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

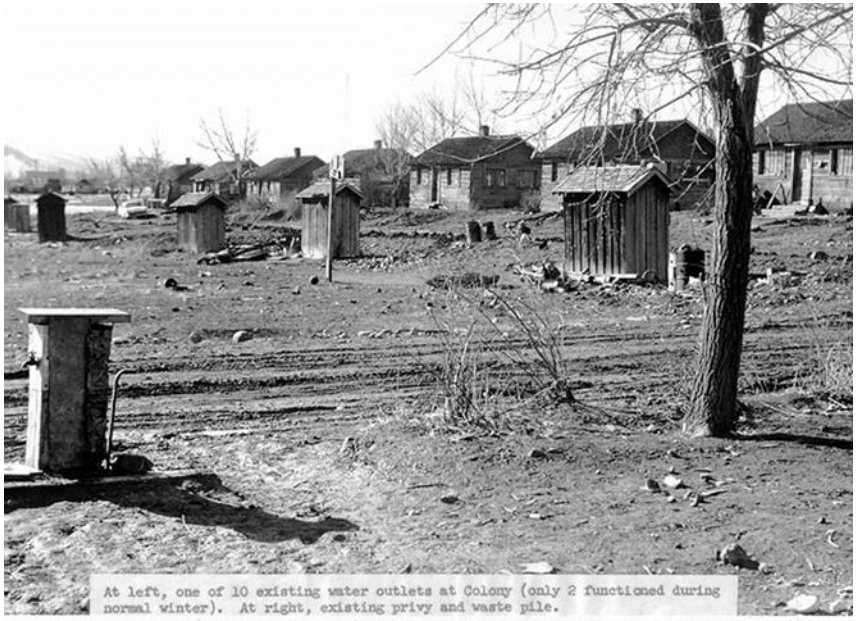
Topics:

- 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

APPLICATION FOR SANITATION FACILITIES (Public Law 86-121)

APPLICANT NAME: _____ **TRIBE & ENROLLMENT NO:** _____

MAILING ADDRESS: _____ **FACILITIES LOCATION ADDRESS:** _____

PHONE #: _____

SERVICES REQUESTED:

WATER: NEW SERVICE [ ] RENOVATION [ ] **WASTEWATER:** NEW SERVICE [ ] RENOVATION [ ]

Has IHS or other Federal Agency provided sanitation facilities to this homesite before? YES [ ] NO [ ]
If yes, during which year? _____
If yes, under what Applicant name? _____

Has IHS or other Federal Agency provided sanitation facilities to this Applicant before? YES [ ] NO [ ]
If yes, during which year? _____
If yes, at what homesite address? _____

HOME INFORMATION:

The proposed homesite is on: TRUST LAND [ ] FEE PATENT LAND [ ]

The property is: OWNED [ ] LEASED [ ] RENTED [ ] AN ALLOTMENT [ ]

Within the property boundaries, there are the following underground utilities (complete attached site drawing):
None[ ]; Electrical Lines[ ]; Gas Lines[ ]; Water Lines[ ]; Sewer Lines[ ]; Other_____

Structure type is: MOBILE HOME [ ] WOOD FRAME [ ] OTHER _____

Approximate year structure was built or moved to the site:

Is the house currently occupied? YES [ ] NO [ ]
If yes, since when? MONTH _____ YEAR _____
If no, proposed occupancy date: _____ YEAR _____

Number of bedrooms _____ Number of bathrooms _____ Number of occupants _____

Ages of occupants? __, __, __, __, __, __, __, __, __, __, any special conditions regarding occupants?
(Health problems, disabilities, elderly, etc.) _____

Does the house have electric service: YES [ ] NO [ ]
If no, when will electric service be provided? MONTH _____ YEAR _____

Have there been any recent bedroom or bathroom additions to the house? YES [ ] NO [ ]

If yes, describe improvements during the last three years?

Completion date of improvements: _____

EXISTING FACILITIES: **WELL [ ] SEPTIC SYSTEM [ ] COMMUNITY WATER [ ] COMMUNITY SEWER [ ]**

Describe any problems you are having with existing facilities:

Do you know of any archeological / historical sites on the property? YES [ ] NO [ ]
(If yes show on site drawing)

THIS SECTION FOR IHS USE : Date Application Received: _____ Date Tribe Signed: _____

APPLICANT'S RESPONSIBLITIES: 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 homesite 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 homesite 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 homesite 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 86-121, 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.

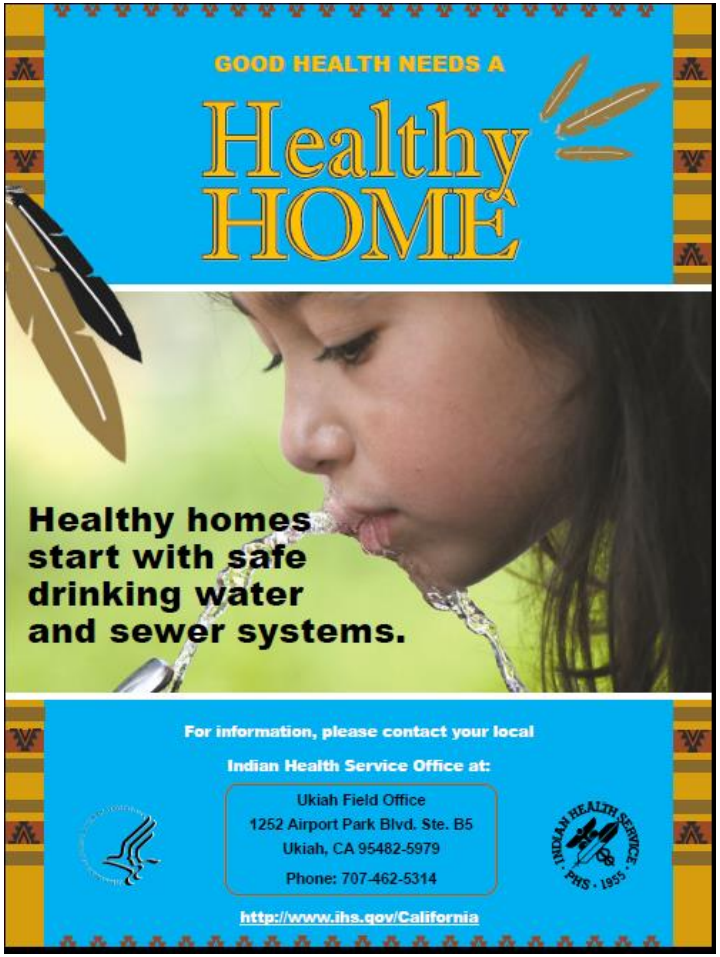
LANDOWNER (IF NOT APPLICANT): _____ **DATE:** _____

