

# ANNUAL WATER QUALITY REPORT

## WATER QUALITY TEST RESULTS FROM 2007



## Santa Fe Irrigation District



### WHAT IS THIS REPORT ABOUT?

This brochure is a snapshot of the quality of the water the Santa Fe Irrigation District provided in 2007. Included are details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies.

### WHERE DOES MY WATER COME FROM?

The San Dieguito Water District and Santa Fe Irrigation 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 Southern California from the Colorado River and the Sacramento River Delta.

Local water originates from Lake Hodges. Lake Hodges water is either transferred to the San Dieguito Reservoir through a small aqueduct and then to the treatment plant, or directly to the treatment plant via the Cielo Pump Station.

### 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, Plant Manager, or Tim Bailey, Water Quality Analyst at (858) 756-2569.

In December 2002, 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 Project 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 by phone at (213) 217-6850.



### IS MY WATER SAFE?

Yes! Last year, as in years past, your tap water not only met, but exceeded all U.S. Environmental Protection Agency (USEPA) and state drinking water health standards. The Santa Fe Irrigation District vigilantly safeguards the water supplies and once again we are proud to report that our system has not violated a maximum containment level or any other water quality standard.

All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised 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 can be particularly at risk from infections. These people should seek advice from their health care providers about drinking water.

USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

### CONSTANTLY INVESTING IN IMPROVED WATER QUALITY

During 2007, the staff at Santa Fe irrigation District began a lake management program designed to improve the quality of the untreated water stored in the San Dieguito Reservoir. The San Dieguito Reservoir serves as an integral component of the overall water management and monitoring process. The goal of the lake management program is to supply the treatment facility with raw water of a higher quality which, in turn, results in higher quality finished water for our customers.

### MEETING YOUR WATER NEEDS, NOW AND IN THE FUTURE

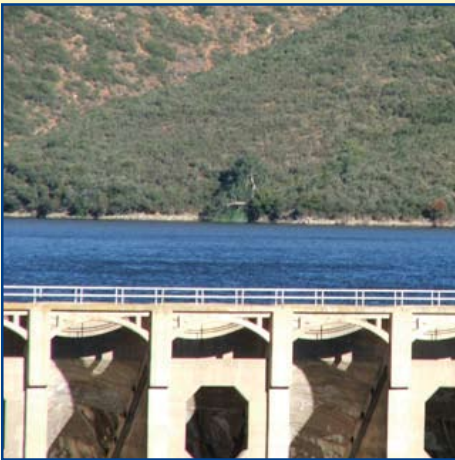
The Mission Statement of the Santa Fe Irrigation District is to provide its customers with an adequate and reliable supply of quality water that meets customer needs at a reasonable cost, supported by excellent customer service. With the various water supply challenges presented by legislative action restricting pumping of water from the Delta in Northern California, and the historic dry conditions dominating the west and impacting the Colorado River, the District recognizes the need to develop and invest in supply options to meet future demands. In July 2007, the Board of Directors adopted the Integrated Water Resources Plan (IWRP) that recommends expansion of current water sources, such as recycled water, and investment in new sources. Water conservation is also an important component of the IWRP. Based on findings presented in the IWRP, in September 2007, the District entered into a Water Purchase Agreement for 2,000 acre feet per year of desalinated water from Poseidon Resources, Inc. This agreement secures a portion of the water supply capacity that will be produced at the proposed Carlsbad desalination plant. Poseidon Resources, Inc., is currently in the permitting phase, with plans to begin production in 2010.

**Español (Spanish)** - Este informe contiene información muy importante sobre la calidad de su agua de beber. Tradúzcalo ó hable con alguien que lo entienda bien.



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**[www.sfidwater.org](http://www.sfidwater.org)**



The Santa Fe Irrigation District supplies water to the community of Rancho Santa Fe, the City of Solana Beach and a portion of Fairbanks Ranch. The Santa Fe Irrigation District is governed by a Board of Directors: one member elected from each of the five divisions within the District. The Board meets the third Thursday of each month and encourages public interest and participation.

# WHAT MIGHT BE IN MY DRINKING 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.

## 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 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, that are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.
- Radioactive contaminants, that can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the USEPA and the State Department of Public Health 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.

Tables 1, 2, 3, 4, and 5 list all of the drinking water contaminants that were detected during the most recent sampling for the constituent. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. The Department allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of the data, though representative of the water quality, are more than one year old.

## Lead Information:

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. The District is responsible for providing high quality drinking water, but 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 <http://www.epa.gov/safewater/lead>.

## Cryptosporidium Information:

Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. Although filtration removes Cryptosporidium, the most commonly-used filtration methods cannot guarantee 100 percent removal. Our monitoring indicates the presence of these organisms in our source water. Ingestion of Cryptosporidium may cause cryptosporidiosis, an abdominal infection. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.

