

# QUALITY WATER 2007



NEW ORLEANS' drinking water meets all federal and state drinking water standards.

## SOURCE and TREATMENT

**Our source water is the Mississippi River. This water is treated at the Carrollton Water Treatment Plant for East Bank customers and at the Algiers Water Treatment Plant for West Bank customers. In 2007 the Carrollton Water Plant provided an average of 129 million gallons of drinking water per day to a population estimated to be about 246,260 people. The Algiers Water Plant provided an average of 13 million gallons of drinking water per day to a population estimated to be about 55,900 people.\* The treatment process at each plant is similar. The raw river water is treated with chemicals called "coagulants" which cause the small particles in the water to come together to form larger particles which are then allowed to settle out of the water. Rapid sand filtration is used to remove even smaller particles. During the process chloramine is added to disinfect the water. Lime is added to provide corrosion control and to increase the pH of the water to stabilize the disinfectant.**

## Successful Recovery Is Key to Board's Ability To Provide Crucial Water Services for City

The Sewerage & Water Board's recovery efforts began the day after Katrina hit and have continued constantly thanks to the dedication of the Board members, management and employees.

Executive Director Marcia St. Martin said, "Our goal then was, and still is, full restoration to provide maximum service to those residents and business owners who stayed in the City and those who are planning to return.

"We did get a jump on repairs, but we did not rest on our laurels. Instead, we used our minds, expertise and knowledge of our systems to restore many of our pumps, machinery, equipment, computers, facilities and vehicles and put them back into service more quickly than expected.

"And, we still have a lot of critical work to do.

"I think it's important for our citizens to know we've had many successes in all departments, but for this report will we will focus on the Water Department.

# How contaminants can get into **SOURCE WATER**

**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. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline: (1-800-426-4791).**

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, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, which 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, which 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 byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- Radioactive contaminants, which 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 U.S. Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. The U.S. Food and Drug Administration regulates and establishes limits for contaminants in bottled water.

**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 about drinking water from their health care providers. EPA/ 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).**

**A Source Water Assessment has been conducted by the State of Louisiana Department of Environmental Quality. This is an assessment of a 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. According to the Source Water Assessment, our water system had a susceptibility rating of high. If you would like to review the Source Water Assessment, contact the Sewerage and Water Board Laboratory at (504) 865-0420.**

# definitions

**Parts per million or ppm** – This is a measure of concentration which corresponds to one milligram of a substance in one liter of water (mg/L), or about one drop in 10 gallons.

**Parts per billion or ppb** – This is a measure of concentration which corresponds to one microgram of a substance in one liter of water (ug/L), or about 1 drop in 10,000 gallons.

**Picocuries per liter or pCi/L** – This is a measure of the radioactivity in water.

**Nephelometric Turbidity Unit or NTU** – This is a measure of the cloudiness of water. Turbidity in excess of 5 NTU is just noticeable to the average person. We monitor turbidity because it is a good indicator of the effectiveness of our treatment system.

