



ANNUAL
WATER REPORT

*Water testing
performed in 2010*

Presented By
Santa Fe Irrigation District

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Santa Fe Irrigation District Water Quality Report for 2010

Once again we are proud to present our annual water quality report covering all testing performed between January 1, and December 31, 2010. As in years past, the Santa Fe Irrigation District is committed to delivering reliable, high-quality drinking water. In support of this commitment, the District continues to make important investments in planned replacements and upgrades to our water distribution and treatment systems. Recent improvements at the R.E. Badger Filtration Plant and Lake Management enhancements at the San Dieguito Reservoir enable the District to increase the use of local water supplies. Efficient use of local water supplies reduces reliance on costly imported water supplies and increases water supply reliability. Along with the projects at the R.E. Badger Filtration Plant, the District also currently has several water distribution system projects underway. To learn about these projects, please visit our website at www.sfidwater.org/cipprojects.htm.

Where Does My Water Come From?

The Santa Fe Irrigation District and San Dieguito Water District jointly own and operate the R.E. Badger Filtration Plant. The plant treats both imported and local water. Imported water is delivered by pipeline from Lake Skinner located in the City of Hemet. Lake Skinner is a blend of water imported by the Metropolitan Water District of California from the Colorado River and the Sacramento River Delta. Local water originates from Lake Hodges and is either transferred to the San Dieguito Reservoir through a small aqueduct and then to the treatment plant, or moves directly to the treatment plant via the Cielo Pump Station.

Public Meetings

The Santa Fe Irrigation District supplies water to the City of Solana Beach and the communities of Rancho Santa Fe and Fairbanks Ranch. The Santa Fe Irrigation District is governed by an elected Board of Directors. One member represents each of the five geographical divisions within the District. The regular monthly meeting of the Board of Directors is held on the third Thursday of each month at the District's Administrative Office, and the public is encouraged to attend.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or www.epa.gov/drink/hotline/.

Substances That Could Be in Water

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (U.S. EPA) and the State Department of Public Health (Department) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Department regulations also establish limits for contaminants in bottled water that must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk.

Contaminants that may be present in source water include:

Microbial Contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife;

Inorganic Contaminants, such as salts and metals, that can be naturally occurring or can result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

Pesticides and Herbicides, that may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses;

Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and which can also come from gas stations, urban stormwater runoff, agricultural applications, and septic systems;

Radioactive Contaminants, that can be naturally occurring or can be the result of oil and gas production and mining activities.

More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Source Water Assessment

Local water supplies are considered most vulnerable to agricultural and urban/storm runoff. A copy of the R.E. Badger Filtration Plant Watershed Sanitary Survey is available for review at the treatment plant. If you have any questions about this report, please call Cor Shaffer, Operations Manager, or Tim Bailey, Water Quality Analyst, at (858) 756-2569.

In December 2007, Metropolitan Water District of Southern California completed its source water assessment of our imported water from the Colorado River and State Water Project supplies. Colorado River supplies are considered to be most vulnerable to recreation, urban/storm water runoff, increasing urbanization in the watershed, and wastewater. State Water Projects supplies are considered to be most vulnerable to urban/storm water runoff, wildlife, agriculture, recreation, and wastewater. A copy of the assessment can be obtained by contacting Metropolitan at (213) 217-6850.

Questions?

For more information about this report, or for any questions relating to your drinking water, please call Tim Bailey, Water Quality Analyst, at (858) 756-2569, or Cor Shaffer, Operations Manager, at (858) 756-2424.

Q & A

Why do I get this report each year?

Community water system operators are required by Federal law under the Safe Drinking Water Act to provide their customers an annual water quality report. The report helps people make informed choices about the water they drink. It lets people know what contaminants, if any, are in their drinking water and how these contaminants may affect their health. It also gives the system operators a chance to tell customers what it takes to deliver safe drinking water.

Does my water need additional treatment?

For most people, the answer is no. The Safe Drinking Water Act standards are set to ensure that your tap water is safe. The U.S. Environmental Protection Agency regulates over 80 contaminants in drinking water. People who have medical conditions that might put them at special risk should discuss the need for a water filter with their doctors.

How much water should I store for emergencies?

Storing an adequate supply of potable (drinking) water is always a good emergency preparedness idea. Depending on your personal circumstances, you should store enough water for no less than three days and no more than 14 days. The average American household uses an average of two gallons of water each day for drinking and cooking. Store the water either in new containers or containers used to store drinking water only.

Should I buy bottled water?

It is a matter of personal choice, however, if you've never had a problem with your tap water, there's really no reason to start drinking bottled water now.

Lead and Drinking Water

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. We are responsible for providing high-quality drinking water, but we cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at www.epa.gov/safewater/lead.

