>0</td>
<td>5</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>9</td>
<td>No drought contingency plan</td>
<td>23</td>
<td>20</td>
<td>11</td>
<td>54</td>
</tr>
<tr>
<td>10</td>
<td>Has a drought contingency plan</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>11</td>
<td>Percentage with drought contingency plan</td>
<td>8%</td>
<td>9%</td>
<td>15%</td>
<td>10%</td>
</tr>
<tr>
<td>12</td>
<td>Current drought level/stage</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a</td>
<td>Mild</td>
<td>14</td>
<td>2</td>
<td>11</td>
<td>27</td>
</tr>
<tr>
<td>b</td>
<td>Moderate</td>
<td>8</td>
<td>13</td>
<td>2</td>
<td>23</td>
</tr>
<tr>
<td>c</td>
<td>Severe</td>
<td>3</td>
<td>6</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>d</td>
<td>Emergency</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>13</td>
<td>Water reduction and supply management practices</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a</td>
<td>None</td>
<td>10</td>
<td>4</td>
<td>9</td>
<td>23</td>
</tr>
<tr>
<td>b</td>
<td>Water conservation and public outreach</td>
<td>5</td>
<td>10</td>
<td>1</td>
<td>16</td>
</tr>
<tr>
<td>c</td>
<td>Reduced or no irrigation</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>d</td>
<td>Use of reclaimed water</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>e</td>
<td>Mandatory reductions</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>f</td>
<td>Leak repairs</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>g</td>
<td>Installation of low water use devices</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>h</td>
<td>Rate structure</td>
<td>13</td>
<td>0</td>
<td>0</td>
<td>13</td>
</tr>
</tbody>
</table>
Tribal water systems at highest risk due to drought conditions:

Updated March 26, 2014 – Updates will be made as conditions change and information becomes available.

Surface water systems:
1. Yurok
2. Hoopa
3. Karuk
4. Grindstone
5. Stewarts Point
6. Tule River
7. Smith River

Communities served by non-Indian water systems:
8. Redwood Valley
9. Coyote Valley
10. San Pasqual (District B)
11. Tuolomne
12. Torres Martinez

Groundwater systems:
13. Big Valley
14. Cold Springs
15. Cortina
16. Chicken Ranch
17. Enterprise
18. Ione
19. La Posta
20. Morongo
21. Santa Rosa Reservation
22. Santa Ysabel

Salt water intrusion:
23. Table Bluff
24. Manchester/Point Arena
25. Santa Rosa Rancheria
26. Sherwood Valley
27. Pinoleville
28. Old Sherwood Valley
29. Pauma

Total Systems to Date = 29

Source: Indian Health Service California Area Office of Environmental Health and Engineering. Based on vulnerability level, system information, and assessments.
Drought Contingency Plan Template

Table of contents

1. Declaration of policy, purpose, and intent
   1.1. General
   1.2. Water use priorities
   1.3. Applications
   1.4. Drought task force

1. Declaration of policy, purpose, and intent

1.1. General

To support the objectives of the State Drought Plan and to ensure that the water supply is maintained, it is necessary to establish a Drought Contingency Plan for the Tribal Water System. The Drought Contingency Plan is designed to provide a framework for the development and implementation of measures to reduce water usage during periods of drought. The plan will ensure that water is available to meet the needs of the community in a timely and efficient manner.

1.2. Water use priorities

The Tribal Water System has established water use priorities to ensure that water is available to meet the needs of the community. The priorities are as follows:

- Priority 1: Essential services (e.g., drinking water, fire protection, public health, and safety)
- Priority 2: Municipal and industrial use
- Priority 3: Agriculture
- Priority 4: Non-essential use

These priorities are subject to change based on available water supplies.

1.3. Applications

The provisions of this Plan shall apply to all customers and property owners within the Tribal Water System.

1.4. Drought task force

A Drought Task Force will be established to develop and implement the Drought Contingency Plan. The Task Force will be composed of representatives from the following:

- Tribal Council
- Tribal Water Department
- Local businesses
- Agricultural representatives
- Environmental groups

The Task Force will meet regularly to monitor drought conditions and implement measures to conserve water.