APPLICANT: _____ **DATE:** _____

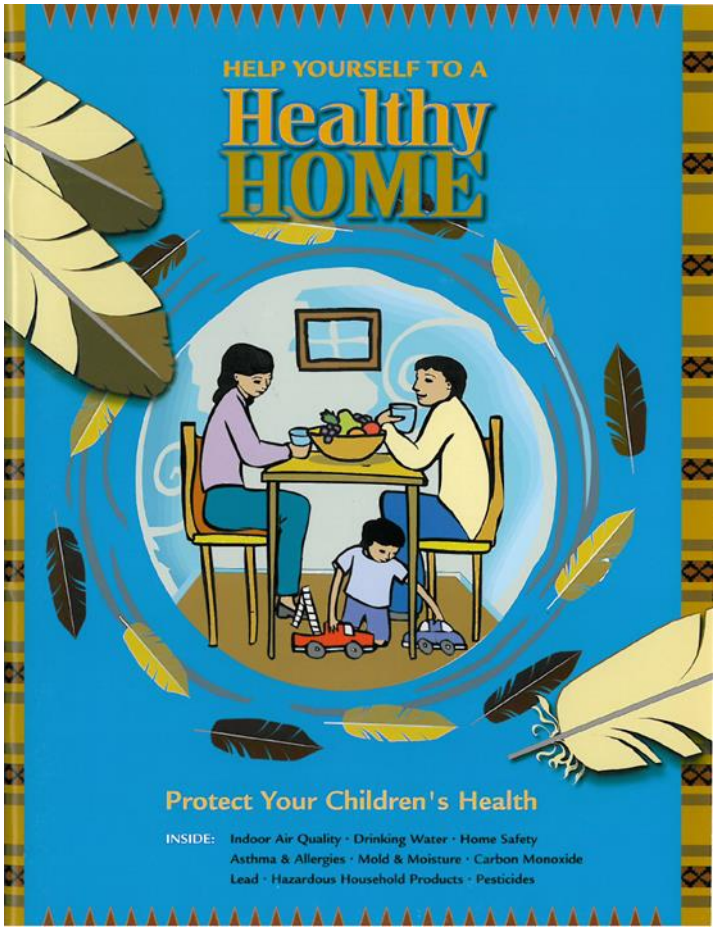
TRIBAL REPRESENTATIVE: _____ **DATE:** _____

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:

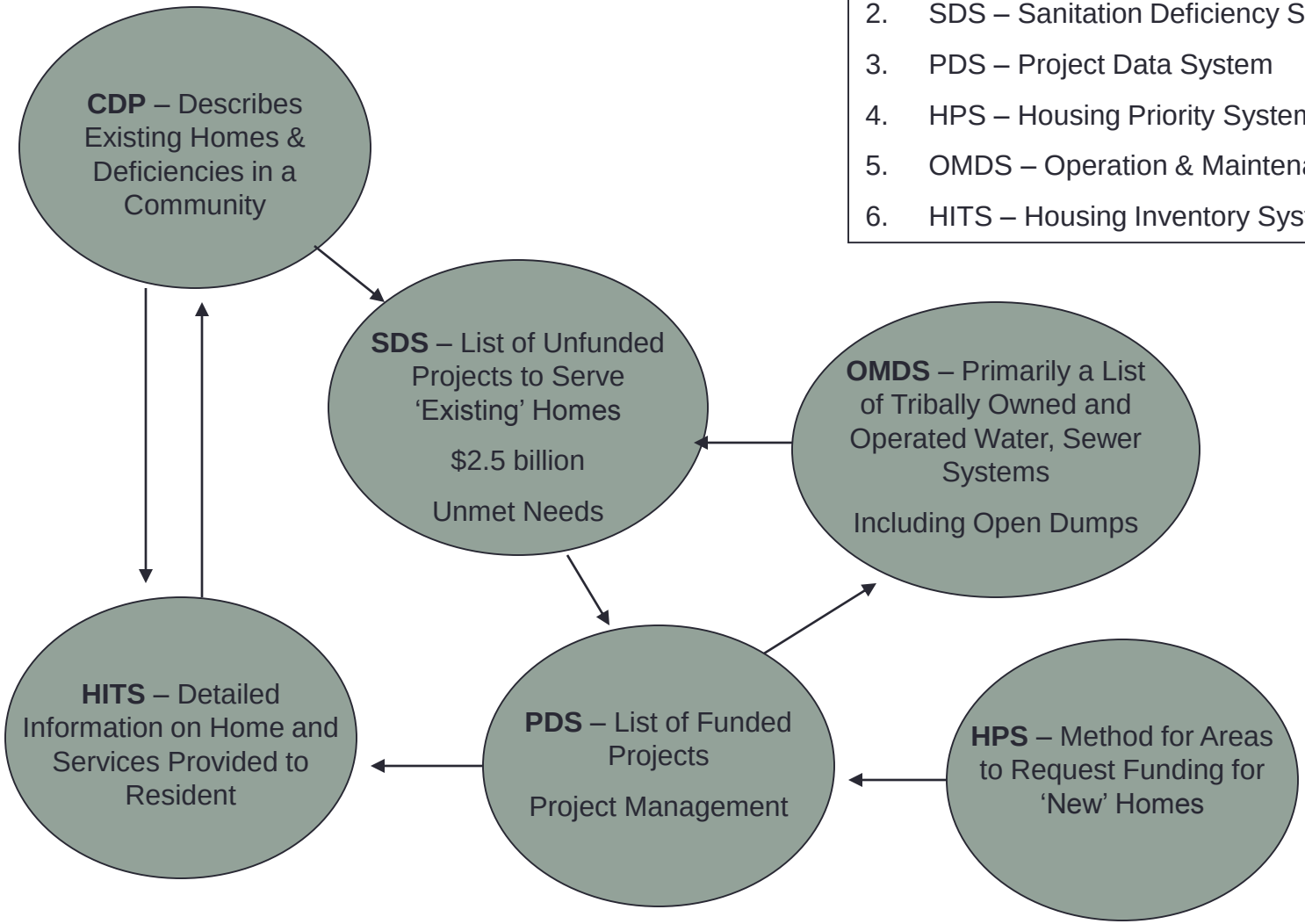
- Homes served: 1,000 to 2,000
- Projects: 20 to 30
- Funding:
  - Housing: $1.5 to 2.0M (for new homes)
  - Regular: $1.9 to 2.5M (for existing homes)
  - Outside contributions: $3M to $5M (EPA, USDA/RD)
- Project duration: < 4 years

