Drinking Water and Sanitation Facilities in the Indian Communities

Indian Health Service, California Area
2014 Best Practices Conference
Tuesday, May 20, 2014

Christopher Brady, Deputy Director
Sanitation Facilities Construction Program
Introduction

Topics:
• Introduction and background of the Sanitation Facilities Construction (SFC) Program
• SFC mission activities
• Overview of SFC services and funding levels
• SFC database – Sanitation Tracking and Reporting System (STARS)
• 2014 drought and preparedness and response activities
• Questions/answers
SFC Program

Background:

• July 31, 1959, Public Law (P.L.) 86-121, the Indian Sanitation Facilities Act, was signed into law creating the IHS SFC Program.

• Gives the SFC Program the authority for providing essential water supply and sewage facilities.

• Technical and financial assistance.
SFC Program

SFC organization:

- Sanitation Facilities Construction (SFC) Program is under the Office of Environmental Health and Engineering (OEHE)
- SFC staff – 35 employees
- Offices strategically located near Tribes in Redding, Arcata, Sacramento, Ukiah, Clovis, and Escondido
**SFC Program**

**Long-term goals:**
- Increase percentage of Indian homes with access to safe water and sanitation
- In 1959, less than 20% of homes had safe water
- Currently, 87% have safe water or 13% without (compared to less than 1% of the U.S. population)
SFC Program

Mission activities:

1. Maintain inventory of sanitation deficiencies
2. Environmental engineering assistance
3. Project development with multi-agencies
4. Funding for water supply, wastewater, and solid waste projects
SFC Program

Mission activities:

5. Professional design and construction services

6. Advocate for Tribes on environmental public health issues

7. O&M training and technical consultation

8. Emergency response services
Services for individual homes

Individual water and sanitation services include:

- Water service line
- Water well
- Water pressure system
- Septic tank/drainfield
- Sewer service line
Services for individual homes

Two-page application. Requirements include:

- Federally recognized Tribe/California Indian descendant; primary residence; legal control to land; adequate site conditions

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APPlicant’S RESPONSIBILIT YS: READ CAREFULLY, THIS IS A LEGAL DOCUMENT.

1. This is an APPLICATION for service. The provision of sanitation facilities is dependent on Indian Health Service (IHS) site review, verification of home construction, improvements, and availability of funds.

2. No services can be provided without a completed and signed Application for Sanitation Facilities Form.

3. Application must be given to the Tribe associated with the service area that contains the homestead property. The Tribe will forward the Application to IHS. Applicants without Tribal representation will forward the Application directly to the IHS.

4. Applicant must provide proof of a legal claim to the land (e.g., copy of allotment, lease, or deed) as part of this application. The homestead must be a primary residence of the Applicant. No services can be provided to other than primary residences.

5. An IHS representative will visit the homestead to determine site suitability. Prior to this visit, the Applicant must locate property corners, underground utilities, and the proposed house location (new homes). See Site Drawing.

6. By way of the Applicant’s signature, IHS representatives are granted permission to enter upon the land for the purpose of carrying out the site approved work. This work may include, but is not limited to, digging soil test pits, conducting percolation tests, and drilling test wells. The Applicant agrees to waive all claims which may arise from such entry and testing except those claims which may be recognized under the General Tort Claims Act. If the Applicant is not the landowner, the landowner must co-sign this application.

7. It is important that the Applicant understand that under Public Law 88-121, IHS cannot own, operate, or maintain the Applicant’s completed facilities. All construction facilities will be transferred to the Applicant when construction is completed. For community facilities, the Applicant’s responsibility is for individual facilities such as water service lines from the house to the curb stop or meter and sewer service lines from the house to the property line.

8. The IHS does not provide inside plumbing. Plumbing must be inside the house with a protruding stub 5-foot beyond the foundation to connect to outside plumbing.

IT IS STRONGLY RECOMMENDED THAT DEVELOPMENT OF NEW SITES NOT OCCUR UNTIL AVAILABILITY OF WATER AND SEWER SERVICE HAS BEEN DETERMINED. IT IS FURTHER RECOMMENDED THAT OCCUPANCY OF NEW HOUSES NOT OCCUR PRIOR TO RECEIPT OF SANITATION FACILITIES.