**Action Level or AL** – The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

**Treatment Technique or TT** – A required process intended to reduce the level of a contaminant in drinking water.

**Maximum Contaminant Level Goal or MCLG** – The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

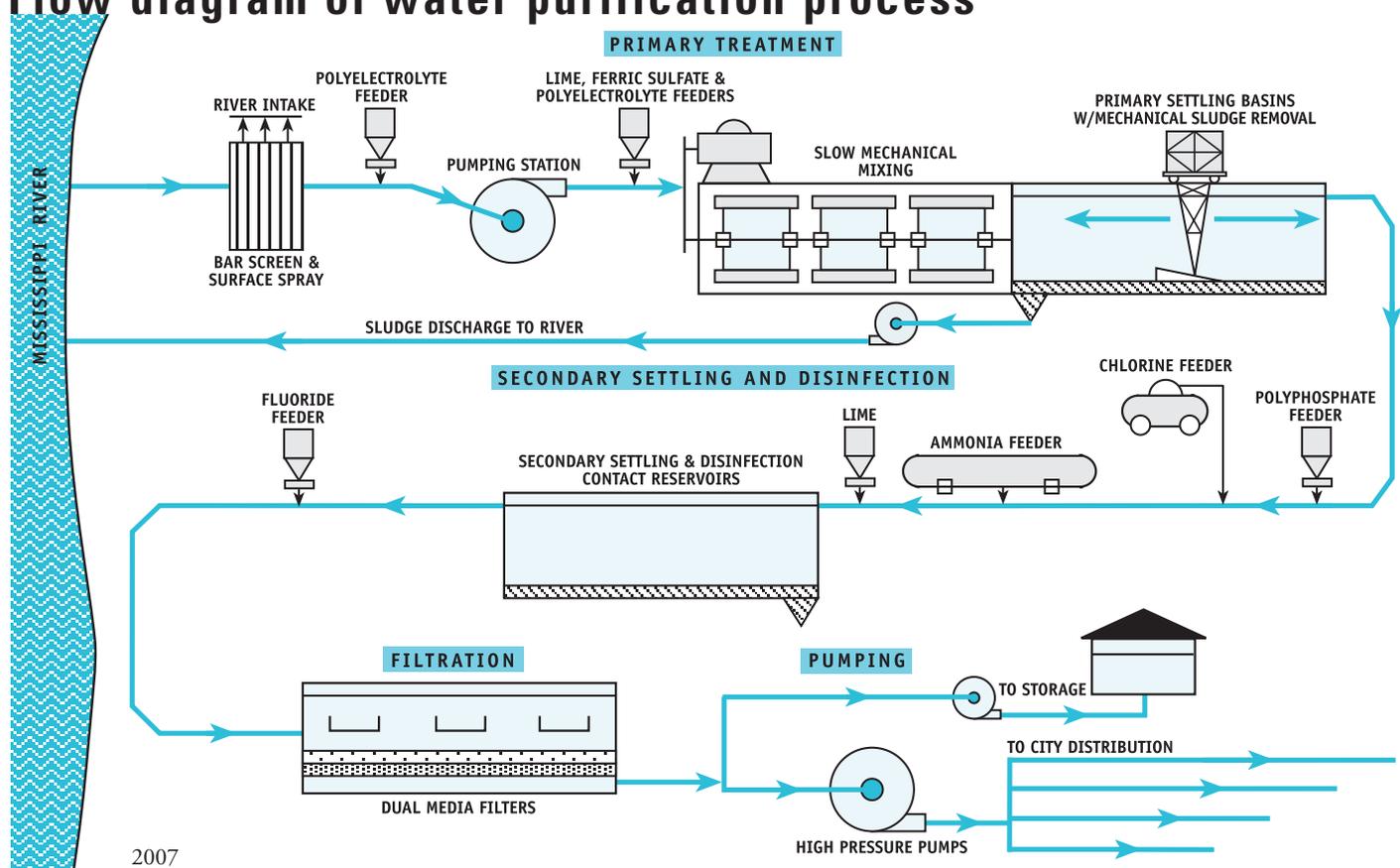
**Maximum Contaminant Level or MCL** – The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

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

**Maximum Residual Disinfectant Level Goal (MRDLG)** – 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.



## Flow diagram of water purification process



# DRINKING WATER Quality Results

from 2007 Compliance Monitoring

From January 1st thru December 31st 2007, monitoring was carried out to determine if the quality of the drinking water met State and Federal Regulations. This is called compliance monitoring. The results in the table meet all drinking water regulations.

## Notice of Reporting and Monitoring Violations

**Reporting Violation of the Consumer Confidence Rule**  
In 2006, the S&WB did not meet the deadline for certifying to the Louisiana Department of Health and Hospitals that the 2006 version of this report had been provided to its customers and therefore did not meet all of the requirements of the Consumer Confidence Rule.

**Monitoring Violation of the Surface Water Treatment Rule**  
Federal and state regulations require continuous monitoring of the turbidities of filter effluents by automated instrumentation. During the period of 8/31/07 through 9/12/07, we did not meet this requirement for the effluent of one of twelve filters at the Algiers Water Works due to an instrumentation failure. In lieu of automated, continuous monitoring, grab samples were collected and analyzed by our operators. In addition, continuous, automated monitoring of turbidity was performed on the combined effluent of all of the filters. All monitoring results showed that our drinking water met all turbidity standards. We are confident that the drinking water produced by the Algiers Water Works was not affected by this instrumentation failure and that the water met all federal and state drinking water quality standards in 2007.