March 2014

Drought Contingency Plan for Public Water System

March 2014

Drought Contingency Plan for Public Water System
Follow-up expanded assessment: Drought Vulnerability and Risk

Uses:

- Provides a score to quantify relative vulnerability and risk.
- Prioritize resources.
- Support SDS projects.

Indian Health Service, California Area
Office of Environmental Health and Engineering

Drought Vulnerability and Risk Assessment Form
Tribal Drinking Water Systems

Background and purpose: The drought vulnerability and risk assessment form for Tribal drinking water systems is a follow-up to the initial drought assessment. This assessment provides a more quantitative evaluation of specific factors related to vulnerability and risk, and uses a broad range of information on management, water supply, and water demand. Findings will be used to evaluate the relative level of drought vulnerability and risk, and prioritize follow-on planning activities collaboratively with the Tribes.

Instructions: Provide a response for each factor and obtain a total score, which suggests an overall level of drought vulnerability and risk. The range of scores and suggested drought vulnerability and risk are:

<table>
<thead>
<tr>
<th>Range of total scores and related drought vulnerability and risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 10 suggests a very low vulnerability/risk</td>
</tr>
<tr>
<td>11 to 20 suggests a low vulnerability/risk</td>
</tr>
<tr>
<td>21 to 30 suggests a medium vulnerability/risk</td>
</tr>
<tr>
<td>31 to 40 suggests a high vulnerability/risk</td>
</tr>
<tr>
<td>41 to 58 suggests a very high vulnerability/risk</td>
</tr>
</tbody>
</table>

General information:
A. Name of Tribe
B. Name of water system
C. EPA public water system ID number
D. Number of Indian homes on system
E. Number of non-residential and non-Indian homes on system

Factors related to drought vulnerability and risk

<table>
<thead>
<tr>
<th>No.</th>
<th>Factor</th>
<th>Range of responses</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Does the Tribe have a written drought contingency and/or emergency plan?</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Formalized and/or adopted drought contingency plan</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Draft drought contingency or emergency plan</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>No drought contingency or emergency plan</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>Does the water system have customer water meters and/or has the Tribe implemented use reduction practices?</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Individual water meters and implemented water use reduction practices</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Limited water meters and/or marginal water use reduction practices</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>No water meters and limited or no water use reduction practices</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>What is the percent of average seasonal precipitation in the hydrologic region where the tribal water system is located?</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>100% or greater than average</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>75% to 99% of average</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>50% to 74% of average</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>25% to 49% of average</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Less than 25% of average</td>
<td></td>
<td>10</td>
</tr>
</tbody>
</table>

http://cdec.water.ca.gov/snow/bulletin120/index2.html#
### General drought facts/information:

- **Map of Drought Locations in California**
- **University of Nebraska**
- **Saving our Water**
- **Save our Water**
- **California Water Fact Sheet (EPAs)**
  - (PDF) Environmental Protection Agency

### Drought contingency planning tools/resources:

- **Drought Assessment Form for Tribal Drinking Water Systems (PDF)**
- **Map of California Tribal Water Systems at Highest Risk Due to Drought Conditions (PDF)**
- **Drought Contingency Plan TEMPLATE (DOCX)**
  - List of local Office of Emergency Services by County
  - State of California, Offices of Emergency Services
  - Free California Drinking Water Workshops
    - (PDF) Rural Community Assistance Corporation
  - Emergency Community Water Assistance Grants (USDAs)
  - (PDF) US Department of Agriculture
  - Bureau of Reclamation Water Shortage Contingency/Drought Planning Handbook
  - (PDF) US Bureau of Reclamation
  - List of California licensed water haulers
    - (PDF) State of California, Department of Public Health

### Public health tools/resources:

- **Emergency Preparedness - Hospital Water Disruption Best Practices**
  - California Hospital Association
- **When Every Drop Counts - Preventing Public Health During Drought Conditions**
  - (PDF) Centers for Disease Control and Prevention
- **Public Health and Drought**
  - (PDF) Centers for Disease Control and Prevention

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<table>
<thead>
<tr>
<th>What's New</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012 Provider Report Practices &amp; AFARA Resident Continuation Medical Education</td>
</tr>
<tr>
<td>March 27, 2014</td>
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</table>