STARS


wSTARS - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address https://wstars.ihs.gov
Go
Web-Based Sanitation Tracking and Reporting System (WSTARS)
Welcome to WSTARS, a database containing sanitation data that is utilized for submitting rural community projects for funding approval by IHS headquarters.
National Home
Welcome to the Sanitation Tracking and Reporting System
Contact Us
Overview of the Web Sanitation Tracking and Reporting System (wSTARS)
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.
SELECT AN AREA
Click an area on the map or the list below.
IHS Headquarters
Aberdeen Area
Alaska Area
Albuquerque Area
Bemidji Area
Billings Area
California Area
Nashville Area
Navajo Area
Oklahoma Area
Phoenix Area
Portland Area
Tucson Area
VeriSign Secured
VERIFY

STARS

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

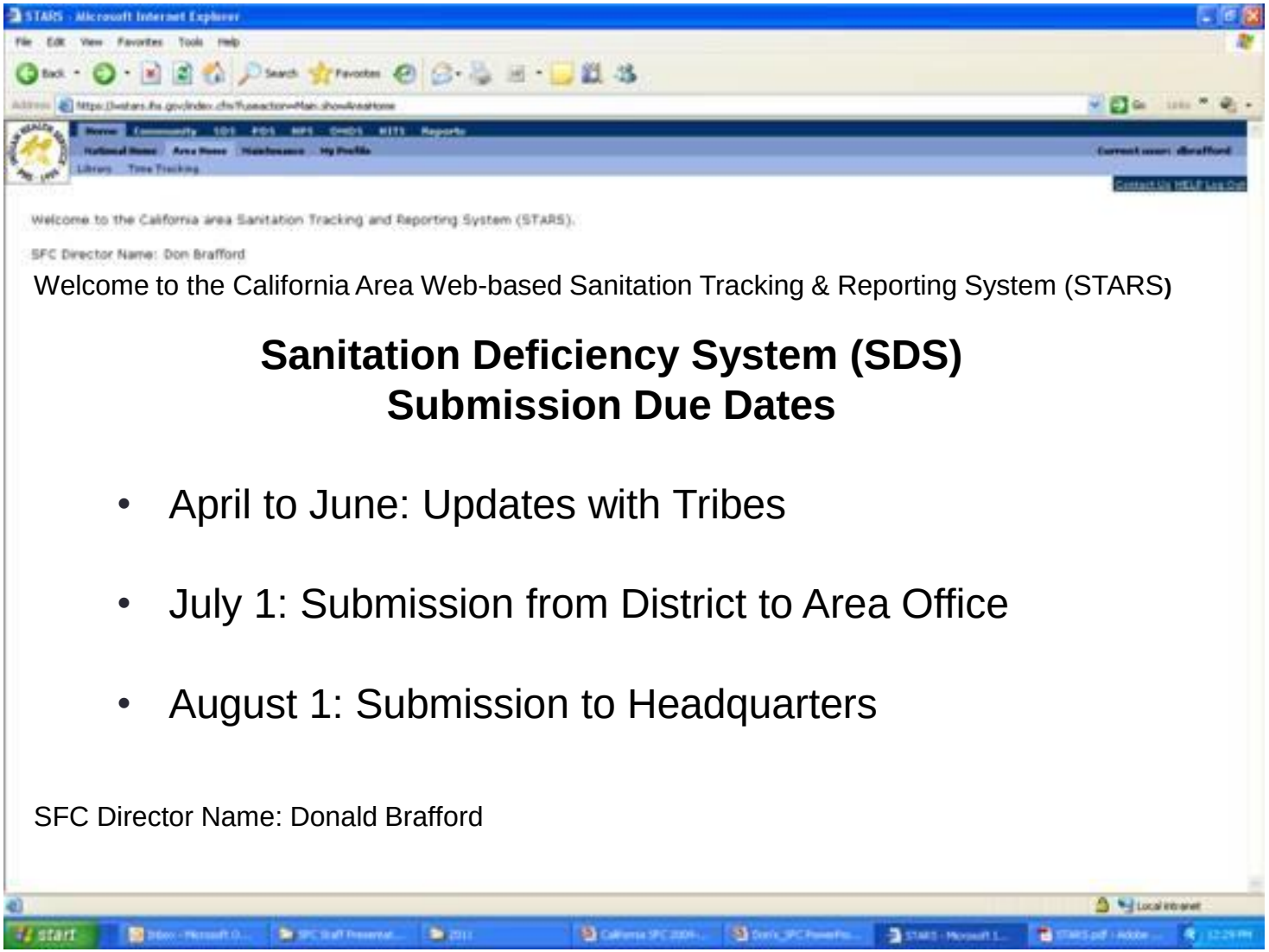
Current deficiencies:

