

# 'Safe to Drink' Web Portal Development Status

## A My Water Quality Web Site

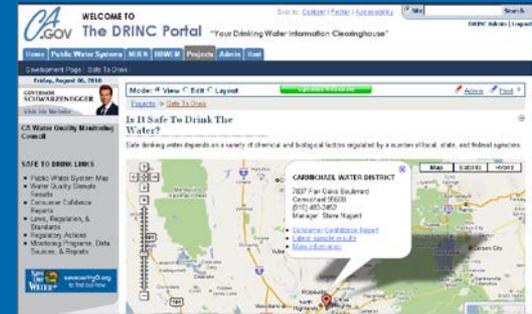


Mark Emmerson, CDPH Drinking Water Program  
Beth Stern & Susan Lauer, Water Education Foundation

November 2012

# Objectives

- A look at the basic site structure and content
- Features and issues
- Our development timeline
- Background business processes

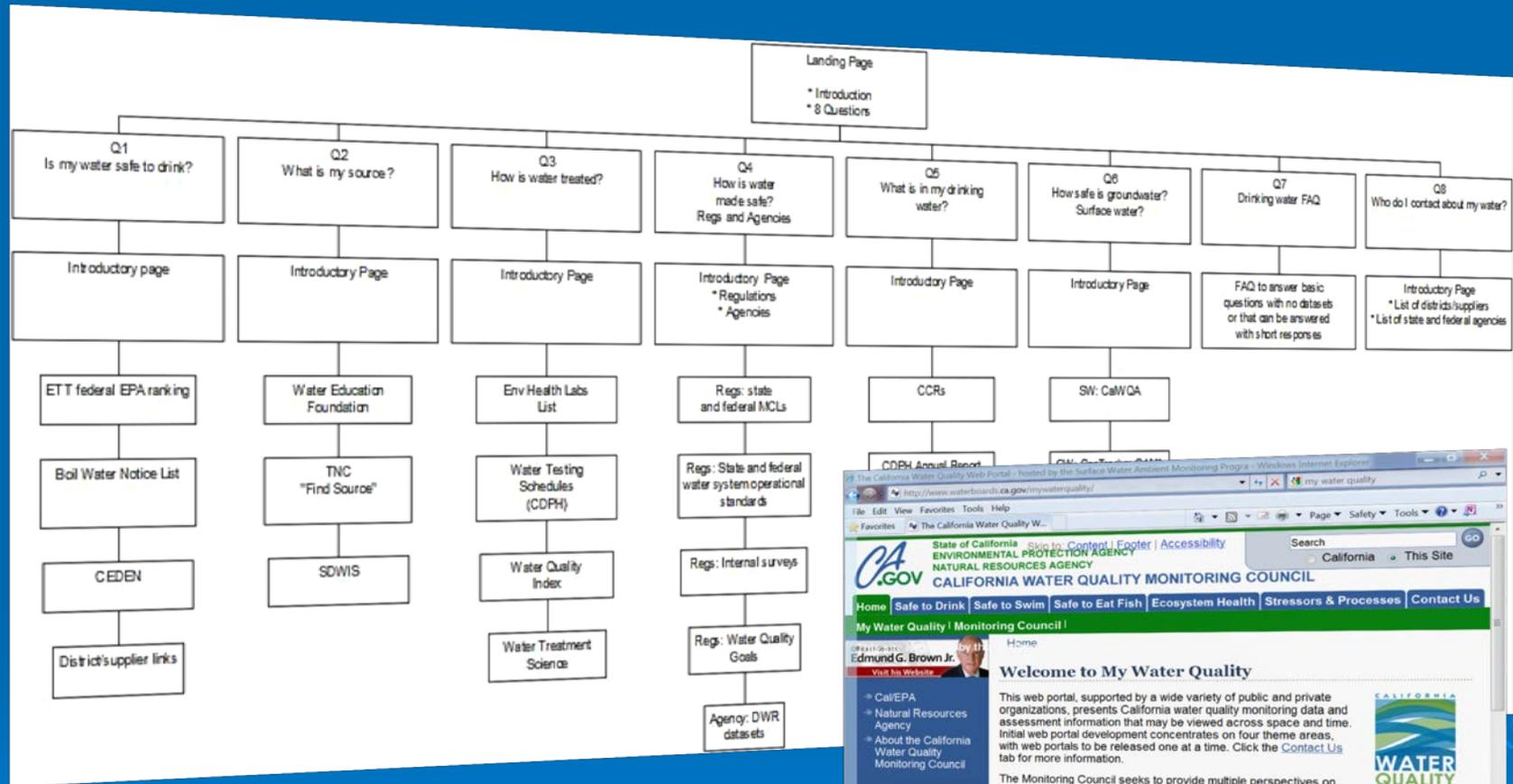


# Safe Drinking Water Workgroup

- Southern California Coastal Water Research Project (SCCWRP)
- Water Education Foundation (WEF)
- CA Department of Public Health (CDPH), OIS
- State Water Resources Control Board
- Department Water Resources
- ACWA
- Carmichael Water District
- Environment Now



# Site Structure



CA.GOV look-and-feel

# Landing Page – 8 Question Focus

Viewers click on the links to questions to find out more about each topic.

