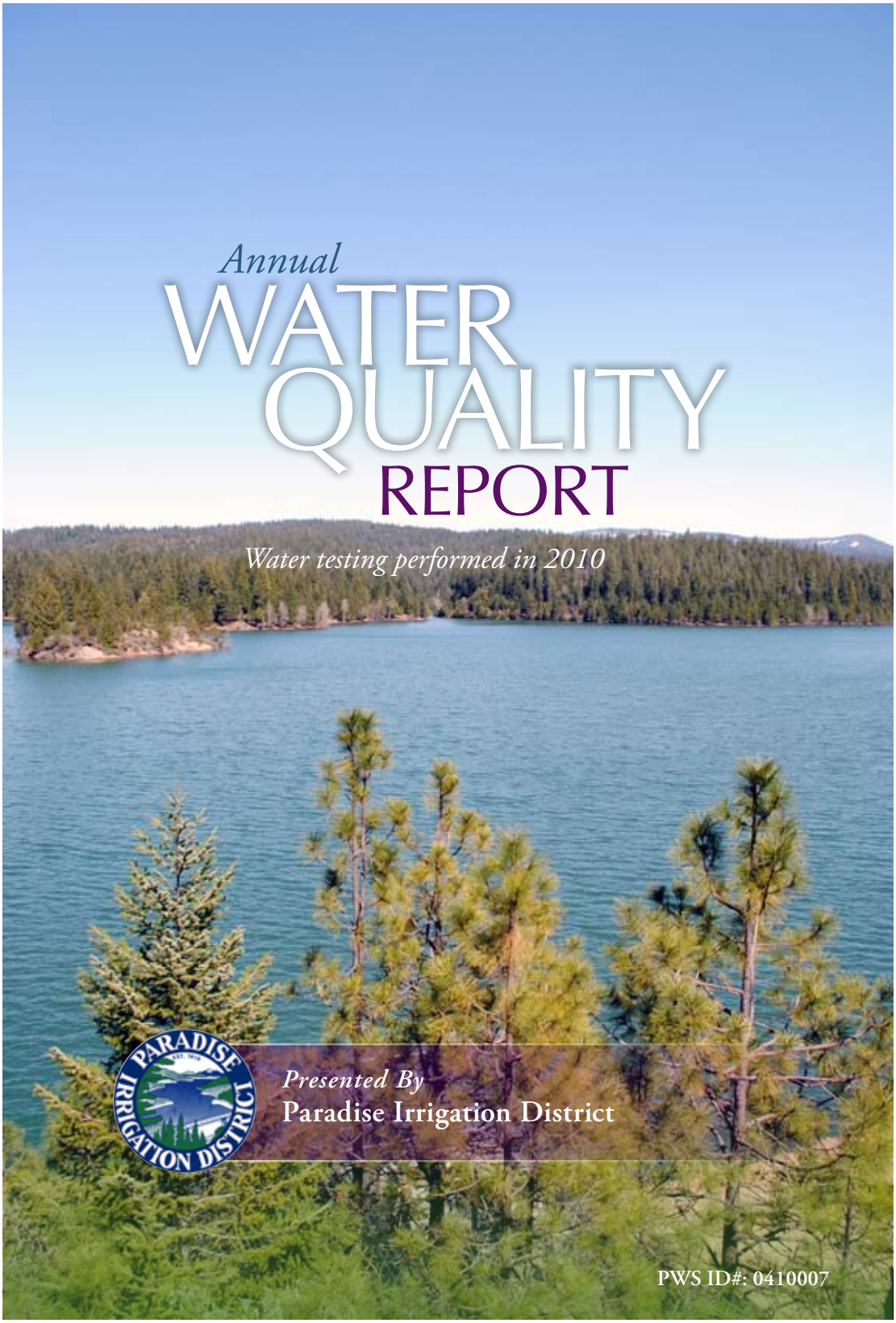
Annual
WATER QUALITY REPORT
Water testing performed in 2010
PARADISE IRRIGATION DISTRICT
Presented By
Paradise Irrigation District
PWS ID#: 0410007

Quality First

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, we are committed to delivering the best-quality drinking water possible. To that end, we remain vigilant in meeting the challenges of new regulations, source water protection, water conservation, and community outreach and education while continuing to serve the needs of all of our water users. Thank you for allowing us to continue providing you and your family with quality drinking water.