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

Factors:

- Age of infrastructure
- Population growth
- New regulations

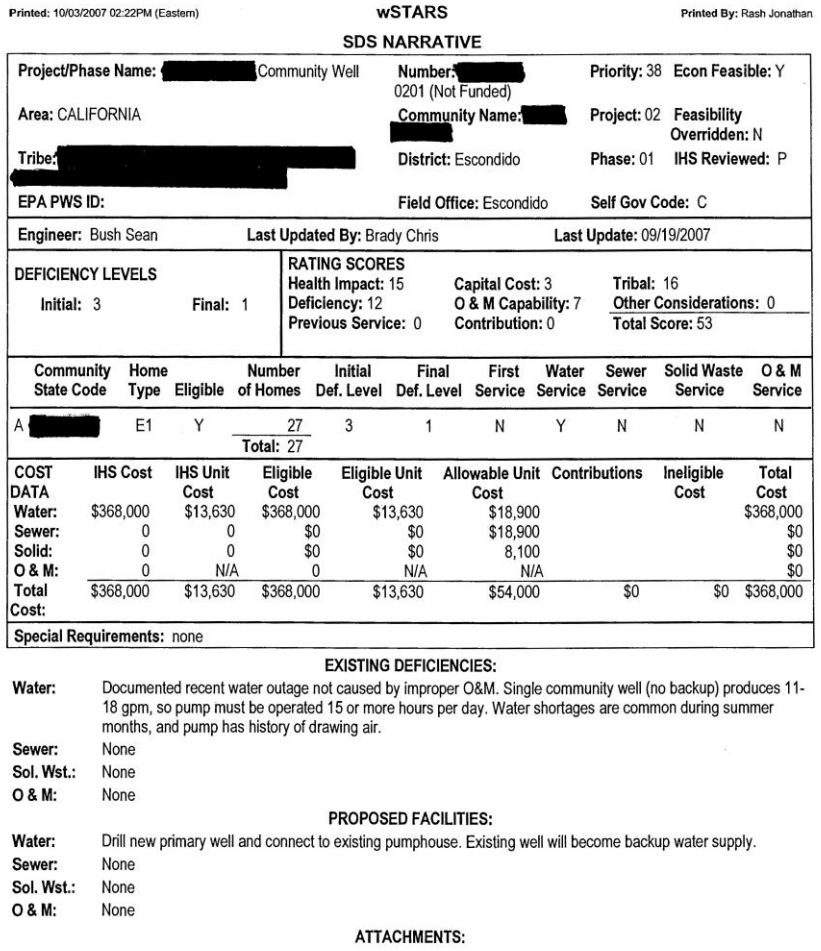
SDS updates


STARS - Microsoft Internet Explorer
Welcome to the California area Sanitation Tracking and Reporting System (STARS).
SFC Director Name: Don Brafford
Welcome to the California Area Web-based Sanitation Tracking & Reporting System (STARS)
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.



Printed: 10/03/2007 02:22PM (Eastern) wSTARS Printed By: Rash Jonathan

SDS NARRATIVE

Project/Phase Name: [redacted] Community Well Number: [redacted] 0201 (Not Funded) Priority: 38 Econ Feasible: Y

Area: CALIFORNIA Community Name: [redacted] Project: 02 Feasibility Overridden: N

Tribe: [redacted] District: Escondido Phase: 01 IHS Reviewed: P

EPA PWS ID: Field Office: Escondido Self Gov Code: C

Engineer: Bush Sean Last Updated By: Brady Chris Last Update: 09/19/2007

DEFICIENCY LEVELS
Initial: 3 Final: 1

RATING SCORES
Health Impact: 15 Capital Cost: 3 Tribal: 16
Deficiency: 12 O & M Capability: 7 Other Considerations: 0
Previous Service: 0 Contribution: 0 Total Score: 53

Community State Code	Home Type	Eligible	Number of Homes	Initial Def. Level	Final Def. Level	First Service	Water Service	Sewer Service	Solid Waste Service	O & M Service
A [redacted]	E1	Y	27 Total: 27	3	1	N	Y	N	N	N

COST DATA	IHS Cost	IHS Unit Cost	Eligible Cost	Eligible Unit Cost	Allowable Unit Cost	Contributions	Ineligible Cost	Total Cost
Water:	$368,000	$13,630	$368,000	$13,630	$18,900			$368,000
Sewer:	0	0	$0	$0	$18,900			$0
Solid:	0	0	$0	$0	8,100			$0
O & M:	0	N/A	0	N/A	N/A			$0
Total Cost:	$368,000	$13,630	$368,000	$13,630	$54,000	$0	$0	$368,000