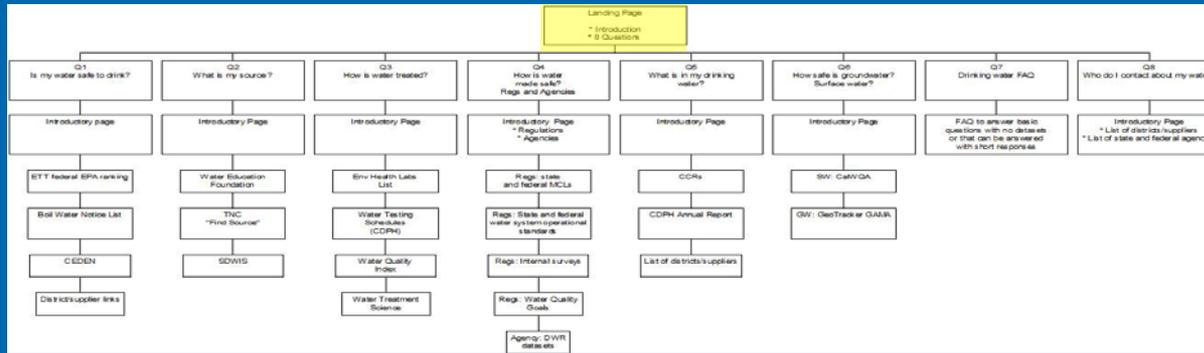
## Drinking Water Questions:

- Is my tap water safe to drink?
- What is the source of my water?
- What is in my drinking water?
- How is my drinking water treated?
- How is my drinking water made safe?
  - What are the government standards?
  - What agencies are involved with water quality protection?
- How safe is groundwater? Surface Water?
- Drinking water FAQ
- Who do I contact about my water?



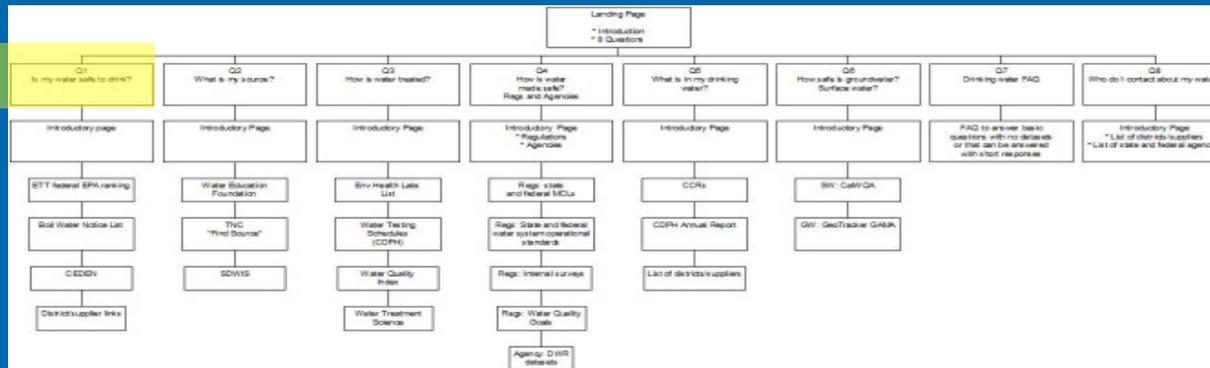
Photos, graphics, and media clips will be included throughout the portal.

# Landing Page – Sample text



- Water is essential for life as we know it. Water grows our food, nurtures our landscapes and provides habitat for wildlife. Water powers turbines for electricity and serves as the lifeblood of industry. And, of course, we also depend on clean water to drink.
- Most of us in California get our drinking water piped through a public water system operated by a city or district agency. In addition, about four million people get their water pumped from domestic or private wells.
- California's drinking water supply is one of the safest in the world. Still, human and animal waste, industrial chemicals, pharmaceuticals and other pollutants can contaminate water from many different sources. These sources include rivers, lakes and underground aquifers.
- This portal provides answers to frequently asked questions about drinking water. It also provides links to state and federal agencies that can provide more information about these topics, as well as statewide water interest groups that have more details about individual water providers.

# Q1: Is My Tap Water Safe to Drink?



## What is “safe” drinking water?

The [U.S. Environmental Protection Agency \(EPA\)](#) defines drinking water as “safe” when it can be consumed by humans with low risk of immediate or long-term harm. It can only have low concentrations of harmful contaminants that might sicken people who drink it.

The EPA sets standards for many harmful contaminants under the [Safe Drinking Water Act \(SDWA\)](#). California enforces the SDWA and directly oversees public water systems operated by a municipality or agency.

When drinking water leaves a treatment plant on its way to homes, it meets strict safety standards. That doesn't mean the water is free of all contaminants, but that the levels of any contaminants don't pose any serious health risk. Note: private wells are not regulated by the EPA.

# Q1: Is My Tap Water Safe to Drink?

## What are harmful contaminants?

The list of harmful contaminants includes:

- Disease-causing bacteria, viruses and protozoans
- Cancer-causing chemicals -- pesticides, organic solvents, petroleum products and some metals
- Nitrates and nutrients, endocrine-disrupting compounds and other acutely toxic substances.