TRIBAL – AUTHORITY SIGNATURE REPRESENTS REQUEST FOR FACILITIES FOR THIS APPLICANT

I understand the Applicant’s Responsibilities as described, and I agree to the IHS verifying information provided on this application.

LANDOWNER: ___________________________ DATE: __________

APPLICANT: ___________________________ DATE: __________

TRIBAL REPRESENTATIVE: ___________________________ DATE: __________
Healthy homes public outreach

Posters

Booklet
Community services

Community water and sanitation services include:

• Water supply; e.g. wells, intakes
• Water distribution and storage
• Water treatment
• Wastewater collection
• Wastewater treatment/disposal
SFC Program annual activities

Typical annual portfolio:

• Homes served: 1,000 to 2,000
• Projects: 20 to 30
• Funding:
  • Housing: $1.5 to 2.0M (for new homes)
  • Regular: $1.9 to 2.5M (for existing homes)
  • Outside contributions: $3M to $5M (EPA, USDA/RD)
• Project duration: < 4 years
The Web Sanitation Tracking and Reporting System (wSTARS) is an inventory of the sanitation deficiencies of American Indian (AI) and Alaska Native (AN) communities, which consist of needed water, sewer and solid waste facilities for existing homes. The sanitation deficiencies data are identified by each of the 12 Indian Health Service Area Offices across the nation in consultation with the respective Tribes in those Areas. The sanitation deficiency data is updated annually and reported to Congress as required by the Indian Health Care Improvement Act, Public Law 94-437, as amended (25 U.S.C. 1601 et seq).

SDS guidelines have been established and are required to ensure uniform Area standards and procedures for identifying deficiencies, and in planning and prioritizing projects. All tribes, regardless of Sanitation Facilities Construction (SFC) Program delivery method, report their SDS needs similarly and participate equally in the allocation process, in accordance with Sections 302(g)(2) and 302(g)(3) of P.L. 94-437, as amended. Each Area Office SDS project request must be submitted to the IHS Headquarters SFC Program by August 1 of each year. The SDS project information will be used to update the SDS priority list of projects that IHS submits to Congress.
1. CDP – Community Deficiency Profile
2. SDS – Sanitation Deficiency System
3. PDS – Project Data System
4. HPS – Housing Priority System
5. OMDS – Operation & Maintenance Data System
6. HITS – Housing Inventory System
SDS requirements

SDS requirements:

• 1988 Indian Health Care Improvement Act (IHCIA) requires IHS to:
  • Maintain inventories of sanitation deficiencies for **new and existing** Indian homes and communities
  • Prioritize the correction of deficiencies in the form of projects
  • Annually report deficiencies to Congress
  • IHS developed the SDS to fulfill these requirements
SDS deficiencies

Current deficiencies:
- Number of projects: 303
- Project costs: $199 million
- Number of homes: 39,985

Factors:
- Age of infrastructure
- Population growth
- New regulations
SDS updates

Sanitation Deficiency System (SDS)
Submission Due Dates

- April to June: Updates with Tribes
- July 1: Submission from District to Area Office
- August 1: Submission to Headquarters

SFC Director Name: Donald Brafford
SDS Project narrative and scores

SDS project scores:
- Eight rating factors including the Health Impact factor:
- Represents the reporting/documentation of a disease or other adverse health effect or health hazard directly attributable to water, sewer or solid waste.
- Varying degrees: Documented, Suspected, Potential, No Potential.
Will the 2014 drought impact Tribal communities?
2014 Drought preparedness and response

Topics:
• Hydrologic drought conditions
• Potential drought-related impacts on public health
• Emergency planning and preparedness - drought assessment, contingency plans, public health outreach
Governor Brown declares drought emergency

Gov. Brown,
Emergency Drought Declaration
(Jan 17, 2014)
Snowpack

Snow Water Equivalents (inches)
Provided by the California Cooperative Snow Surveys
Data For: 13-May-2014