## WATER CONSERVATION & PRESERVATION PROGRAMS

To maximize our precious potable water resources, the Santa Fe Irrigation District offers numerous water conservation programs. The following is a list of programs available to our customers. Grants and vouchers are subject to availability and program transitions. Other programs may be added during the year, so check our website frequently or call 858-756-5672.

### Outdoor Water Savings Programs

**Single-Family Residential Home Surveys** are free to single-family customers looking for help in reducing water usage with emphasis on outdoor use. Surveys are customized to help identify water waste, recommend water conserving devices, increase irrigation efficiency, and help with irrigation scheduling. To request a survey, call 858-756-5672.

### Large Landscape Evaluations

Evaluations are free with water agency pre-approval. You will receive a report that includes water-saving recommendations. Only multifamily, commercial, industrial, or public sites with a minimum of one acre are eligible. To request an evaluation, call 858-756-5672.

### Smart Controller Rebates

A "Smart" or Weather-Based Irrigation Controller (WBIC) can be an effective technology for reducing water usage outdoors. A "smart" controller uses weather data and site information such as plant type and sprinkler system output to adjust watering times and frequency. Professional installation and a well-designed irrigation system are needed to benefit from this technology. Customers are eligible for a rebate of up to \$730 toward purchase of a smart controller. Call 858-756-5672 for more information.

### Water Savings Performance Program

The Metropolitan Water District provides financial assistance to upgrade existing commercial, multifamily, single-family residences of one acre or larger, and homeowner association landscapes with more efficient irrigation equipment. Sites irrigated with recycled or mixed-use meters are considered on a case-by-case basis. The program is based on project cost and water savings. For more information, call 213-217-6616.

### Smart Landscape Grants for Commercial, Multifamily, and Public Sites

For repairs or upgrades: Public, commercial and multi-family properties may qualify for grants of up to \$2,500 per irrigated acre to replace or upgrade hardware and equipment to stop leaks, reduce water use, or otherwise improve irrigation efficiency. Grants are limited to \$5,000 total for commercial or multifamily properties and \$10,000 for public sites. Call 1-800-986-4538 for more information.

For vouchers up to \$25 per station: Smart Controllers for sites with a minimum of 1 acre of landscape are available. Call 1-800-986-4538 for more information.

### Agricultural Water Management Program

The Agricultural Water Management Program provides free irrigation system evaluations to agricultural properties with two or more acres of irrigated crop or grove. The program is free to all agricultural irrigators. For additional program information or to schedule an agricultural survey, please call Mission Resource Conservation District at (760) 728-1332.

For information or questions regarding any of the following programs, please call 858-756-5672.

### Residential, Commercial, or Multifamily:

- High Efficiency Clothes Washer Incentive of up to \$175
- High Efficiency Toilets Incentive of up to \$200
- Incentives for upgrades from Ultra-Low Flush to High Efficiency Toilets of \$30
- Synthetic Turf: \$1.00 per square foot
- Rotating Nozzles for Irrigation: \$4.00 per nozzle

Check our website often for new conservation programs, free workshops, and other websites with helpful water conservation information.

### Take the 20-Gallon Challenge!

Go to [www.20gallonchallenge.com](http://www.20gallonchallenge.com) and pledge to save water!





**TABLE 5 - DETECTION OF CONTAMINANTS WITH A SECONDARY DRINKING WATER STANDARD**

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL	Typical Source of Contaminant
Color (cu)	2007	3.8	1-8	15	Naturally occurring organic materials
Manganese (ug/L)	2007	1.17	ND-4.7	50	Leaching from natural deposits
Odor (TON)	2007	2.3	ND-8	3	Naturally occurring organic materials
Total Dissolved Solids (mg/L)	2007	650	628-670	1000	Runoff; leaching from natural deposits
Specific Conductance (uS/cm)	2007	1024.7	910-1110	1600	Substances that form ions in water; sea water influence
Chloride (mg/L)	2007	129	96-160	500	Runoff/leaching from natural deposits; sea water influence
Sulfate (mg/L)	2007	200	200	500	Runoff/leaching from natural deposits; sea water influence

**TABLE 6 - SAMPLING RESULTS SHOWING TREATMENT OF SURFACE WATER SOURCES**

Treatment Technique <sup>(a)</sup> (Type of approved filtration technology used)	Conventional Treatment: Coagulation, Flocculation, Sedimentation, Filtration
Turbidity Performance Standards <sup>(b)</sup> (that must be met through the water treatment process)	<u>Turbidity of the filtered water must:</u> 1 - Be less than or equal to 1.0 NTU in 95% of measurements in a month 2 - Not exceed 0.3 NTU for more than eight consecutive hours 3 - Not exceed 5.0 NTU at any time
Lowest monthly percentage of samples that met Turbidity Performance Standard No. 1	100%
Highest single turbidity measurement during the year	0.13
Number of violations of any surface water treatment requirements	0

(a) A required process intended to reduce the level of a contamination in drinking water.