## Who's at risk?

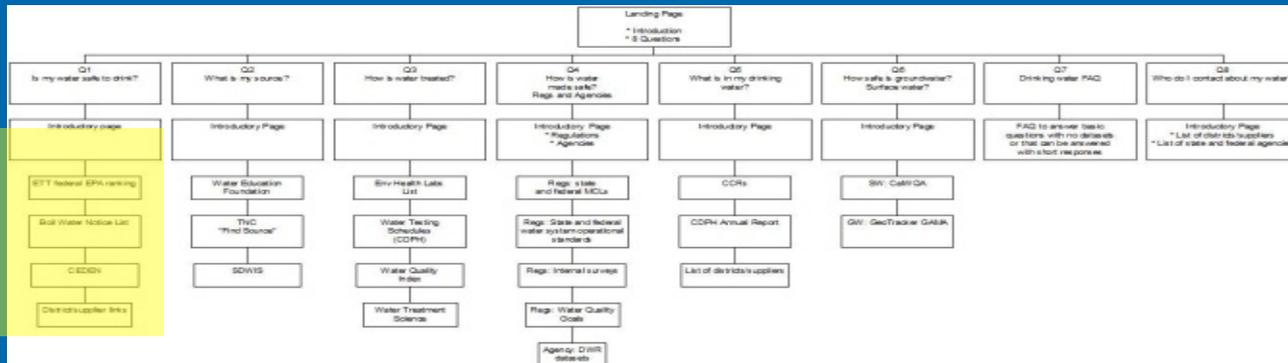
People are more susceptible to contaminants in drinking water if they have weakened immune systems or are young children, the elderly or pregnant or nursing mothers. The EPA and Center for Disease Control have an [online reference guide](#) for people with severely weakened immune systems.

## How do we know if my drinking water is “safe?”

By July 1 of each year, public water suppliers are required to mail their customers a drinking water quality report, sometimes called a consumer confidence report or CCR. The report tells where your water comes from and what's in it. Many reports can be found online.

If you have any questions after reading your report, you can call your water supplier to get more information. You can also call the EPA's Safe Drinking Water Hotline at 1-800-426-4791 to get information and ask questions about the quality and safety of drinking water.

# “Drill down” to Datasets



- Consumer Confidence Report (CCR) – reports submitted to CDPH annually
- ETT federal EPA ranking -- A scored ranking of water systems based upon indicators
- TMF Tune-up – a Technical, Managerial, and Financial ‘health’ indicator of a water system
- Boil Water Notice List -- Water systems that have microbial exceedence
- California Environmental Data Exchange Network (CEDEN) -- Chemical analyses of raw water samples taken by the Water Boards and others from surface waters statewide
- District/supplier links for entire state: Provide specific info about turbidity, chlorine residual, pressure, flow, pH, etc.

# Public Water System Content

## ➤ Characterization

- Contacts
- Service area boundaries
- Types of sources and treatments



## ➤ Water quality records

- Link to current system CCR
- Water sample test results and comparisons
- Water consumption (GPCD) and comparison
- Public health 'boil water' orders

## ➤ Complaint form

# PWS Characterization



WELCOME TO **CA.GOV** The DRINC Portal "Your Drinking Water Information Clearinghouse"

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Development Page | [Safe To Drink](#) | Friday, August 06, 2010

GOVERNOR SCHWARZENEGGER  Visit his Website

CA Water Quality Monitoring Council

SAFE TO DRINK LINKS

- Public Water System Map

Mode:  View  Edit  Layout Updates Available [Admin](#) [Host](#)

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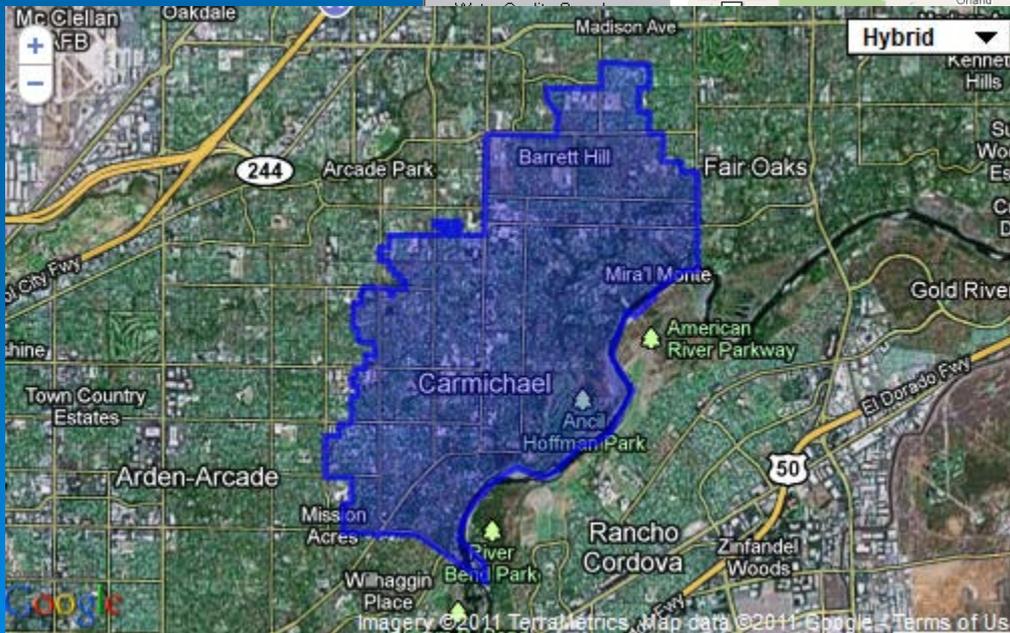
## Is It Safe To Drink The Water?