Federal regulations require that the following formulaic language accompany all public notices of monitoring violations, regardless of their severity:

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not your drinking water meets health standards. During the period of 8/31/07 through 9/12/07, we did not complete all monitoring for turbidity at the Algiers Water Works, and therefore cannot be sure of the quality of your drinking water during that time. Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

| <u>Contaminant</u>   | <u>Meets Requirements</u> | <u>Unit</u>  |
|--|---------------------------|--|
| <b>Total Coliform Bacteria</b>   | <b>Yes</b>                | % Positive Samples per Month   |
| <b>Turbidity<sup>1</sup></b>   | <b>Yes</b>                | NTU<br>Lowest monthly % of samples with turbidities of 0.3               |
| <b>Beta/photon emitters</b>  | <b>Yes</b>                | pCi/L  |
| <b>Fluoride</b>  | <b>Yes</b>                | ppm  |
| <b>Barium</b>  | <b>Yes</b>                | ppm  |
| <b>Copper</b><br>(Data from 2004, latest survey)                                   | <b>Yes</b>                | Highest ppm:<br>90th percentile:<br>No sample site exceeded the Action L |
| <b>Lead</b><br>(Data from 2004, latest survey)                                     | <b>Yes</b>                | Highest ppb:<br>90th percentile:<br>No sample site exceeded the Action L |
| <b>Nitrate</b><br>(as Nitrogen)  | <b>Yes</b>                | ppm  |
| <b>Total Residual Chlorine</b>   | <b>Yes</b>                | ppm  |
| <b>Atrazine</b>  | <b>Yes</b>                | ppb  |
| <b>Total Organic Carbon (TOC) (Removal)<sup>3</sup></b>                            | <b>Yes</b>                | (ratio)  |
| <b>Trihalomethanes, Total (TTHMs)</b>  | <b>Yes</b>                | ppb  |
| <b>Haloacetic Acids Total HAA5s</b>  | <b>Yes</b>                | ppb  |
| The following results are from investigative samples required by EPA Stage 2 Disin |                           |  |
| <b>Trihalomethanes, Total (TTHMs)</b>  | <b>Yes</b>                | ppb  |
| <b>Haloacetic Acids Total HAA5s</b>  | <b>Yes</b>                | ppb  |

1 Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality.  
 2 EPA considers 50 pCi/L to be the level of concern for beta particles.  
 3 TOC removal is reported here as the ratio of the actual TOC removal to that required by regulation.  
 Note: n/a = not applicable  
 Note: Monitoring of our tap water for Combined Radium, Asbestos, Nitrite, and Dioxin was not required for 2007.