Special Requirements: none

EXISTING DEFICIENCIES:

Water: Documented recent water outage not caused by improper O&M. Single community well (no backup) produces 11-18 gpm, so pump must be operated 15 or more hours per day. Water shortages are common during summer months, and pump has history of drawing air.
Sewer: None
Sol. Wst.: None
O & M: None

PROPOSED FACILITIES:

Water: Drill new primary well and connect to existing pumphouse. Existing well will become backup water supply.
Sewer: None
Sol. Wst.: None
O & M: None

ATTACHMENTS:

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

Snowpack

DWR Sites | Help Link | CA.gov | Search

Department of Water Resources
CALIFORNIA DATA EXCHANGE CENTER

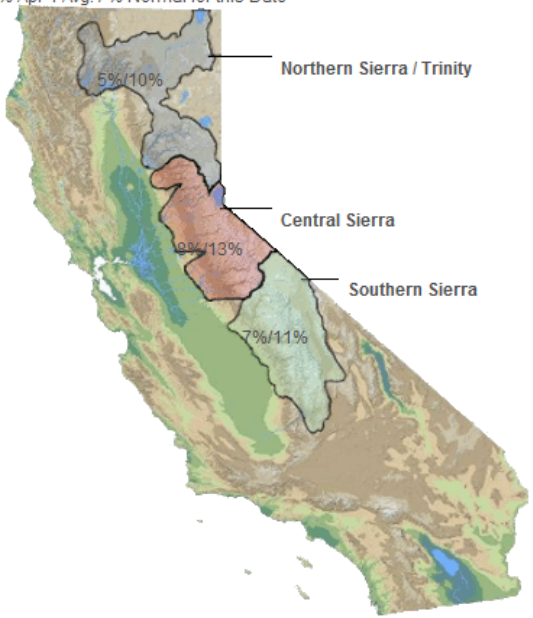
HOME | QUERY TOOLS | PRECIPITATION | RIVER FORECAST | RIVER STAGES | RESERVOIRS | SNOW | STATIONS

Snow Water Equivalents (inches)

Provided by the California Cooperative Snow Surveys

Data For: **13-May-2014**

% Apr 1 Avg. / % Normal for this Date



Change Date : 13-May-2014 Refresh Data

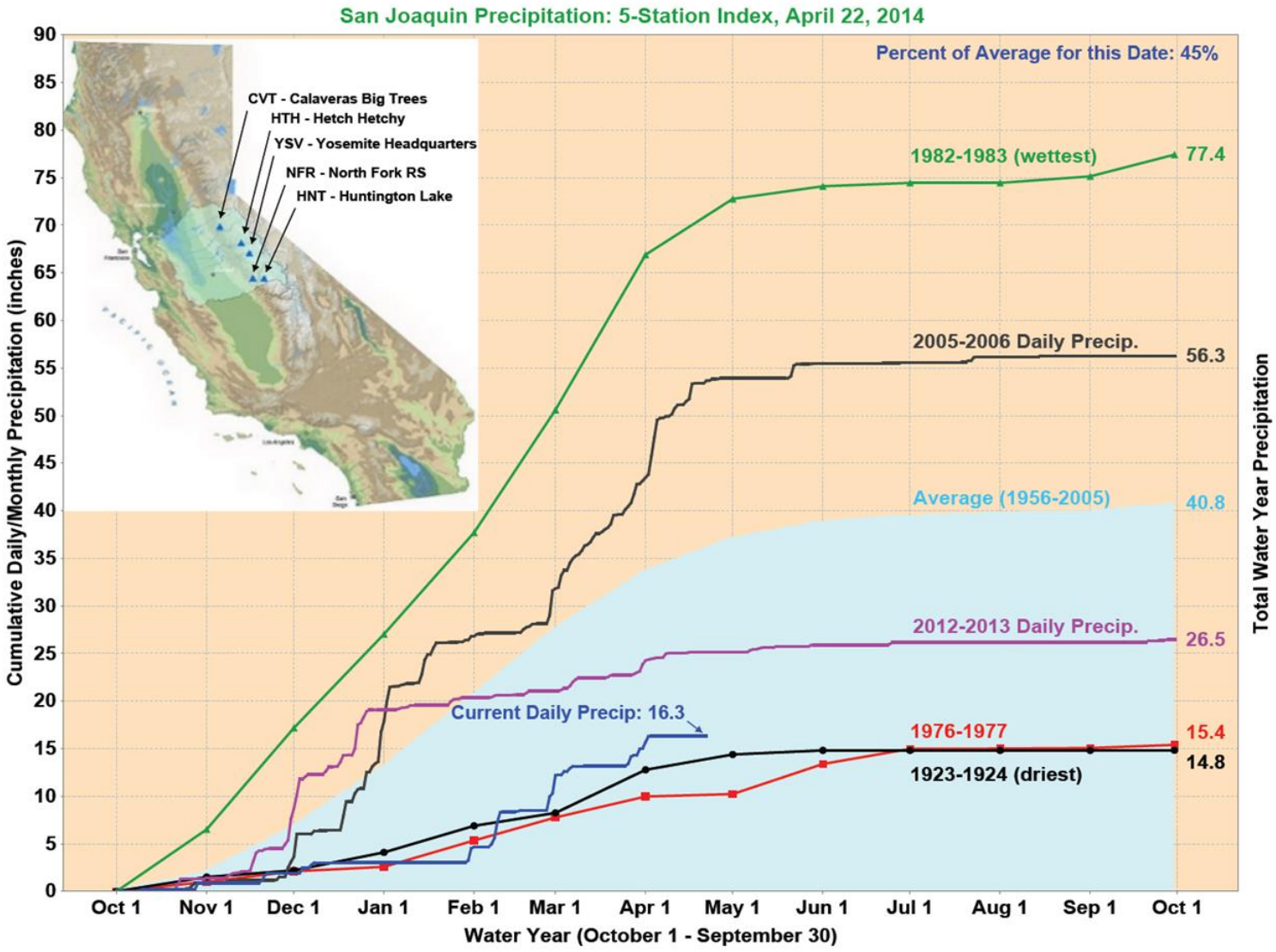
NORTH	
Data For: 13-May-2014	
Number of Stations Reporting	27
Average snow water equivalent	1.3"
Percent of April 1 Average	5%
Percent of normal for this date	10%