Safe drinking water depends on a variety of chemical and biological factors regulated by a number of local, state, and federal agencies.

**CARMICHAEL WATER DISTRICT**

7837 Fair Oaks Boulevard  
Carmichael 95608  
(916) 483-2452  
Manager: Steve Nugent

- [Consumer Confidence Report](#)
- [Latest sample results](#)
- [More information](#)



Name	Job Title	Type	Phone	Address	Email
MCCLENTON, MARK	PRODUCTION SUPERINTE	SA	916-483-2452	7837 FAIR OAKS BLVD, CARMICHAEL, CA 95608	<a href="mailto:MARK@CARMICHAELWD.ORG">MARK@CARMICHAELWD.ORG</a>
MCMANSUAL, LAURA	FINANCIAL SERVICES S	FC	916-483-2452	7837 FAIR OAKS BOULEVARD, CARMICHAEL, CA 95608	<a href="mailto:LAURA@CARMICHAELWD.ORG">LAURA@CARMICHAELWD.ORG</a>
MORENO, LYNETTE	ASSISTANT GENERAL MA	DO	916-483-2452	7837 FAIR OAKS BLVD, CARMICHAEL, CA 95608	<a href="mailto:LYNETTE@CARMICHAELWD.ORG">LYNETTE@CARMICHAELWD.ORG</a>
NUGENT, STEVEN	GENERAL MANAGER	AC	916-483-2452	7837 FAIR OAKS BLVD, CARMICHAEL, CA 95608	<a href="mailto:STEVE@CARMICHAELWD.ORG">STEVE@CARMICHAELWD.ORG</a>
NUGENT, STEVEN	GENERAL MANAGER	LC	916-483-2452	7837 FAIR OAKS BLVD, CARMICHAEL, CA 95608	<a href="mailto:STEVE@CARMICHAELWD.ORG">STEVE@CARMICHAELWD.ORG</a>

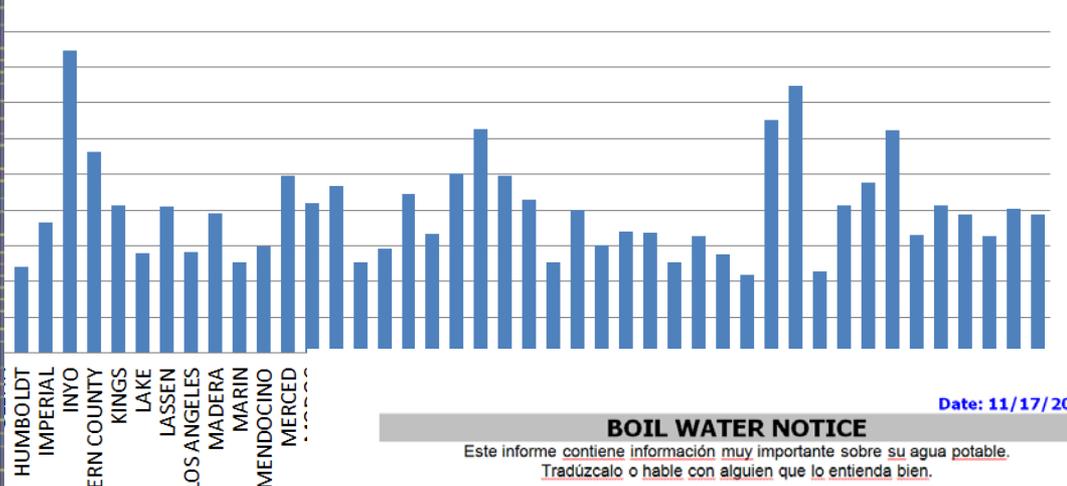
# Water Quality Records

The District has taken hundreds of water samples in order to determine the presence of any constituents. This is a table of detected constituents. The intent is to give you an idea of where the District stands with regard to water quality standards set by the California Department of Public Health and the U.S. Environmental Protection Agency.