NORTH
- Data For: 13-May-2014
- Number of Stations Reporting: 27
- Average snow water equivalent: 1.3"/
- Percent of April 1 Average: 5%
- Percent of normal for this date: 10%

CENTRAL
- Data For: 13-May-2014
- Number of Stations Reporting: 42
- Average snow water equivalent: 2.5"/
- Percent of April 1 Average: 8%
- Percent of normal for this date: 13%

SOUTH
- Data For: 13-May-2014
- Number of Stations Reporting: 28
- Average snow water equivalent: 1.7"/
- Percent of April 1 Average: 7%
- Percent of normal for this date: 11%

STATEWIDE SUMMARY
- Data For: 13-May-2014
- Number of Stations Reporting: 97
- Average snow water equivalent: 2.0"/
- Percent of April 1 Average: 7%
- Percent of normal for this date: 12%
Precipitation levels

San Joaquin Precipitation: 5-Station Index, April 22, 2014

Percent of Average for this Date: 45%

1982-1983 (wettest) 77.4
2005-2006 Daily Precip. 56.3
Average (1956-2005) 40.8
2012-2013 Daily Precip. 26.5
Current Daily Precip: 16.3
1976-1977 15.4
1923-1924 (driest) 14.8
Current drought conditions

U.S. Drought Monitor
California

May 6, 2014
(Released Thursday, May 8, 2014)
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

<table>
<thead>
<tr>
<th></th>
<th>None</th>
<th>D0-D4</th>
<th>D1-D4</th>
<th>D2-D4</th>
<th>D3-D4</th>
<th>D4</th>
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</thead>
<tbody>
<tr>
<td>Current</td>
<td>0.00</td>
<td>100.00</td>
<td>100.00</td>
<td>95.93</td>
<td>76.68</td>
<td>24.77</td>
</tr>
<tr>
<td>Last Week</td>
<td>0.00</td>
<td>100.00</td>
<td>100.00</td>
<td>96.01</td>
<td>76.68</td>
<td>24.77</td>
</tr>
<tr>
<td>3 Months Ago</td>
<td>1.43</td>
<td>98.57</td>
<td>94.18</td>
<td>89.91</td>
<td>67.13</td>
<td>9.81</td>
</tr>
<tr>
<td>Start of Cal. Year</td>
<td>2.61</td>
<td>97.39</td>
<td>94.25</td>
<td>87.53</td>
<td>27.59</td>
<td>0.00</td>
</tr>
<tr>
<td>Start of Water Year</td>
<td>2.63</td>
<td>97.37</td>
<td>95.95</td>
<td>84.12</td>
<td>11.36</td>
<td>0.00</td>
</tr>
<tr>
<td>One Year Ago</td>
<td>0.00</td>
<td>100.00</td>
<td>98.16</td>
<td>46.25</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Intensity:
- Yellow: Abnormally Dry
- Orange: Moderate Drought
- Red: Extreme Drought
- Brown: Exceptional Drought
- Dark Red: Severe Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:
Mark Svoboda
National Drought Mitigation Center

http://droughtmonitor.unl.edu/
Potential drought-related impacts

According to the CDC, potential impacts of drought on health include:

- Public water systems
- Energy
- Sanitation and hygiene
- Air quality
- Food and nutrition
- Mental and behavioral health

Potential drought-related impacts

- **Public water systems:** Compromised water quantity and quality of surface and ground water sources.

- **Energy:** Lack of water can compromise hydropower production causing shortages in available electricity, which can negatively impact health and well-being of vulnerable populations, including persons living in nursing homes, hospitalized patients, and other persons who must rely on electrical equipment for survival.

- **Sanitation and hygiene:** Limited water supply impacts to personal hygiene, hand washing, and food safety.
Potential drought-related impacts

• **Air quality**: Dry conditions and wildfires can increase the number of particulates in the air and compromise health.

• **Food and nutrition**: Inadequate precipitation and low crop yields can result in elevated food prices and shortages, potentially leading to malnutrition among people who are economically burdened.