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%

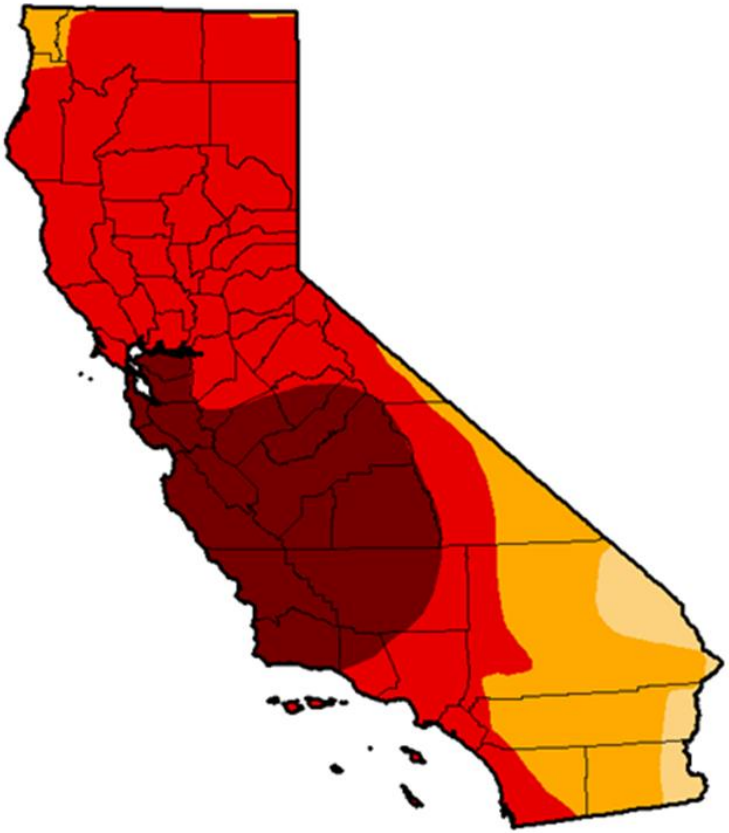
SOUTH	
Data For: 13-May-2014	
Number of Stations Reporting	28
Average snow water equivalent	1.7"
Percent of April 1 Average	7%
Percent of normal for this date	11%

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



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)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	100.00	95.93	76.68	24.77
Last Week 4/29/2014	0.00	100.00	100.00	96.01	76.68	24.77
3 Months Ago 2/4/2014	1.43	98.57	94.18	89.91	67.13	9.81
Start of Calendar Year 12/31/2013	2.61	97.39	94.25	87.53	27.59	0.00
Start of Water Year 10/1/2013	2.63	97.37	95.95	84.12	11.36	0.00
One Year Ago 5/7/2013	0.00	100.00	98.16	46.25	0.00	0.00

Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

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

Author:

Mark Svoboda

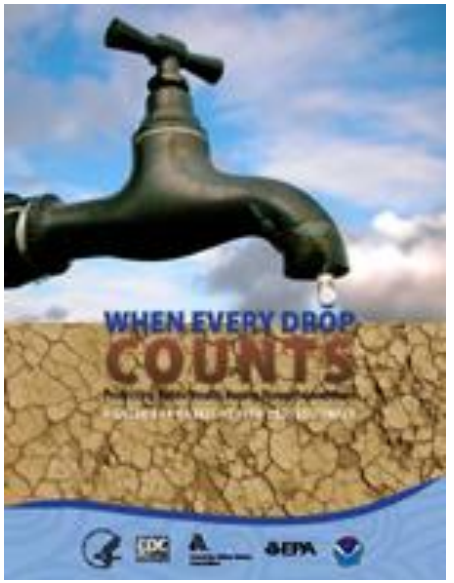
National Drought Mitigation Center

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



CDC. When Every Drop Counts: Protecting Public Health During Drought Conditions—A Guide for Public Health Professionals.
http://www.cdc.gov/nceh/ehs/Publications/Drought.htm

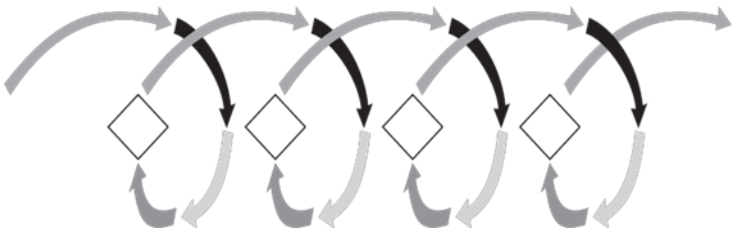
Potential drought-related impacts

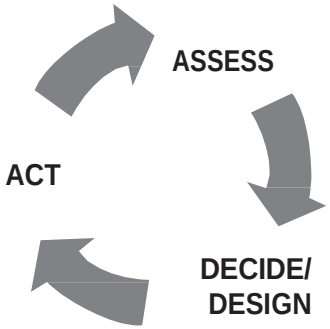
- **Public water systems:** Compromised water quantity and quality of surface and ground water sources.
- **Energy:** Lack of water can compromise hydropower production causing shortages in available electricity, which can negatively impact health and well-being of vulnerable populations, including persons 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

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 priorite 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.