(b) Turbidity (measured in NTU) is a measurement of the cloudiness of water and is a good indicator of water quality and filtration performance.

Turbidity results which meet performance standards are considered to be in compliance with filtration requirements.

**TABLE 3 - SAMPLING RESULTS FOR SODIUM AND HARDNESS**

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL	PHG (MCLG)	Typical Source of Contaminant
Sodium (ppm)	2007	96.7	87-100	none	none	Generally found in ground & in surface water
Hardness (ppm)	2007	263	250-280	none	none	Generally found in ground & in surface water

**TABLE 4 - DETECTION OF CONTAMINANTS WITH A PRIMARY DRINKING WATER STANDARD**

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL [MRDL]	PHG (MCLG) [MRDLG]	Typical Source of Contaminant
Arsenic (ppb)	2007	0.55	ND-2.2	10	0.004	Erosion of natural deposits; runoff from orchards; glass and electronic production wastes
Barium (ppm)	2007	0.087	0.064-0.100	1	2	Discharges from oil drilling wastes and from metal refineries; erosion of natural deposits
Uranium (pCi/L)	2007	0.625	ND-2.5	20	0.43	Erosion of natural deposits
Radioactivity (Beta) (pCi/L)	2007	1.47	ND-5.9	50	0	Decay of natural and man made deposits
Fluoride (ppm)	2007	0.20	0.19-0.21	2.0	1	Erosion of natural deposits; water additive that promotes strong teeth; discharges from fertilizer and aluminum factories
Combined Radium (pCi/L)	2007	0.23	ND-.90	5	0	Erosion of natural deposits
Trihalomethanes (ppb)	2007	48.4	33-60	80	n/a	Byproduct of drinking water chlorination
Haloacetic Acids (ppb)	2007	14.5	12-19	60	n/a	Byproduct of drinking water chlorination
Chloramines (ppm)	2007	3.20	2.2-3.54	4.0	4.0	Drinking water disinfectant added for treatment
Chlorite (ppm)	2007	0.42	.016-.57	1.0	0.8	Byproduct of drinking water disinfection
DBP Precursors (mg/L TOC)	2007	3.7	3.6-3.8	TT	n/a	Various natural and man made sources



# TERMS USED IN THIS REPORT

**Maximum Contaminant Level (MCL):** 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 are set to protect the odor, taste and appearance of drinking water.

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

**Secondary Drinking Water Standards (SDWS):** MCLs for contaminants that affect taste, odor, or appearance of the drinking water. Contaminants with SDWS do not affect the health at the MCL levels.

**Maximum Contaminant Level Goal (MCLG):** 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. Environmental Protection Agency (USEPA).

**Public Health Goal (PHG):** 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 Environmental Protection Agency.

**Maximum Residual Disinfectant Level (MRDL):** The level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap.

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

**Maximum Residual Disinfectant Level Goal (MRDLG):** The level of a disinfectant added for water treatment below which there is no known or expected risk to health. MRDLGs are set by the U.S. Environmental Protection Agency.

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

ND: not detectable at testing limit

ppm: parts per million or milligrams per liter (mg/L)

ppb: parts per billion or micrograms per liter (ug/L)

ppt: parts per trillion or nanograms per liter (ng/L)

pCi/L: picocuries per liter (a measure of radiation)

SDWD: San Dieguito Water District

SFID: Santa Fe Irrigation District

**Variations and Exemptions:** Department permission to exceed an MCL or not comply with a treatment technique under certain conditions.

**The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water hotline(1-800-426-4791).**



TABLE 1 - SAMPLING RESULTS SHOWING THE DETECTION OF COLIFORM BACTERIA

Microbiological Contaminants	Highest No. of Detections	No. of Months in Violation	MCL	MCLG	Typical Source of Bacteria
Total Coliform Bacteria	0 (in a mo.)	0	More than 5.0% of monthly samples are positive	0	Naturally present in the environment
Fecal Coliform or E. Coli	0 (in the year)	0	A routine sample and a repeat sample detect total coliform and either sample also detects fecal coliform or E. Coli	0	Human and animal fecal waste

TABLE 2 - SAMPLING RESULTS SHOWING THE DETECTION OF LEAD AND COPPER

Lead and Copper (to be completed only if there was a detection of lead or copper in the last sample set)	No. of samples collected	90th percentile level detected	No. of sites exceeding AL	AL	PHG	Typical Source of Contaminant
Lead (ppb) (2007)	30	<5	0	15	2	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper (ppm) (2007)	30	.36	0	1.3	0.17	Internal corrosion of household water plumbing systems; erosion of natural deposits; leaching from wood preservatives