Detected Primary Drinking Water Constituents							
Constituent	Unit of Measure	MSL (MCL) (MCLG)	Surface Water Average	Ground-Water Range	Ground-Water Average	Typical Source	
<b>Microbiological constituents</b>							
Total Coliform Bacteria	% of total positive	5%	0.2%	ND	ND	Naturally present in the environment	
Thermotolerant coliform bacteria (TTC)	NTU	100%	N/A	100%	N/A	Soil runoff	
Turbidity, max level found (M)	NTU	1.0	0.02	0.10-0.31	0.30	Soil runoff	
<b>Inorganic Constituents</b>							
Aluminum	ppm	1	36	ND	ND	Discharge of natural deposits, runoff from some surface water treatment processes	
Iron	ppm	10	0.004	ND	ND-2.7	Discharge of natural deposits, runoff from surface	
Barium	ppm	1	2	ND	ND-0.09	0.02	Discharge of natural deposits
Fluoride	ppm	2	1	ND	0.10-0.12	0.11	Discharge of natural deposits
Nitrate (as NO <sub>3</sub> )	ppm	45	45	1.1	2.2-6.9	0.26	Runoff and leaching from fertilizer use, animal waste, and other sources
<b>Organic Constituents</b>							
Total Organic Carbon (TOC)	ppm	5	0.36	ND	ND-1.6	1.2	Discharge from factories, dry cleaners and auto shops (under driveway)
<b>Detected Secondary Drinking Water Constituents (regulated for aesthetic quality)</b>							
Constituent	Unit of Measure	MSL (MCL) (MCLG)	Surface Water Average	Ground-Water Range	Ground-Water Average	Typical Source	
Cadmium	ppm	0.05	N/A	ND	ND-100	0.3	Leaching from natural deposits, industrial waste
Manganese	ppm	50	N/A	ND	ND-21	7	Leaching from natural deposits
Other Traceable Metals	ppm	2	N/A	1	ND	Naturally occurring organic materials	
Total Dissolved Solids	ppm	500	N/A	39	120-210	170	Runoff/leaching from natural deposits
Sulfate Conductance	microsiemens	450	N/A	60	130-270	203	Substance that form ions when in water
Chloride	ppm	250	N/A	2.8	3.1-7.9	0.2	Runoff/leaching from natural deposits
Sulfate	ppm	250	N/A	2.3	3.1-10	0.6	Runoff/leaching from natural deposits, industrial waste
<b>Other Unregulated Constituents of Interest</b>							
Constituent	Unit of Measure	MSL (MCL) (MCLG)	Surface Water Average	Ground-Water Range	Ground-Water Average	Typical Source	
Sodium	ppm	N/A	N/A	7.5	4.5-12	9	Naturally occurring salt in the water
Cadmium	ppm	N/A	N/A	7.2	10.0-24	17	Discharge of natural deposits
Hardness	ppm	N/A	N/A	28	11-120	68	The sum of polyvalent cations present, generally calcium, magnesium and sodium
Lead	ppm	N/A	N/A	1.4	0.3-10	0.1	Discharge of natural deposits
<b>Organic Samples from the Distribution System</b>							
Constituent	Unit of Measure	MSL (MCL) (MCLG)	Range	Average	Typical Source		
Chlorine Residual	ppm	[4]	[4]	0.27 - 1.36	0.82	Chlorine water disinfectant added for treatment	
THM (Total Trihalomethanes)	ppm	80	N/A	10.3 - 18.3	13.9	By-product of drinking water disinfection	
HAAs (Halogenated Acetic Acids)	ppm	60	N/A	0.3 - 11.2	0.1	By-product of drinking water disinfection	
<b>Lead &amp; Copper (Sampled 2008)</b>							
Constituent	Unit of Measure	AL (MCL) (MCLG)	MSL (MCL) (MCLG)	No. of Allotment Exceedances	Typical Source		
Lead	ppm	15	0.2	ND	Zero	Internal corrosion of household plumbing material, discharge of natural deposits	
Copper	ppm	1.3	0.17	0.14	Zero	Internal corrosion of household plumbing material, discharge of natural deposits	

Surface water samples collected in 2010. Groundwater samples collected in 2010 except for NDMA, Perchlorate, VOCs & Nitrate which are seasonal averages.

2010 Gallons Per Capita Day by County



Date: 11/17/2011

## BOIL WATER NOTICE

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

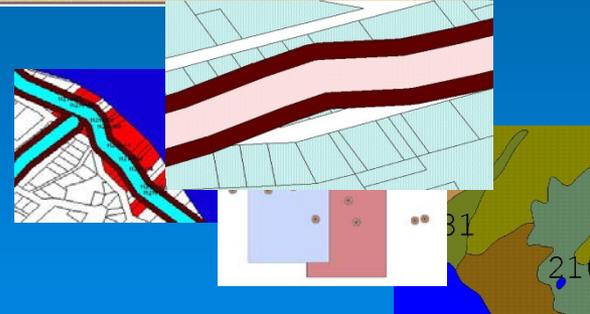
## BOIL YOUR WATER BEFORE USING

Failure to follow this advisory could result in stomach or intestinal illness.

Due to the recent event [e.g., water outage, power outage, flood, fire, earthquake or other emergency situation], the California Department of Public Health in conjunction with the [County Name] County Health Department, and [Water System name] Water System are advising residents of [City, Town, System] to use boiled tap water or bottled water for drinking and cooking purposes as a safety precaution.

**DO NOT DRINK THE WATER WITHOUT BOILING IT FIRST.** Bring all water to a boil, let it boil for one (1) minute, and let it cool before using, or use bottled water. Boiled or bottled water should be used for drinking and food preparation until further notice. Boiling kills bacteria and other organisms in the water. [or This is the preferred method to assure that the water is safe to drink.]