|  | <u>Amounts Detected</u> |                         | <u>Highest Level Allowed</u>   | <u>Ideal Goal</u> | <u>Likely Sources</u>   |
|--|-------------------------|-------------------------|--|-------------------|---|
|  | <u>East Bank</u>        | <u>West Bank</u>        | <u>(EPA MCL)</u>   | <u>(MCLG)</u>     |   |
|  | 0 - 0.5                 | 0 - 2.4                 | 5  | 0                 | Naturally present in the environment  |
| or less:   | 0.03 - 0.3<br>100%      | 0.04 - 0.3<br>100%      | 1.49 NTU for a single sample and<br>95% or more samples each month should have 0.3 or less NTU | n/a               | Soil runoff   |
|  | 5.3                     | 5.2                     | 50 <sup>2</sup>  | 0                 | Decay of natural and man-made deposits  |
|  | 0.2 - 1.1               | 0.3 - 1.4               | 4  | 4                 | Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories |
|  | 0.047 - 0.066           | 0.028                   | 2  | 2                 | Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits                                |
| Level.   | 0.2<br>0.1              | 0.1<br>0.1              | AL=1.3 for 90th percentile   | 1.3               | Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives                    |
| Level.   | 3.0<br>1.0              | 3.0<br>1.0              | AL=15 for 90th percentile  | 0                 | Corrosion of household plumbing systems, erosion of natural deposits  |
|  | 1.1                     | 0.9                     | 10   | 10                | Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits                               |
|  | 0.3 - 4.7<br>Avg. = 3.0 | 0.6 - 4.7<br>Avg. = 3.5 | Avg. of 4.0 (MRDL)   | Avg. of 4 (MRDLG) | Disinfectant added during water treatment   |
|  | none detected           | 0.4                     | 3  | 3                 | Runoff from herbicide used on row crops   |
|  | 0.6 - 1.5<br>Avg. = 1.0 | 0.6 - 1.4<br>Avg. = 1.1 | Avg. must be At least 1.0  | n/a               | Naturally present in the environment  |
|  | 16 - 37<br>Avg. = 29    | 11 - 23<br>Avg. = 19    | Avg. of 80   | n/a               | By-product of drinking water disinfection   |
|  | 11 - 24<br>Avg. = 18    | 9 - 39<br>Avg. = 26     | Avg. of 60   | n/a               | By-product of drinking water disinfection   |
| Disinfectants and Disinfection Byproducts Rule (DBPR) and will be used to select monitoring locations for future compliance with the Stage 2 DBPR. |                         |                         |  |                   |   |
|  | 22 - 72<br>Avg. = 46    | n/a                     | Avg. of 80   | n/a               | By-product of drinking water disinfection   |
|  | 11 - 25<br>Avg. = 18    | n/a                     | Avg. of 60   | n/a               | By-product of drinking water disinfection   |

and indicator of the effectiveness of our filtration system. Its sources include soil runoff.

regulation.

is not carried out due to federal waivers granted by USEPA for these specific contaminants only.

# Who Tests Your Water?

The State of Louisiana Dept. of Health and Hospitals tests for regulated contaminants to determine if New Orleans drinking water complies with State and Federal water quality regulations. Where a contaminant was detected in compliance monitoring, we have reported it in the table on the preceding pages. The remaining contaminants were not detected in the State's compliance monitoring in 2007. These include metals such as arsenic, and cadmium as well as pesticides such as chlordane and 2,4-d. The State also tests the water for 53 unregulated contaminants and indicators of water quality.

The Sewerage and Water Board performs tests daily in its own Water Quality Laboratory. Bacteriological tests are performed as part of compliance monitoring. Most tests performed by the Sewerage and Water Board lab for chemical contaminants and other indicators of water quality are performed for quality control, and are not part of compliance monitoring.

Operators in the water treatment plants monitor for turbidity and total chlorine residual at prescribed intervals around the clock and the results are reported to the state monthly. The 2007 results of their turbidity monitoring are reported in the table on the preceding page.



## Is there lead in New Orleans' tap water?

- **No lead was present in the treated water leaving our treatment plants.**

It is not expected that water would pick up lead while traveling through pipes because our treatment process deposits a film of calcium carbonate which lines the interior of the water pipes. This harmless substance provides a barrier against corrosion and lead leaching. Some homes may have lead levels higher than what is indicated by the results shown in the table if they have plumbing

with lead solder or brass faucets containing lead.

### If you are concerned about lead in your tap water, we suggest the following:

- **If the water has been standing in the pipes, run the water for 2 to 3 minutes before using.**
- **Use only water from the cold water faucet for cooking, drinking, and making baby formula.**
- **Use only lead-free solder when making plumbing repairs.**
- **Use only lead-free faucets.**

## Cryptosporidium

*Cryptosporidium parvum* is a microscopic organism which, if ingested, can possibly cause diarrhea, nausea, cramps, fever and other gastrointestinal symptoms. It is found in animal waste and sewage, which is washed into rivers and streams when it rains. *Cryptosporidium* can be found in nearly all surface waters in the United States. The best defense which a water utility can provide is an effective water treatment process which includes the multiple barriers of effective and continuous coagulation, disinfection and filtration.

In healthy persons, symptoms usually last two to three days. However, cryptosporidiosis can be very serious for people with severely weakened immune systems, such as chemotherapy and transplant patients and people with HIV infections. These people should consult a physician about extra protection, including boiling water, using a certified bottled water or using a home water filter capable of removing *Cryptosporidium*.