• **Mental and behavioral health**: Adverse effects on persons who rely on water for their economic survival, including farmers and other agriculture-related professionals. Financial-related stress can cause depression, anxiety, and a host of other mental and behavioral health conditions.
Emergency planning

Emergency response planning:
1. Situation assessment: Initial rapid drought assessment
2. Develop initial strategy: Develop drought contingency plan template
3. Detailed/follow-on expanded assessment: Drought vulnerability and risk assessment
4. Develop work plans, resource allocation, and implement:
   Assessments, contingency plans, SDS projects, and public health outreach
5. Monitor, control, report
6. Re-assess
IHS California – initial drought assessment

<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, Surface water, Interconnection with other system</td>
</tr>
<tr>
<td>10</td>
<td>Observed impacts to water source</td>
<td>None, Decreased stream/river levels at intake, Decreased water level in well(s)</td>
</tr>
<tr>
<td>11</td>
<td>Does the Tribe have a drought contingency plan?</td>
<td>Yes, No</td>
</tr>
<tr>
<td>12</td>
<td>Would the Tribe desire assistance to develop a plan?</td>
<td>Yes, No</td>
</tr>
<tr>
<td>13</td>
<td>Does the Tribe have any drought triggers or criteria?</td>
<td>Yes, No</td>
</tr>
<tr>
<td>14</td>
<td>Are there individual customer water meters on the system?</td>
<td>Yes, No</td>
</tr>
<tr>
<td>15</td>
<td>List any water use reduction practices being implemented</td>
<td>None, Water conservation, Public outreach, Restrictions or bans on non-essential water use, Restrictions or bans on lawn irrigation, Water rate structures, Water allocations per capita</td>
</tr>
<tr>
<td>16</td>
<td>List any water supply management practices being implemented</td>
<td>None, Leak detection, Leak repair, Use of back-up water supplies, Use of reclaimed water, Acquisition of alternative water supplies</td>
</tr>
<tr>
<td>17</td>
<td>What is the current drought stage of the water system based on impacts to the water supply and system vulnerability</td>
<td>Normal to minor, Moderate, Severe, Critical/Extreme, Emergency/Exceptional</td>
</tr>
<tr>
<td>18</td>
<td>Other comments and information</td>
<td></td>
</tr>
</tbody>
</table>

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.

Form Version: 28 March 2014
## Initial drought assessment summary

25 March 2014

<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>
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<tr>
<td>13</td>
<td>Water reduction and supply management practices</td>
<td></td>
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<td></td>
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</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. Tuolumne
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
23. Table Bluff
24. Manchester/Point Arena
25. Santa Rosa Rancheria
26. Sherwood Valley
27. Pinoleville
28. Old Sherwood Valley
29. Pauma

**Salt water intrusion:**
1. Yurok (Klamath)

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

Drought Contingency Plans:
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, drought-related critical situations.

Percentage of Tribes with drought contingency plans: 10%
Follow-on vulnerability and risk assessment

Factors include:
- Contingency planning
- Hydrologic region
- Water source
- Alternative water source
- Water production
- Seasonal water use
- Vulnerable populations
- Local conditions/previous water shortages
SDS guidance and projects

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

Guidance on FY2015 SDS update for drought-related facilities

Note on applicability: The following Deficiency Level (DL) and Health Impact scores will apply for water systems that have a drought vulnerability and risk assessment score of 31 points or greater; which suggests a high or very high vulnerability and risk. Standard SDS guidance will be used for water systems with a score lower than 31 points (e.g. which suggests a very low to medium vulnerability and risk).