We encourage you to share your thoughts with us on the information contained in this report. Should you ever have any questions or concerns, we are always available to assist you.

We met our goal—10 years early!

Kudos to Paradise residents for stepping up to the plate and making a real difference for our community's future—and the health of California. Thanks to their efforts, our water district, Paradise Irrigation District (PID) is proud to report that our community has met the state-mandated goal of 20% less water usage—and we've done it ten years before the 2020 deadline.

In February 2008, then Governor Schwarzenegger introduced a seven-part comprehensive plan for improving the Sacramento-San Joaquin Delta. As part of this effort, the governor directed state agencies to develop a plan to reduce statewide per capita water use by 20 percent by the year 2020 ("20 x 2020").

PID immediately took a strong role in leak detection and major pipeline improvements as well as educating our community about ways to sensibly reduce water usage—and the efforts paid off handsomely. As of April 2011, PID had met the "20 x 2020" challenge. But the work doesn't stop there.

PID customers need to stay the course and continue their water-wise ways. Decreasing water use not only saves customers real money, but also helps the District to better withstand any future droughts. Water that is saved today is available for next year's needs.

While we've been fortunate lately, ridge old-timers can recall the late 1970s when drought was a very real problem statewide. Looking back, if we experienced a drought equal to a single year's drought in the 1970s, PID would need to call on customers to reduce usage by 50 percent.

Adopting water conservation measures as a continuing, daily lifestyle will help our community now and in the future.

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 http://water.epa.gov/drink/hotline.

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 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.

Water Treatment Process

Raw water from Magalia Reservoir or Little Butte Creek through the Magalia By-Pass is treated before being distributed to Paradise residents. The treatment process consists of coagulation, clarification, filtration, and disinfection. The coagulation process consists of adding alum and polymer to the water to chemically bond very small particles in the water into larger particles. Coagulated water is passed through a bed of coarse granulated media in the absorption clarifiers. Coarse media in the clarifier removes most of the coagulated particles. Clarified water flows downward through tri-media filters consisting of anthracite, sand, and fine garnet to remove the remaining particulates and polish the finished water. A minimum amount of chlorine is added to the finished water to meet California State requirements. Chlorine can be added either to the raw water prior to filtration or to the filtered water. Filtered water is routed through a treated water storage tank to provide sufficient time for the chlorine to kill any bacteria remaining in the water. This water is then routed to off-site reservoirs for distribution to residents of Paradise.

Source Water Assessment

A Source Water Assessment Plan (2010) is now available at our office. This plan is an assessment of the delineated area around our listed sources through which contaminants, if present, could migrate and reach our source water. It also includes an inventory of potential sources of contamination within the delineated area and a determination of the water supply's susceptibility to contamination by the identified potential sources.

Well at D Tank (Ground Water Supply): High-density septic systems and automobile repair shops.

Magalia Reservoir (Surface Water Supply): High-density septic systems and historic mining operations.

A copy of the complete assessment may be viewed at DHS Valley District Office, 415 Knollcrest Drive, Suite 110, Redding, CA 96002, Attention: Richard Hinrichs, (530) 224-4866, or Paradise Irrigation District Office, 6332 Clark Road, Paradise, CA 95969, Attention: George Barber, (530) 877-4971.

Rates go up for first time in three years

PID customers will see an increase in their water bills in June 2011—the first increase since January 2008.

Our typical residential customer's overall average increase will grow to $4.79 per month in 2013, but the initial change will be $1.24 per month. The increase will help the District maintain service and projects required for District operation.

PID board approval of the rate increase follows three public committee meetings as well as a board meeting to allow for public participation and input. The approved rate structure calls for increased bills starting in June 2011, January 2012 and January 2013.