<table>
<thead>
<tr>
<th>CA Member Portal Access</th>
</tr>
</thead>
<tbody>
<tr>
<td>California Area - Indian Health Service</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mission Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>The overall mission of the Indian Health Service (IHS) is to ensure the physical, mental, social and spiritual health of American Indians and Alaska Natives (AIANs) in the highest level of health.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>California VRTC Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>California area office is planning to build California’s world-renowned VRTC (Veterans Regional Treatment Centers)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>For Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fort Health Care Professionals</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>News Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indian Health Service (IHS)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>April 14, 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014 Provider Report Practices &amp; AFARA Resident Continuation Medical Education</td>
</tr>
<tr>
<td>March 27, 2014</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>April 15, 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>State of California - Health Advisory - Bacterial E. coli Nebraska utility continues to be high in California for 2014</td>
</tr>
<tr>
<td>April 15, 2014</td>
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</table>

<table>
<thead>
<tr>
<th>May 22, 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>California Special Delivery Program for Indigent Patients</td>
</tr>
<tr>
<td>March 20, 2014</td>
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</table>

<table>
<thead>
<tr>
<th>December 20, 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doing Business with IHS (PDF)</td>
</tr>
<tr>
<td>Professional development on doing business with IHS from the IHS Office of Business Development</td>
</tr>
</tbody>
</table>

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Source: National Drought Mitigation Center at the University of Nebraska
Contacts: Recommend to start at the local District/field offices. Contacts available on most IHS Area websites.

If further assistance is required, the Directors of the Office of Environmental Health and Engineering (OEHE) for each Area are:

- California Area: Edwin Fluette; 916-930-3981, ext. 334
- Navajo Area: Brian Johnson; 928-871-1451
- Phoenix Area: Michael Welch; 602-364-5059
- Tucson Area: Randy Willard; 520-295-5631
Stephen De Blasio, Senior CEM
Federal Emergency Management Agency (FEMA)
Heather Hostler, Chief Deputy, Office of the Tribal Advisor
Office of the Governor Edmund G. Brown, Jr. (CA)
Drought Task Force Tribal Engagement

Heather Hostler
Chief Deputy, Tribal Advisor
Governor Brown’s Office
Tribal Engagement

- Monthly Consultation Calls
  - Next tentative date: Thursday, May 22\textsuperscript{nd} 10 am

- Website information
  - [http://tribalgovtaffairs.ca.gov/](http://tribalgovtaffairs.ca.gov/)

- Coordinating State & Federal partners
- Department of Water Resources
  - IRWM Grant Program
- Department of Fish & Wildlife
  - Clearlake Hitch Rescue

- Tribal Declarations/ Proclamations
# Drought Funding

## 2014 Drought Assistance Programs

<table>
<thead>
<tr>
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Funding Links and Info

- Tribal Advisor Website
  - www.tribalgovtaffairs.ca.gov
  - Tribal Specific Info

- State Drought website
  - www.drought.ca.gov
  - State Wide Information

- CalOES Drought website
  - www.caloes.ca.gov
  - Drops Matrix

- Department of Water Resources IRWM Grants
  - http://www.water.ca.gov/irwm/grants/index.cfm
  - IRWM Draft Drought Grant Solicitation for Review
How to Engage

- California Federally Recognized Tribal Governments
  - Contact Tribal Advisor’s Office with request participation in monthly consultation calls Heather.Hostler@gov.ca.gov
  - Letter from Chairman with designation if not tribal elected leader

- Send in declarations of disasters and descriptions of needs, threats and situations within your tribal lands.