- Optional alternative to include for prolonged situations where it fits.
  - An alternative method of disinfection for residents that are not able to boil their water is to use fresh, unscented, liquid household bleach. To do so, add 8 drops (or 1/8 teaspoon) of



# Instructional Content

- Water treatment methods
    - Sources and conveyance
    - Contamination removal
  - The cost and value of water
    - Average water fees
    - How drinking water is used
  - Role of the regulator
    - Knowledgebase and training necessary
    - Process of regulating industry
- Perchlorate (2010)
  - Styrene (2010)
  - Benzo(a)pyrene (2010)
  - 2,3,7,8-TCDD (2010)
  - Methoxychlor (2010)
  - 2,4-D (2010)
  - Selenium (2010)
  - Trichloroethylene (2009)

# Sources and Treatment



# Other Questions

**Q2:** What is the source of my water?

**Q3:** What is in my drinking water?

**Q4:** How is my drinking water treated?

**Q5:** How is my drinking water made safe?

- What are the government standards?
- What agencies are involved with water quality protection?

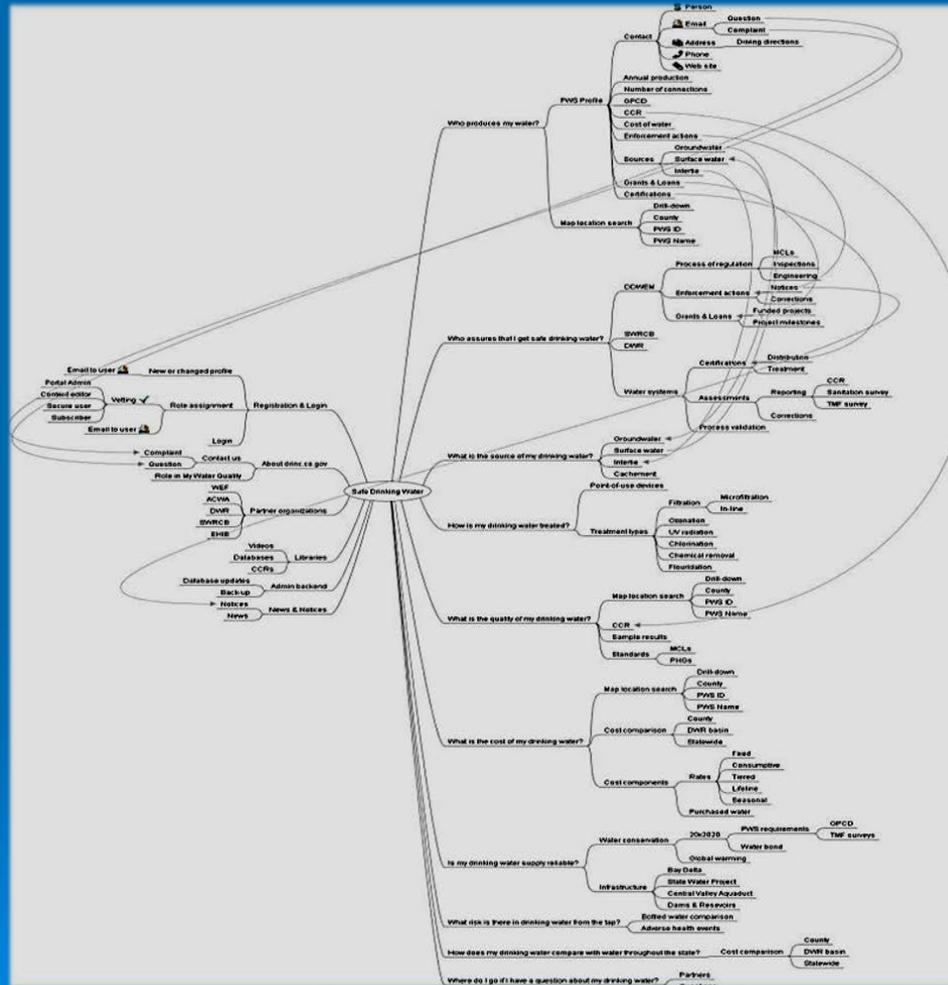
**Q6:** How safe is groundwater? Surface Water?

**Q7:** Drinking water FAQ

**Q8:** Who do I contact about my water?

**Phase 2:** Who and what determine the cost of my water? Is my water supply reliable?

# Site Navigation



# Features and Issues

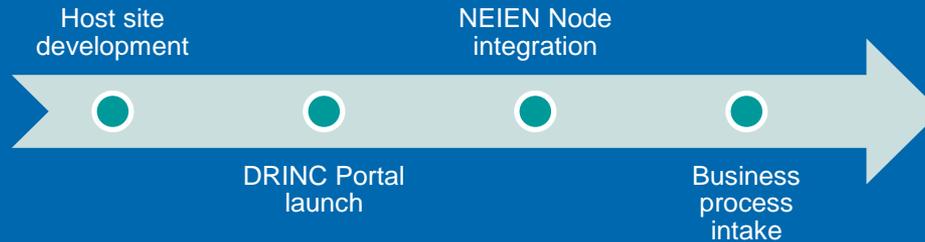
- Site based upon a Content Management Service (CMS) platform
- Registration and assigned roles determines 'depth' of data access
- Integration of legacy systems:
  - SWRCB GAMA tool
  - CDPH water system boundary tool
- Each contributing partner will have ability to update their portion of the site