To maintain District functions since the last increase in 2008, PID tightened its belt, delaying capital projects, enacting a one-year hiring freeze on three vacant positions and using reserve funds. Even with all of those efforts, without a rate increase, all of PID's available reserves would be exhausted by 2014.

Prudent and conservative financial management of PID means the District must increase rates to consumers. Without that action, the District would risk its ability to continue providing good, healthy water to its community.

PID's board opted to enact smaller but more frequent rate increases rather than waiting several years and then putting a too-hefty increase on its consumers.

All PID customers should have received a detailed explanation of the rate change in a mailing sent out in late March. If you have questions about the new rates or how they will affect your PID service, please call the District office at 877-4971.

New Meter Reading System Providing Benefits

A new automated meter reading (AMR) system for Paradise Irrigation District (PID) is providing timely benefits to customers as well making meter reading more cost effective.

Since enabling the automated reading through replacing and retrofitting existing water meters throughout the District in 2010, PID has sent out 2,180 customer leak notices. These notices inform customers they may have a leak at their home or business.

Prior to AMR, customers may have gone 60 days between meter readings, meaning they could have a large bill by the time the leak was discovered. When all the features of the new AMR system are operational by the end of 2011, PID will be alerted within three days of "uninterrupted water usage"—which likely means a leak for the customer.

About 7,500 of PID's 10,500 meters were replaced during the project; all meters were updated to permit AMR through installation of a radio transmission device.

PID is currently still reading the meters in a semi-manual "drive-by" process that allows reading to be completed more easily so it's occurring every month rather than every two months. When the system is entirely in place, the meters will send electronic "readings" automatically to specialized radio devices located throughout our community and then on to PID's office.

The "new" meters are no different in how they measure water use; they simply are able to transmit the data for water use differently than it used to be.

A few customers discovered that, with the new reading system, they had a higher bill. That occurred because their old meters may have been worn out and didn't accurately report actual water usage. With the new and retrofitted meters, each PID customer is now paying their fair share for water usage.

Questions about AMR or how your meter is read? Give PID a call at 877-4971 and they'll help you with the information you need.

Where Does My Water Come From?

The customers of the Paradise Irrigation District are fortunate because we enjoy a high-quality water supply from a surface water source. The treatment plant draws water from Magalia Reservoir and Paradise Lake, which hold a total of 12,293 acre-feet of water. The water treatment plant was constructed in 1995 and provides an average flow of 7.5 million gallons per day. Runoff is collected over 11.2 square miles of watershed located north and east of Magalia Reservoir. This watershed is heavily forested and sparsely populated, which contributes to the high-quality water we serve.

The District drilled and developed a ground water source at the D Tank reservoir site. This well produces up to 450 gallons per minute (gpm) and is used as a drought management and emergency source. This source was used during six of the twelve months in 2010, and water quality testing has been done to qualify it as an approved source.

Questions?

For more information about this report, or for any questions relating to your drinking water, please call Bill Taylor, Treatment Plant Superintendent, at (530) 877-3554.

Community Participation

You are invited to participate in our public forum and voice your concerns about your drinking water. The Board of Directors meets the third Wednesday of each month, beginning at 6:30 p.m., at 6332 Clark Road, Paradise, California.

Water Rights Extension

Your Paradise Irrigation District (PID) is actively planning for the future of our community and its water needs through preparation of an environmental impact report (EIR) to extend its water rights.

While residents have done a good job recently in sensibly reducing their water usage (see "We met our goal—10 years early!"), PID's directors understand that more than reduction of usage is the answer to future needs: the District must also seek the ability to construct additional water storage in Magalia and Paradise Reservoirs.

To meet future water needs, PID is preparing an EIR to extend the time needed to construct additional storage in Magalia and Paradise Reservoirs. PID is requesting a 25-year extension.

Additionally the District is seeking to improve its operational capabilities and, once our community's water needs are met, to be able to assist neighboring water users with water supplies. To that end, the EIR also includes requests to:

- Change the method of water diversion from Little Butte Creek.
- Add hydropower to the permit's purpose of use
- Increase the size of PID's place of use.
- Increase PID's "sphere of influence" area.