- State Tribal Liaison’s
  - Natural Resources Agency, Liane Randolph, Chief Counsel
  - Department of Water Resources, Anecita Agustinez, Tribal Policy Advisor
  - State Water Resources Control Board, Gita Kapahi, Director of Public Participation
  - CalEPA, Arsenio Mataka, Assistant Secretary for EJ & Tribal Affairs
  - Department of Fish & Wildlife Services, Steven Ingram, Senior Staff Counsel & Tribal Liaison
  - Department Food & Agriculture, David Pegos, Special Assistant
  - Cal OES, Denise Shemenski, Tribal Liaison
Felicia Marcus, Board Chair
California State Water Resources Control Board
California Drought 2014*

Felicia Marcus, Chair SWRCB
*Stuff that might be useful to know

RTOC May 1, 2014
Overview

- Introduction
- CA Water and this drought
- Water Rights and Curtailments per Wednesday questions (if time)
Setting

- Variable hydrology
  - Year to year
  - Location to Location
  - Time of year
- Mix of sources
  - Surface Water system local or imported (extensive storage/conveyance)
  - Groundwater (intensely local)
  - Every locale different mix
  - Impact of drought varies too
  - Mix of water rights too
- Drought
  - Worst in records in impact
  - 3rd re precip
  - More pop; more irrigated ag; more env water make impact greater than the other two
California’s Precipitation is Uniquely Variable

a) COEFFICIENTS OF VARIATION OF TOTAL PRECIPITATION, WY 1951-2008

Dettlinger et al, 2011
Seasonal Mismatch of Supply and Demand

- Runoff is greatest in the winter/spring.
- Demand peaks in the summer.
Managing Hydrologic and Geographic Imbalances

- Precipitation vs. Population
- Feast or Famine
Major Water Projects

- **Federal** – Central Valley Project (CVP)

- **State** – State Water Project (SWP)

- **Local** – Many other projects throughout state, including Colorado River system, Hetch Hetchy, EBMUD, Owens Valley

Source: Water Environment Foundation
Quick Facts on California

Groundwater → the “other” water

- Percentage of Urban and Agricultural Demands met with groundwater
  - Normal Year: 30 percent ↔ Dry year: 40 percent
  - Some put at 40-60%
- About 9 million Californians (1 in 3) rely solely on groundwater to meet their needs
- On the Central Coast, 90 percent of drinking water comes from groundwater
- Groundwater/surface water connection
- California has less “state” regulation than ANY other state
- Note: current robust discussion re: groundwater management
Future drivers and historic practice make it even harder, but...

- Climate change is gamechanger
  - Delta survival/floods/water supply
  - Storage conundrum
- Population Growth
- Increasing awareness, invocation, and exercise of “public trust” and other ecosystem needs
- Institutional constraints, silos, historic practice
Traditional dialogue

- Mark Twain: “Whiskey is for drinking; water is for fighting.”
- Single issue: all about storage; all about plumbing; all about ESA taking away “our” water; all about flow for fish; all about conservation/recycling; desal is “the answer”; all about predation
- “If we just....”
- “Is so, is not; you’re a jerk, no I’m not” level of discourse
- Actually about all of it in the face of climate change and population growth
Administration Water Action Plan

- Make Conservation a California Way of Life
- Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government
- Achieve the Co-Equal Goals for the Delta
- Protect and Restore Important Ecosystems
- Manage and Prepare for Dry Periods
- Expand Water Storage Capacity and Improve Groundwater Management
- Provide Safe Water for All Communities
- Increase Flood Protection
- Increase Operational and Regulatory Efficiency
- Identify Sustainable and Integrated Financing Opportunities
The Drought—a glimpse

“When the well is dry, we know the worth of water.”

Benjamin Franklin
Poor Richard’s Almanac
Current crisis: Worst drought in modern times

- 2013 “driest” year on record
- Snowpack fraction of average/ “normal”
- Reservoir draw down due to unusual 2012 precipitation pattern
- Could still rain, as in “March miracle” of the 90s but that is not a strategy, and it is May.
- Third worst on record, with far greater impact than the 1920s
- Beyond anything we’ve dealt with
- Harbinger of things to come
Northern Sierra Precipitation: 8-Station Index, April 09, 2014

Percent of Average for this Date: 62%

1982-1983 (wettest) 88.5
2005-2006 Daily Precip. 80.1
Average (1922-1998) 50.0
2012-2013 Daily Precip. 44.3
1923-1924 (driest) 19.0
1976-1977 (2nd driest & driest thru Aug) 17.1

Cumulative Daily Monthly Precipitation (inches)

Water Year (October 1 - September 30)
Actions—

- Regional differences and choices
  - Different mix of sources and economies
  - Water right priorities and different groundwater regimes
  - Choices re conservation, priorities, etc.
- Drought Task Force
- Actions taken and potential:
  - Emergency declarations—Governor Brown February 17, 2014/April 25, 2014
Actions—con’t