<table>
<thead>
<tr>
<th>Deficiency Level (DL)</th>
<th>Description of deficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Water source providing less than 30 gpcd for more than 20 days per year (4)</td>
</tr>
<tr>
<td>4</td>
<td>Community water source provides less than 35 gpcd for 10 days during the year on a regular basis (4)</td>
</tr>
<tr>
<td>4</td>
<td>Seasonal dry wells or springs (4)</td>
</tr>
<tr>
<td>4</td>
<td>Individual wells or springs with yields of less than 1 gpm and less than 50 gpcd capacity (new)</td>
</tr>
<tr>
<td>4</td>
<td>Significant water leakage problems due to deteriorated piping or joints; leakage exceeds 15 percent of the design flow (3)</td>
</tr>
<tr>
<td>4</td>
<td>Water storage tank leakage not associated with piping connections, fittings, controls, etc. (3)</td>
</tr>
<tr>
<td>4</td>
<td>Water source does not meet current design standard; e.g. one well design standard, 2 wells needed for community water system (e.g. back-up alternative source) (2)</td>
</tr>
<tr>
<td>3</td>
<td>Individual wells or springs with yields of less than 1 gpm or less than 75 gpcd capacity (3)</td>
</tr>
<tr>
<td>3</td>
<td>Water meters needed and requested (2) [Tribe should have meter-based rate structure]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Health Impact Score</th>
<th>Description of health impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 points</td>
<td>Suspected (undocumented) health impacts from the high to very high drought vulnerability and risk, including the capacity to reliably provide sufficient water to vulnerable populations.</td>
</tr>
<tr>
<td></td>
<td>Higher health impact scores can be assigned based on suspected and/or documented health impacts for the specific project.</td>
</tr>
</tbody>
</table>
Public health outreach

Inside Home

KITCHEN
- Wash vegetables in containers, not under running water.
- Use information for full tank only; fill water in kitchen sink before washing.
- Tank air pressure is sufficient for most applications; avoid overfilling.
- Avoid using water in the dishwasher.

BATHROOM
- Install low-flow shower heads.
- Take longer showers to conserve water. Remember to fill the bath with water before turning it off.
- If using a sink, fill it halfway and then fill it completely.
- Install a high-efficiency water heater, such as a 20-gallon unit.
- Avoid using water while you are sleeping.
- Use kitchen filters to save water.
- Install a rainfall shower head.
- Turn off the tap when brushing teeth.

LAUNDRY ROOM
- Use energy-saving washing machines.
- Use less water in the dishwasher.
- Information on water and current public awareness @ http://www.save.org to save water.

Outside Home

LANDSCAPE
- Install a landscape irrigation system.
- Check your sprinkler system frequently and adjust sprinklers so only the area to be watered is watered.
- Install a water-saving sprinkler system.
- Check for water leaks.

CLEANUP
- Use vinegar to clean windows, tables, and railings.
- Wash your clothes with a bucket, sponge, and brush with self-closing materials.

ACTIVITIES
- Install a pool pump to reduce evaporation and return water.
- If using a pool, use it for fun.
- Use a natural pool filter for the pool.
- Check your pool and wall for leaks.

Tips on Leaks
- Cut leaks can cost you a lot of money.
- A small leak can cause a lot of damage.
- A small leak can cause a lot of damage.

PIPE LEAKS
- Fix small leaks with a leak repair kit.
- Don’t run any water for more than 24 hours.
- Fix small leaks with a leak repair kit.

FAUCET LEAKS
- Fix small leaks with a leak repair kit.
- Don’t run any water for more than 24 hours.

TOILET LEAKS
- Fix small leaks with a leak repair kit.
- Don’t run any water for more than 24 hours.
California Area drought website

General drought facts/information:
- Map of Drought Locations in California
- Saving our Water
- California Water Fact Sheet

Drought contingency planning tools/resources:
- Drought Assessment Form for Tribal Drinking Water Systems
- Map of California Tribal Water Systems at Highest Risk Due to Drought Conditions
- Drought Contingency Plan TEMPLATE
- List of local Office of Emergency Services by County
- Free California Drinking Water Workshops
- Emergency Community Water Assistance Grants
- List of California licensed water haulers

Public health tools/resources:
- Emergency Preparedness - Hospital Water Disruption Best Practices
- When Every Drop Counts: Protecting Public Health During Drought Conditions
- Public Health and Drought

Source: National Drought Mitigation Center at the University of Nebraska
Closing

Water and sanitation services – past, present, and future:

• Significant achievements and progress in providing water and sanitation services to Indian communities.
• Significant remaining un-met needs and challenges.
• Drought magnifies these challenges.
• However, creates opportunities to build partnerships and collaborations (e.g. Tribes, IHS, EPA, RD, State, County, CalOES) to build more resilient systems and communities.
Drinking Water and Sanitation in the Community

Questions?

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