Even though it was not required at the time, the Sewerage and Water Board began monitoring its source water (the Mississippi River) and tap water for *Cryptosporidium* in March of 1993. During 1998, *Cryptosporidium* was detected in 1 of 12 monthly tap water samples, with the highest level being 0.1 oocysts per 100 liters, or 1 oocyst per 264 gallons. No *Cryptosporidium* was detected in tap water samples from 1999 through 2007. An occasional oocyst in the drinking water of utilities that use surface water is not unusual, and does not necessarily indicate a health problem.

Through its early voluntary *Cryptosporidium* monitoring, the completion of the mandatory Information Collection Rule monitoring, and use of continuous monitoring turbidimeters in compliance with the Safe Drinking Water Act, the Sewerage and Water Board is providing ever greater assurance of safe drinking water.

# Checking for Spills on the River

The Sewerage and Water Board participates in a program set up by the Louisiana Department of Environmental Quality (DEQ) called the Early Warning Organic Compound Detection System (EWOCDS). DEQ has provided equipment at locations along the Mississippi River from Baton Rouge to New Orleans to check for volatile organic contaminants in the river water.

The New Orleans location is the Sewerage and Water Board Water Quality Laboratory. Lab personnel check river water samples each day and report any contamination to DEQ. The S&WB in turn benefits from advance notification of spills provided by personnel at upriver EWOCDS locations.

continued from cover

In the field, the Board's work includes:

- 41,216 water main leaks, house service leaks, hydrant leaks, valve jobs and meter related repairs.
- Inspection of 12,000 fire hydrants on the East Bank for pressure, lubricating, painting and replacement of corroded anti-theft devices.
- 4,124 paving jobs.
- This work has resulted in decreasing the water production demands and improving the reliability of the fire protection systems post Katrina. However, much work remains to be completed to return our system to pre-Katrina status.

Work inside the water plants during 2007 included:

In November, work began at the East Bank Water Treatment Plant to refurbish a flocculation basin and overhaul the sludge removal system for the G3 Basin. These needed improvements will provide mechanical integrity to this basin and afford the Board many more years of operation from the basins, as well as improvements in sludge removal efficiency and reduced manpower requirements.

Work began on the raw water valves at the Oak St. River Intake Station, ranging in size from 48" to 54" in diameter. They were scheduled to be removed, refurbished and replaced in the raw water piping serving the Carrollton Plant. This will improve the reliability of this system.

Repairs to the pumps and motors at the New River Intake Station on the East Bank were made in 2007. Mechanical and electrical failures associated with the additional demands brought on by Katrina resulted in equipment failures that required repair. One pump and one motor were removed, repaired, and replaced at this station, improving the reliability and redundancy of our raw water pumping facilities.

In December of 2007, a contract was initiated to install an on-site chlorine generation system for the Algiers Water Plant. When completed, this system will generate chlorine as needed and will eliminate the need to store chlorine gas on the plant, greatly reducing the safety risks associated with storing and handling chlorine.

Mrs. St. Martin added, "Of course, we have a long way to go to fully repair the water, sewer, drainage and power systems, but I'm confident that our management and employees are up to the challenge of complete restoration and that our Board is fully prepared to help find government funding to complete this monumental task of "Tackling America's Toughest Water Challenges."

During the first seven months of 2007, fluoride was not added to the water supply, due to the unavailability of fluoride in the market place. The staff searched nation-wide for a source of fluoride and resumed its use once a supplier was found. Fluoride, while an important dental health ingredient, is not a State of Louisiana nor an EPA requirement.

The Sewerage and Water Board of New Orleans is proud that it is able to provide the citizens of New Orleans each day with an abundant supply of quality water for personal and business needs and fire protection.

The Board is pleased to report that its high quality drinking water meets all federal and state requirements.

As you review this annual report on New Orleans' water, you will see that a dedicated group of Board members, managers, engineers, scientists, technicians, operators, machinists, electricians and maintenance crews are working hard to ensure that the highest quality product is provided 24 hours a day, seven days a week.

Since 1998, the U.S. Environmental Protection Agency (EPA) requires all water utilities to produce and distribute annual water quality reports. [This tenth report includes testing results for the year 2007.](#) We hope that you will find this Consumer Confidence Report interesting and informative.