- Emergency Legislation--$680m+
- Disaster relief—Farm Bill/USDA/Food Banks/NGOs
- Transfers
- Temporary standards implementation adjustments
- Conservation; Recycling
- Decisions re allocation/salinity control/public health and safety by state and federal projects--partial
- Water rights implementation: “Curtailments”
- What is “reasonable use” in a drought?
Drought legislation→$$$

$549 million from the accelerated expenditure of voter-approved bonds, Proposition 84 and Proposition 1E, in the form of infrastructure grants for local and regional projects that are already planned or partially completed to increase local reliability, including recapturing of storm water, expanding the use and distribution of recycled water, enhancing the management and recharging of groundwater storage and strengthening water conservation.

• $30 million from the Greenhouse Gas Reduction Fund to the Department of Water Resources (DWR) for direct expenditures and grants to state and local agencies to improve water use efficiency, save energy and reduce greenhouse gas emissions from state and local water transportation and management systems.

• $14 million for groundwater management across the state, including assistance to disadvantaged communities with groundwater contamination exacerbated by the drought.

• $10 million from the Greenhouse Gas Emissions Fund for the California Department of Food and Agriculture to invest in irrigation and water pumping systems that reduce water use, energy use and greenhouse gas emissions.

• $15 million from the General Fund for Emergency Drinking Water Fund to address emergency water shortages due to drought.

• $13 million from the General Fund to augment the California Conservation Corps and local community conservation corps to expand water use efficiency and conservation activities and to reduce fuel loads to prevent catastrophic fires.

• $25.3 million from the General Fund for food assistance, which will be structured to maximize the potential federal drought assistance that can be provided to provide food assistance to those impacted by the drought.

• $21 million from the General Fund and federal funds for housing related assistance for individuals impacted by the drought.
Cleanup and Abatement Account: On April 22, Water Board approved $4 million to provide interim emergency drinking water funding.

- For economically disadvantaged communities with contaminated water supplies.
- Tribes are eligible for funding, along with not-for-profits and local public agencies.
- Received interest from tribal governments, but no applications submitted yet.

Reduced Interest Rate: On March 18, the Water Board made available $800 million in loan funds at 1% for water recycling projects.

- Tribes are eligible, along with not-for-profits and local public agencies

Other:

Small Community Grant Fund Acceleration: Staff is accelerating $7 million in small community grant funding for projects – including funding for planning. Projects in line to receive funding would help recharge groundwater and support agronomic reuse of water, and are located in the same counties USDA has identified as eligible for drought assistance through the Emergency Conservation Program.

Stormwater Infiltration: The Water Board plans to solicit projects that implement low impact development techniques to infiltrate stormwater and reduce discharges to Areas of Special Biological Significance (ASBS) in Summer 2014.

Drought Projects for Schools: The Water Board is exploring the option of repurposing some remaining unallocated older bond funds to potentially focus on drought-related projects for schools, including stormwater retention and reuse or recharge, turf replacement, as well as traditional water conservation measures and educational opportunities.
Other funding

Department of Water Resources:
- Legislation accelerated $200 million in IRWM grant funding.
- Contacts: Anecita Agustinez: Anecita.Agustinez@water.ca.gov; Kamyar Guivetchi: Kamyar.Guivetchi@water.ca.gov
- California Water Plan tribal specific information: http://www.waterplan.water.ca.gov/tribal2/tac/index.cfm

Additional though smaller pots of money available through CDFA, NRCS and USBR for water conservation projects
A very short overview of the California water rights system.
How the Board will implement curtailments for this drought year.
- Including Health and Safety Exception
FAQ’s for Tribes
Who can Divert in California?*

There are two main types of rights in California.

- **Riparian** – Those whose land abuts a stream can generally make reasonable use of the water on the land.
- **Appropriative** – A person who uses water can establish a right to continued use. After 1914, state permission needed.

* A very, very abbreviated answer
How do Federal Reserved Rights fit in?*

- Federal reserved rights, or *Winters* rights are water rights sufficient to support the primary purposes of a reservation.
- The State Water Board can recognize and protect *Winters* rights, but does not issue permits for them.