No.	Item	Response
1	Name of Tribe	
2	Tribal contact (name, title, phone number, email address)	
3	Name of water system	
4	EPA public water system ID number	
5	Number of Indian homes on system	
6	Number of non-residential and non-Indian homes on system	
7	Current water demand (gallons per day)	
8	Average water demand (gallons per day)	
9	Type of water source	Ground water
		Surface water
		Interconnection with other system
10	Observed impacts to water source	None
		Decreased stream/river levels at intake
		Decreased water level in well(s)
11	Does the Tribe have a drought contingency plan?	Yes
		No
12	Would the Tribe desire assistance to develop a plan?	Yes
		No
13	Does the Tribe have any drought triggers or criteria?	Yes
		No
14	Are there individual customer water meters on the system?	Yes
		No
15	List any water use reduction practices being implemented	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
16	List any water supply management practices being implemented	None
		Leak detection
		Leak repair
		Use of back-up water supplies
		Use of reclaimed water
		Acquisiton of alternative water supplies
17	What is the current drought stage of the water system based on impacts to the water supply and system vulnerability	Normal to minor
		Moderate
		Severe
		Critical/extreme
		Emergency/exceptional
18	Other comments and information	

Form Version: 28 March 2014

Initial drought assessment summary 25 March 2014

Indian Health Service, California Area, Office of Environmental Health and Engineering
Drought Assessment Form for Tribal Drinking Water Systems
Updated: 25 March 2014

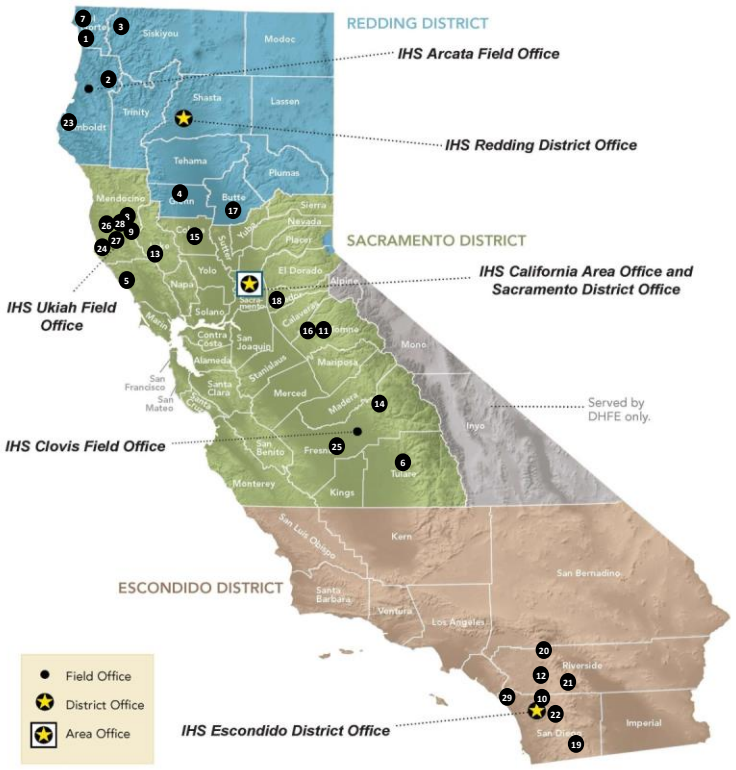
Update of combined Districts

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

IHS California – Initial drought assessment summary 25 March 2014

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
26. Sherwood Valley
27. Pinoleville

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
25. Santa Rosa Rancheria
28. Old Sherwood Valley
29. Pauma

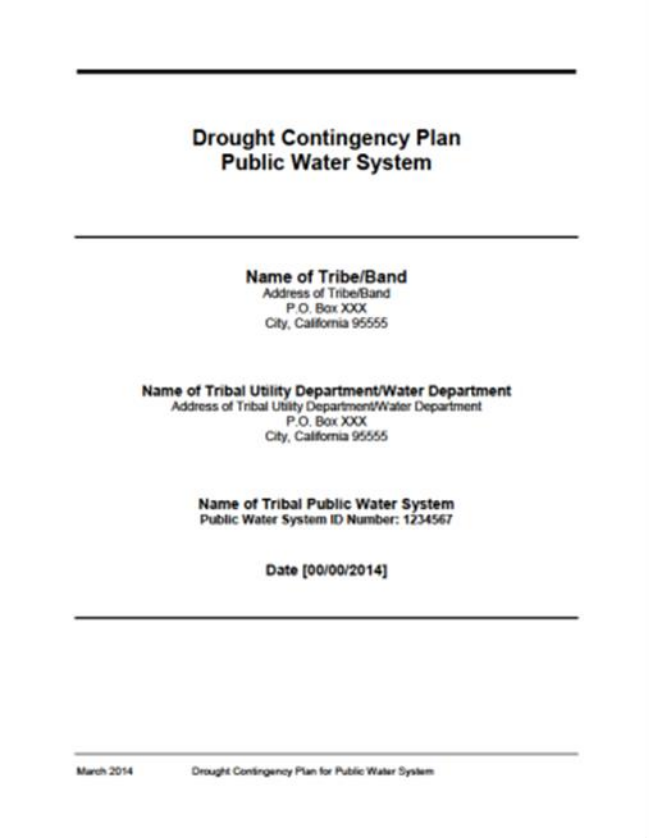
Salt water intrusion:

23. Table Bluff
24. Manchester/Point Arena
5. Stewarts Point
7. Smith River
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 Plan
Public Water System

Name of Tribe/Band
Address of Tribe/Band
P.O. Box XXX
City, California 95555

Name of Tribal Utility Department/Water Department
Address of Tribal Utility Department/Water Department
P.O. Box XXX
City, California 95555

Name of Tribal Public Water System
Public Water System ID Number: 1234567

Date [00/00/2014]

March 2014 Drought Contingency Plan for Public Water System

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

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 quantative 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:

Range of total scores and related drought vulnerability and risk
0 to 10 suggests a very low vulnerability/risk
11 to 20 suggests a low vulnerability/risk
21 to 30 suggests a medium vulnerability/risk
31 to 40 suggests a high vulnerabilty/risk
41 to 61 suggests a very high vulnerability/risk

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 vulnerabilitiy and risk

No.	Factor	Range of responses	Score
1	Does the Tribe have a written drought contingency and/or emergency plan?		
	Formalized and/or adopted drought contingency plan	0	5
	Draft drought contingency or emergency plan	2	
	No drought contingency or emergency plan	5	
2	Does the water system have customer water meters and/or has the Tribe implemented use reduction practices?		
	Individual water meters and implemented water use reduction practices	0	5
	Limited water meters and/or marginal water use reduction practices	2	
	No water meters and limited or no water use reduction practices	5	
3	What is the percent of average seasonal precipitation in the hydrologic region where the tribal water system is located?		
	100% or greater than average	0	10
	75% to 99% of average	2	
	50% to 74% of average	3	
	25% to 49% of average	7	
	Less than 25% of average	10	
	http://cdec.water.ca.gov/snow/bulletin120/index2.html#		
4	What is the drought monitor condition where the tribal water system is located?		
	D0 Abnormally dry	1	10
	D1 Moderate drought	2	
	D2 Severe drought	3	
	D3 Extreme drought	7	
	D4 Exceptional drought	10	
	http://droughtmonitor.unl.edu/Home/StateDroughtMonitor.aspx?CA		
5	What is the current primary source of water supply?		
	Groundwater well in formations with high permeability, surface water with up-stream storage or inter-tie	0	5
	Groundwater well in formations with moderate permeability or surface water with a low channel dam	2	
	Groundwater well in formations with low permeability or surface water with no up-stream storage or dam	5	
	http://www.water.ca.gov/groundwater/groundwater_basics/water_fact_sheets.cfm		
6	What are the provisions for a reliable alternative other water supply source?		
	An alternative water source exists such as surface water, groundwater well, or system inter-tie	0	5
	No alternative water source exists; however there are feasible and probable options (e.g. less than 5 miles)	2	
	No alternative water source exists and there are limited feasible or probable options (e.g. greater than 5 miles)	5	
	Note: feasible/probable options related to factors including ground formations, proximity to adjacent water system, etc.		
7	What is the current production of the water supply source?		
	Meets or exceeds demand (e.g. 200 gallons/person/day) at standard pumping cycle	0	7
	Greater than 100 gallons/person/day at standard pumping cycle	2	
	75 to 100 gallons/person/day and pumping cycle exceeds standard rate	3	
	50 to 75 gallons/person/day and pumping cycle exceeds standard rate	4	
	30 to 50 gallons/person/day and pumping cycle exceeds standard rate	5	
	Less than 30 gallons/person/day and pumping cycle exceeds standard rate	7	
8	What is the variation in seasonal water use from winter (e.g. January/February) to summer (June/July/August)?		
	Less than 50% in variation from winter to summer	0	4
	50% to 100% in variation from winter to summer	2	
	Greater than 100% in variation from winter to summer	4	
9	Who are the customers and are there any vulnerable populations (e.g. elderly, children less than 5 yrs.) served by the system?		
	Residential customers with limited vulnerable populations	0	5
	Residential customers with significant number of vulnerable populations	2	
	Residential customers with health clinic and/or school/day-care facilities	5	
10	Are there other critical local considerations or factors for vulnerability and risk? Provide a score based on level of considerations; which may include previous capacity to meet local water demands during water shortages or **system without water service for extended periods during the year**.		
	No or limited level of other considerations and factors	0	5
	Moderate level of other considerations and factors	2	
	Significant level of other considerations and factors	5	
	Total score		
	The total score should be compared with the range of scores listed above in order to determine a level of drought vulnerability and risk for the water system.		**61**

Form Version: 8 May 2014

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).

Deficiency Level (DL)	Description of deficiency
4	Water source providing less than 30 gpcd for more than 20 days per year (4)
4	Community water source provides less than 35 gpcd for 10 days during the year on a regular basis (4)
4	Seasonal dry wells or springs (4)
4	Individual wells or springs with yields of less than 1 gpm and less than 50 gpcd capacity (new)
4	Significant water leakage problems due to deteriorated piping or joints; leakage exceeds 15 percent of the design flow (3)
4	Water storage tank leakage not associated with piping connections, fittings, controls, etc. (3)
4	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)
3	Individual wells or springs with yields of less than 1 gpm or less than 75 gpcd capacity (3)
3	Water meters needed and requested (2) [Tribe should have meter-based rate structure]

Health Impact Score	Description of health impact
20 points	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.
	Higher health impact scores can be assigned based on suspected and/or documented health impacts for the specific project.

Public health outreach

California Area drought website

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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