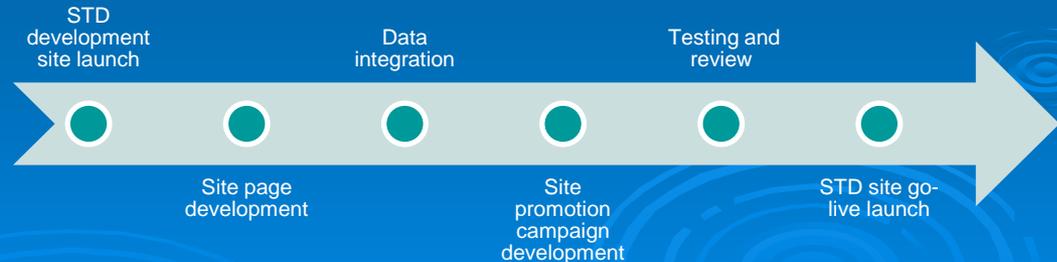
# Development Timeline



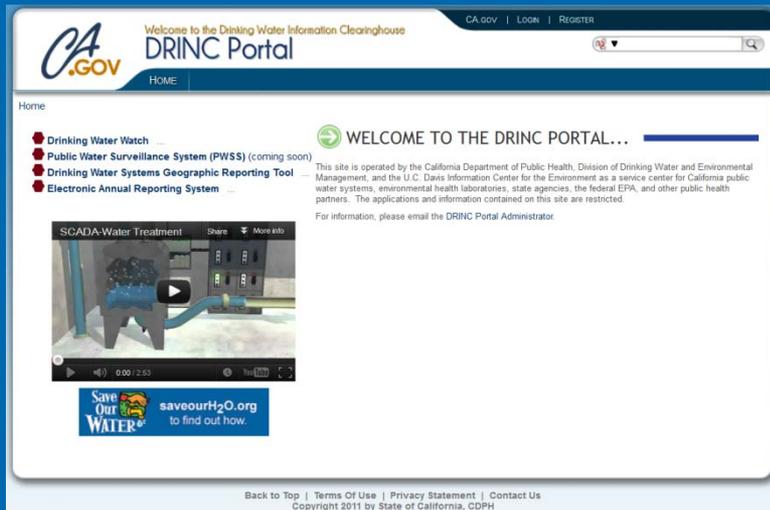
## DRINC Portal Business Intake 2<sup>nd</sup> Quarter 2013



## STD Phase I Site Development 3<sup>rd</sup> Quarter 2013



# Characterization of the DRINC Portal



- Established late April 2009 as a hosted site at UC Davis
- Designed and operated by DDWEM staff
- CA.GOV site in conformance with the Governor's look-and-feel
- Various partners
  - DWR
  - SWRCB
  - Federal EPA