We want you-our valued customers-to be well informed about all aspects of your water system and we encourage you to see the "For More Information" section at the end of this report.

## FREQUENTLY ASKED QUESTIONS

**Why is my water milky white at times? Will cloudy water make me sick ?** Tiny air bubbles can cause water to appear cloudy. As the water sits, the bubbles rise to the top and the water will look clear again. Starting in October and November, when the water starts to get cold, there may be many cases of cloudy water. Cloudy water that is due to air in the water will not make you sick.

**Do we have hard water? What is the hardness of our water?** Yes, New Orleans tap water is considered hard water. Some believe that the term arises from the fact that it is difficult or "hard" to make suds or a lather with soap in hard water. Others say that "hardness" is associated with the fact that it is "hard" to remove the soap ring from the bathtub. Hard water is caused primarily by two harmless minerals—calcium and magnesium. The total hardness is the sum of the two expressed as milligrams per liter (mg/L) of calcium carbonate or grains/gallon of calcium carbonate. In 2007, the average total hardness in tap water was 166 mg/L on the East Bank, and 150 mg/L on the West Bank. For comparison, in terms of mg/L of calcium carbonate, soft water ranges from 0 to 75, moderately hard water from 75 to 150, hard water from 150 to 300, and water above 300 is considered very hard.

# Conclusion

We are confident that a review of this report will help you better understand your water system and the complete dedication of the Sewerage and Water Board members and staff to provide the highest quality water for its customers – the citizens of New Orleans. After all, the Board members and employees are customers too. We are proud of our water, which is often judged the “Best Tasting” in competition with other water from cities throughout the United States. Taste is important, but equally important are the other water quality parameters described in this report. The Sewerage and Water Board will continue to produce high quality water through the use of proven treatment processes, as well as modern technology. **We are pleased to be able to report that your drinking water met or surpassed all federal and state drinking water quality standards in 2007.**

**About the cover photo:** In November of 2007, a contract was initiated to make improvements to the sludge removal system for the G3 Basin at the East Bank Water Treatment Plant. The work includes all new mechanical drive systems and associated equipment, new valves, improvements to the monorake, new sludge piping and painting of existing equipment. The improvements will increase the mechanical integrity of the basin and afford the Board many more years of operation of the basin. The improvements, expected to be completed in 2008, will increase sludge removal efficiency and reduce manpower requirements.

**For more information:**

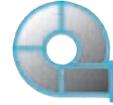
**Sewerage and Water Board of New Orleans**

Laboratory: (504) 865-0420      Emergency Department: (504) 52-WATER (529-2837)  
 E-mail address: [waterinfo@swbno.org](mailto:waterinfo@swbno.org)      Internet Home Page: [www.swbnola.org](http://www.swbnola.org)

More information can be obtained at Sewerage and Water Board meetings which are held on the third Wednesday of every month at 10 a.m. at 625 St. Joseph Street, New Orleans, Louisiana, 70165.

U.S. E.P.A. Safe Drinking Water Hotline: 1-800-426-4791  
 U.S. E.P.A. Drinking Water Internet Home Page: [www.epa.gov/safewater/dwhealth.html](http://www.epa.gov/safewater/dwhealth.html)

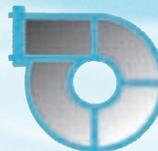
\*Estimated population figures provided by GCR & Associates.



Drinking water is one of the essential ingredients for life. We at the Sewerage and Water Board of New Orleans are committed to supplying safe drinking water of a quality that surpasses the requirements of State and Federal Regulations.

- Sewerage and Water Board of New Orleans**
- Mayor C. Ray Nagin, President
- Tommie Vassel**, President Pro Tem
- Board Members**
- Councilman-at-Large Jacquelyn Clarkson
- Pierre E. Conner III
- Benjamin L. Edwards Sr.
- Councilman-at-Large Arnie Felkoff
- Norma E. Grace
- Alex L. Lewis III
- Florence W. Schornstein
- Gary N. Solomon
- District E. Councilwoman Cynthia Willard-Lewis
- Loyce P. Wright
- Marcia St. Martin**, Executive Director
- G. Joseph Sullivan**, General Superintendent

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