Sampling Results

During the past year we have taken hundreds of water samples in order to determine the presence of any biological, inorganic, volatile organic or synthetic organic contaminants. The table below shows only those contaminants that were detected in the water. The State allows us to monitor for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	PHG (MCLG) [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Aluminum (ppm)	2010	1	0.6	0.005	ND-0.035	No	Erosion of natural deposits; residue from some surface water treatment processes
Arsenic (ppb)	2010	10	0.004	1.2	ND-1.3	No	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Barium (ppm)	2010	1	2	0.061	0.046-0.072	No	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits
Chloramines (ppm)	2010	[4]	[4]	3.11	2-3.29	No	Drinking water disinfectant added for treatment
Chlorine Dioxide (ppb)	2010	[800]	[800]	<1	ND-100	No	Drinking water disinfectant added for treatment
Chlorite (ppm)	2010	1.0	0.05	0.52	0.49-0.58	No	By-product of drinking water disinfection
Combined Radium (pCi/L)	2007	5	(0)	0.23	ND-0.9	No	Erosion of natural deposits
Control of DBP precursors [TOC] (ppm)	2010	TT	NA	5.35	4.55-7.37	No	Various natural and man-made sources
Fluoride (ppm)	2010	2.0	1	0.2	0.19-0.22	No	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Gross Beta Particle Activity ¹ (pCi/L)	2007	50	(0)	1.47	ND-5.9	No	Decay of natural and man-made deposits
Haloacetic Acids [HAAs] ppb	2010	60	NA	25.6	18-39	No	By-product of drinking water disinfection
Nitrate [as nitrate] (ppm)	2010	45	45	0.28	ND-1.1	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)	2010	80	NA	73	58-100	No	By-product of drinking water disinfection
Total Coliform Bacteria [Total Coliform Rule] (# positive samples)	2010	More than 5.0% of monthly samples are positive	(0)	1	NA	No	Naturally present in the environment
Uranium (pCi/L)	2007	20	0.43	0.625	ND-2.5	No	Erosion of natural deposits

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	PHG (MCLG)	AMOUNT DETECTED (90TH %TILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2010	1.3	0.3	0.49	0/30	No	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb)	2010	15	0.2	2.2	0/30	No	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits

SECONDARY SUBSTANCES

Substance (Unit of Measure)	Year Sampled	SMCL	PHG (MCLG)	Amount Detected	Range Low-High	Violation	Typical Source
Aluminum (ppb)	2010	200	NS	5.0	ND-35	No	Erosion of natural deposits; residual from some surface water treatment processes
Chloride (ppm)	2010	500	NS	175	160-210	No	Runoff/leaching from natural deposits; seawater influence
Color (Units)	2010	15	NS	3.5	1-8	No	Naturally occurring organic materials
Copper (ppm)	2010	1	NS	0.001	ND-0.0023	No	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Manganese (ppb)	2010	50	NS	0.98	ND-3.9	No	Leaching from natural deposits
Odor-Threshold (Units)	2010	3	NS	2.0	ND-4	No	Naturally occurring organic materials
Specific Conductance ($\mu\text{S}/\text{cm}$)	2010	1,600	NS	1,250	1,200-1,400	No	Substances that form ions when in water; seawater influence
Sulfate (ppm)	2010	500	NS	207	210-220	No	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (ppm)	2010	1,000	NS	735	650-790	No	Runoff/leaching from natural deposits
Turbidity (Units)	2010	5	NS	0.056	0.01-0.08	No	Soil runoff

UNREGULATED SUBSTANCES

Substance (Unit of Measure)	Year Sampled	Amount Detected	Range Low-High	Typical Source
Hardness (grains/gal)	2010	19	17.5-20.4	Sum of polyvalent cations present in the water, generally magnesium and calcium, and are usually naturally occurring
Hardness (ppm)	2010	325	300-350	Sum of polyvalent cations present in the water, generally magnesium and calcium, and are usually naturally occurring
Sodium (ppm)	2010	125	110-140	Salt present in the water; generally naturally occurring

¹Effective 6/11/2006, the Gross Beta Particle activity MCL is 4 millirem/year annual dose equivalent to the total body or any internal organ. 50 pCi/L is used as a screening level.

Definitions

AL (Regulatory Action Level): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

$\mu\text{S}/\text{cm}$ (microsiemens per centimeter): A unit expressing the amount of electrical conductivity of a solution.

MCL (Maximum Contaminant Level): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs (SMCLs) are set to protect the odor, taste, and appearance of drinking water.

MCLG (Maximum Contaminant Level Goal): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. EPA.

MRDL (Maximum Residual Disinfectant Level): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG (Maximum Residual Disinfectant Level Goal): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

NA: Not applicable

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

NS: No standard

pCi/L (picocuries per liter): A measure of radioactivity.

PDWS (Primary Drinking Water Standard): MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements and water treatment requirements.

PHG (Public Health Goal): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California EPA.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.