The EIR is required as part of getting approval from the State Water Resources Control Board to put into action the previously-approved permits to construct an additional 6,000 acre-feet of water storage in either reservoir.

PID currently has 12,300 acre-feet of storage. The additional storage would allow the district to meet its future water needs and manage better during drought conditions. PID has less water storage available to it today—and more people to serve—than it did during drought in the 1970s.

Cost for the EIR to extend water rights is anticipated at $310,000; the project will take 18 months to complete.

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.

Sampling Results

During the past year, we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The table below shows only those contaminants that were detected in the water. The state requires 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

				Surface Water Supply		Groundwater Supply			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	PHG (MCLG) [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Asbestos (MFL)	2004	7	7	0.2	NA	NA	NA	No	Internal corrosion of asbestos cement water mains; erosion of natural deposits
Chlorine (ppm)	2010	[4.0 (as Cl2)]	[4 (as Cl2)]	0.80	0.45–1.32	NA	NA	No	Drinking water disinfectant added for treatment
Chromium (ppb)	2004	50	(100)	NA	NA	3.8	NA	No	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
Haloacetic Acids (ppb)	2010	60	NA	26.8	18–34	NA	NA	No	By-product of drinking water disinfection
TTHMs [Total Trihalomethanes] (ppb)	2010	80	NA	24	19–26	NA	NA	No	By-product of drinking water disinfection
Turbidity[1] (NTU)	2010	TT	NA	0.06	0.03–0.06	NA	NA	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2010	TT=95% of samples<0.3	NA	100	NA	NA	NA	No	Soil runoff

Tap water samples were collected for lead and copper analyses from sample sites throughout the community (Lead was not detected at the 90th percentile.)

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	PHG (MCLG)	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2008	1.3	0.3	0.165	0/30	No	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

SECONDARY SUBSTANCES

				Surface Water Supply		Groundwater Supply			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	PHG (MCLG)	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloride (ppm)	2002	500	NS	2.2	NA	1.1[2]	NA[2]	No	Runoff/leaching from natural deposits; seawater influence
Odor–Threshold (Units)	2007	3	NS	2	NA	NA	NA	No	Naturally occurring organic materials
Specific Conductance (µS/cm)	2010	1,600	NS	68	NA	170[3]	NA[3]	No	Substances that form ions when in water; seawater influence
Sulfate (ppm)	2002	500	NS	1.8	NA	0.3[2]	NA[2]	No	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (ppm)	2002	1,000	NS	44	NA	142[2]	NA[2]	No	Runoff/leaching from natural deposits
Turbidity (NTU)	2010	5	NS	0.04	0.03–0.06	0.1	0.01–0.1	No	Soil runoff
Zinc (ppm)	2002	5.0	NS	0.096	NA	NA	NA	No	Runoff/leaching from natural deposits; industrial wastes

UNREGULATED AND OTHER SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	Surface Water Supply AMOUNT DETECTED	Surface Water Supply RANGE LOW-HIGH	Groundwater Supply AMOUNT DETECTED	Groundwater Supply RANGE LOW-HIGH	TYPICAL SOURCE
Boron (ppb)	2002	NA	NA	213	100–213	Occurs abundantly in nature
Chromium VI [Hexavalent Chromium] (ppb)	2004	NA	NA	3.8	1.0–3.8	Erosion of natural deposits; glass and electronics production waste
Hardness (ppm)	2002	27	27–48	89.3[2]	70.0–89.36[2]	Caused mainly by the salts of Calcium and Magnesium (water can be considered hard if it measures over 100 ppm)
Vanadium (ppb)	2002	NA	NA	12.0	3.0–12.0	Runoff/leaching from natural deposits
Sodium (ppm)	2002	1.3	NA	5.3[2]	NA[2]	Occurs abundantly in nature

[1] Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.
[2] Sampled in 2005.
[3] Sampled in 2009.

Definitions

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

µS/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.

MFL (million fibers per liter): A measure of the presence of asbestos fibers that are longer than 10 micrometers.

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.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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.