* A very, very abbreviated answer.
How can I find out about water rights in my area?

The State Water Board posts water rights and reported usage information on the eWRIMS system:

http://www.waterboards.ca.gov/waterrights/water_issues/programs/ewrims/
What if there is not enough water for all users?

- Water users must curtail their diversions under the rules of water law.
- Riparian rights are “correlative” to each other - users share shortages
- Appropriative rights are “first in time, first in right” – higher priority can get all, while lower priority gets nothing
  - Priority date after 1914 is generally the date of the water right application
  - Priority date before 1914 is generally the date work started on the diversion
What if there is not enough water for all users?, con’t

- A *Winters* right has a priority of:
  - Generally, the date the reservation was established
  - Sometimes, time immemorial
- Riparian rights use a priority date of the date the land was taken out of the public domain, for deciding shortage allocations relative to appropriators and *Winters* rights.
How will the Board’s curtailments work?

- By watershed, not statewide
- By priority date – water not available
- Notices sent to address on file for the water right
- Water right holder fills out online “Curtailment Certification” form
Health and Safety Exception

- Limited diversions for public health and safety may continue
- Likely:
  - In the range of 50 gallons per person per day
  - Must not have sufficient alternative supply
Curtailment Information Website

- Watersheds under review
- Graphs showing projected use at different priority dates, flow projections, and the most current flow information
- Time estimates for future curtailment
- Curtailment Notices
- Letters received regarding curtailment
How do tribal water rights fit into the curtailment framework?

- Water availability at a specific priority date, not the type of right, determines who receives a curtailment notice

What if the tribe has a contract for stored water?
- Curtailments do not affect delivery of stored water.

What if the Tribe receives deliveries from another diverter?
- The water right holder of record will receive any curtailment notice
- Tribal health and safety use will count towards any exception
What if my Tribe uses Groundwater?

- No Curtailment
- Exception: the well uses the subterranean stream flow of a surface stream bring curtailed
- Correlative rights applies—governance varies widely across the state from adjudicated basin → zip.
Thank you

- Questions or follow up requests
- Gita Kapahi: gita.kapahi@waterboards.ca.gov
- Felicia Marcus: felicia.marcus@waterboards.ca.gov
Quinn P. Donovan, Area Specialist
USDA - Rural Development
USDA Rural Development

USDA’s Role

Santa Rosa Office
Quinn Donovan
Area Specialist
Santa Rosa California
quinn.donovan@ca.usda.gov

State of California
Janice Waddell
Community Program Director
430 G Street, Agency 4169
Davis, CA 95616
(530) 792-5810
janice.waddell@ca.usda.gov

State of Nevada
Cheryl Couch
Acting Community Programs Director
1390 South Curry St.
Carson City, NV 89703
(775) 887-1222, ext. 113
cheryl.couch@nv.usda.gov

State of Arizona
Nancy Veres,
Community Programs Director
(602) 285-6376
Nancy.Veres@az.usda.gov
230 N 1st Ave, Suite 206
Phoenix, AZ 85003
USDA Rural Development
Funding Resources

- Water and Wastewater Loan / Grant Program
- 306 C Water and Wastewater Grant
  *Must alleviate a health or sanitary problem*
- Emergency Community Water Assistance Grants
- Community Facilities Grant
Water and Waste Projects

**Water**
- Water Tanks
- Treatment Plants
- Pipelines
- Wells
- Filtration Systems
- SCADA

**Waste**
- Treatment Plants
- Pipelines
- Clarifiers
- Sludge Ponds

**Stormwater**
- Drainage
Eligible Costs

Water and Waste Programs

- Construction
- Acquire Land and Rights
- Legal Fees
- Engineering Fees
- Environmental Review
- Connection Fees
- Purchase of Water Tank, etc.
Technical Assistance

California Rural water Association
Dan DeMoss
cell: 916.616.7761
ddemoss@calruralwater.org

Rural Community Assistance Corporation (RCAC)
Brian Phillips
Regional Manager Environmental (NV/N. CA)
bphillips@rcac.org
(707) 489-6994
Success Stories
Pit River XL Ranch