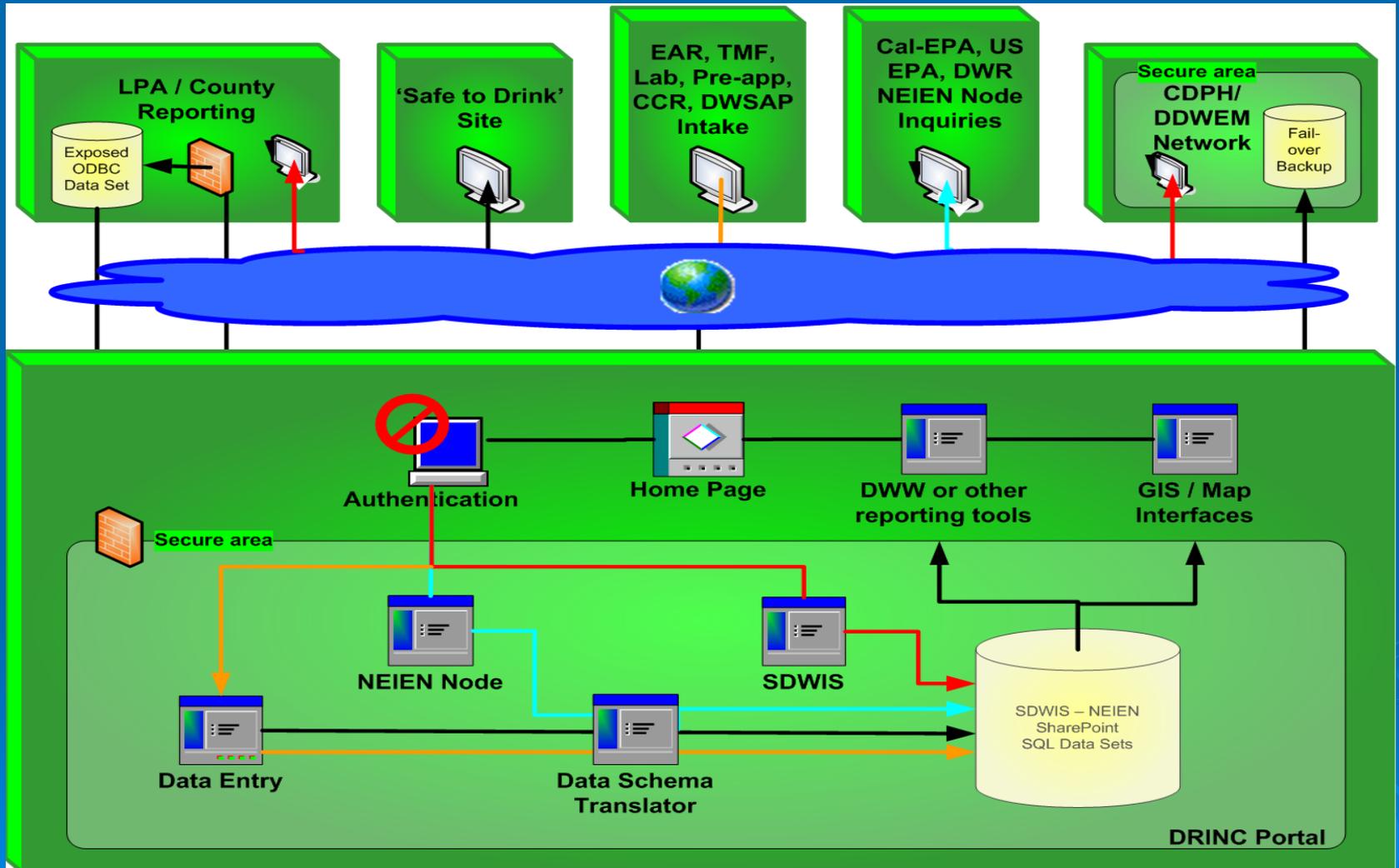
# Envisioned DRINC Portal Use

- **Write-on/EDT Replacement** entry mechanism for water quality data
- **SDWIS** operation and maintenance
- **NEIEN Node** for exchange of water quality and facility data with state agencies and US EPA
- **Annual PWS Reporting**: emergency, drought preparedness, water use efficiency, and consumption reporting
- **Legacy Systems** DSWAP, TMF Tune-up, SRF and ARRA Grant applications
- **PWS Boundary Tool** for mapping of water system service areas

# Prospective DRINC Portal Users

- **DDWEM staff**
- **State partners**
  - DWR, SWRCB, CalEPA
  - Water Quality Monitoring Council
- **Regulated Industry**
  - Public Water Systems
  - Environmental Health Labs
- **Water Community Partners (via the 'Safe to Drink' Portal)**
  - Academia (UC Davis' Information Center for the Environment)
  - Environmental protection community
  - California Urban Water Conservation Council
  - Association California Water Agencies
- **NEIEN Node Users**
  - US EPA and CalEPA

# DRINC Portal Business Structure



# CA Water Quality Monitoring Council Approvals

- Initial questions
- Site Mock-up (First quarter 2013)
- Go – No Go Launch Decision (June 2013)

July 13, 2012	Survey the SDW workgroup & others to identify portal components/datasets	Susan and Beth
August 13, 2012	Research existing websites, etc. for relevant data	Susan
August 31, 2012	Develop portal content plan with input including input gathered from SDW workgroup (deliverable). Distribute to workgroup for review	Susan
September 17, 2012	Input from workgroup due to Susan. Susan begins writing portal content.	Workgroup & Susan
September 30, 2012	Landing page text completed. Coordinate with Larry to ensure that there is technical support for content of landing page	Susan, Rebecca
October 31, 2012	Questions 1-4 with supporting datasets & links, and the supporting information pages for each written. Coordinate with Larry to ensure that there is technical support for questions 1-4 and supporting information pages.	Susan & Rebecca
November 30, 2012	Questions 5-8 with supporting datasets & links, and the supporting information pages for each written. Coordinate with Larry to ensure that there is technical support for questions 5-8 and supporting information pages.	Susan & Rebecca
December 7, 2012	Final draft of Portal site content for PowerPoint presentation completed.	Susan
December 10-December 31, 2012	Final editing and proofing of PowerPoint of SDW portal for presentation to the workgroup and the Monitoring Council for approval.	WEF Staff
Ongoing	Progress reports & invoices created on a monthly basis for submission to SCCWRP.	Beth
January-March, 2012	SCCWRP develops SDW Portal based on final design approved by working group and Monitoring Council	SCCWRP
January, 2013-March, 2013	Promotional Campaign Research and Development	WEF Staff
April-May, 2013	Prepare promotional collateral materials and content	Rita, Susan & Beth
June, 2013	Launch of live SDW Portal	
June, 2013	Launch of promotional campaign including links, social media, etc. to raise awareness and drive traffic to the portal.	WEF Staff



# Questions

- Mark Emmerson, CDPH Drinking Water Program  
(916) 445-6190 [memmerso@cdph.ca.gov](mailto:memmerso@cdph.ca.gov)
- Beth Stern, Water Education Foundation  
(916) 444-6240 [bstern@watereducation.org](mailto:bstern@watereducation.org)
- Susan Lauer, Water Education Foundation  
(916) 444-6240 [slauer@watereducation.org](mailto:slauer@watereducation.org)