



South Berwick Water District

WATER QUALITY REPORT

2008



**Providing quality and customer service through
investment, research and continuous improvement**

WELCOME

Welcome to the 13th annual Water Quality Report for customers of the South Berwick Water District. This summarizes activities of 2007 and offers information about your water service.

The District is a quasi-municipal utility providing public drinking water and fire protection services to the citizens of South Berwick and a portion of the neighboring Town of Berwick, Maine, with clean, safe water 24 hours a day, 365 days a year.

The mission of the South Berwick Water District is to protect public health, safety, and the environment by providing the highest quality water for domestic use and fire protection while emphasizing customer service, innovation, and cost control.

YOUR WATER SUPPLY

The South Berwick Water District uses ground water for its supply. The well supplies consist of a combination of well points (7), a Gravel Packed Well (1), and Bedrock Wells (8) located in four separate well fields throughout the Towns of South Berwick and Berwick. Two new bedrock sites have been identified and one of them is currently under development for potential purchase for future use. The total current capacity is 1.0 million gallons a day.

TREATMENT

With the exception of the Willow Drive supply, the District uses sodium hypochlorite (chlorine) for disinfection and does not treat its well supplies. In the case of Willow Drive, the District employees an iron and manganese removal plant (Pureflow Filtration) using a proprietary filter media which also removes arsenic. Aeration is also employed to remove dissolved nitrogen and some radon.

STORAGE

The Powder House Hill Reservoir is a 1.0 million gallon reservoir located on Powder House Hill in South Berwick. The reservoir is constructed with two (2) buried concrete chambers. Each chamber has a volume of 500,000 gallons. The chambers are designed to operate separately or as a single unit. The reservoir has an overall elevation of El.: 297.67' USGS. This elevation provides system average pressure of 75-80 pounds per square inch (psi), with lows in the mid 30 psi and the highs at 135 psi.

In case of emergencies, such as power outage, the reservoir currently has enough storage capacity to provide drinking water and fire protection for those emergencies. This why during a power outage you still have a reliable water supply. Once a stand-by generator has been installed at the Willow Drive Treatment Plant along with the existing stand-by generator at Junction Road, the District will have the added capacity to supply our customers water and meet maximum day demands with limited reliance on the storage reservoir.

2007 IN REVIEW

Highlights of 2007 include the replacement of approximately 1,200 feet of water main on Vine Street in conjunction with the Town's road improvement program, a water main extension (1,700 feet) to serve the Links at Outlook, and continuation of our Geographical Information System (GIS) program that will provide a detailed mapping and information system shared with the Town, Sewer District, and other entities. The SBWD continues its meter change-out program to new radio read technology that should be completed over the next several years. The District continues to look for ways to further develop and protect its water supplies.

WATER MAINS GET BI-ANNUAL CLEANING

The South Berwick Water District has the bi-annual task of cleaning its 37 miles of water mains by flushing hydrants and blow-offs that are located throughout our distribution system. In an effort to reduce costs and customer inconveniences, our crews work and flush the water mains during normal business hours Monday through Friday, 8:00 am – 4:30 pm. Postcard mailers are generally used in notifying customers when flushing begins. Customers can get more information as to when their area will be flushed by calling 384-2257.

The bi-annual flushing program helps remove and cleans the natural sediment that may have been deposited within the water system. Flushing removes this sediment, improves water quality and prolongs the life of the water system. Fire hydrant maintenance and inspections are also performed to ensure of their reliability in case of an emergency. This flushing may result in water discoloration, air and or particles in customers water and house hold plumbing. Customers should check the water before bathing or doing any laundry. However, this program is essential in maintaining water quality, public health and preventative maintenance checks of fire hydrants. If customers experience any negative change in water quality or have concerns following the flushing activities please, contact the Water District.

We would like to thank all those individuals that keep the hydrants in front of their homes clear from snow. The Water District and Fire Department are forever grateful.



John Leach performing bi-annual water main flushing

KEYS METER/BILLING STUDY

The Kittery Water District (whose service includes a portion of Eliot), the York Water District, and the South Berwick Water District known collectively as the KEYS Group, have been working cooperatively since 2005 to discuss, locate, and where possible implement ways to improve efficiency of services to achieve the highest quality services at the lowest possible costs for our customers. All three entities are Quasi-Municipal Public Drinking Water Suppliers (Districts) collectively providing public drinking water to over 30,000 people in Southern Maine. The towns serviced by the three Districts geographically intersect which provides a unique opportunity for partnership. The KEYS Group has discussed possible consolidation of planning, purchasing and standardization of hardware, software and technology related to water meters, water meter purchasing, water meter data collection, processing and billing.

The Keys Group received a \$50,000 Grant from the Maine Municipal Bond Bank under the Bank's Credit Quality Improvement Grant Program to undertake such a study. The KEYS group selected Weston & Sampson, an engineering firm out of Portsmouth, NH to perform this task. Early study indications show that South Berwick Water District could show significant savings (in excess of \$20,000) by out-sourcing its billing and processing to another District or firm. Also, once all meters have radio read technology, further savings can be accomplished. Once the Study is complete (June-August '08), the KEYS Group will proceed where determined appropriate with immediate, short term and long term goals in the areas found to be effective in significantly reducing costs. The KEYS Group strongly believes that implementing a sound Comprehensive Plan will result in purchasing and operational efficiencies that will almost certainly provide some measure of cost savings.

SMRWC EFFICIENCY GRANT STUDY

The Southern Maine Regional Water Council (SMRWC) was formed in 2005 as a voluntary organization to promote regional cooperation among water utilities serving this fast growing region. The member utilities include the Portland Water District, Biddeford-Saco Water Company, Kennebunk-Kennebunkport-Wells Water District, Sanford Water District, Kittery Water District, York Water District and South Berwick Water District.

The SMRWC received a \$100,000 Grant from the Maine Bond Banks Credit Quality Grant Program. The goal of the of the Council for the grant is to support the goals of the Council, which are to create operational and the development of efficiencies and cooperation between the seven utilities comprising the Council. The Council proposes to develop a single regional Master Plan on an evaluation of system hydraulics, water quality, storage facilities, balancing water use from various sources, increasing security, and managing future cost through cooperative and collective investments.

The Council has begun many cost sharing initiatives such as shared purchasing and maintenance programs, bulk chemical and fuel agreements and mutual aid cooperation of man-power resources and operations staff, to reduce operating costs. These initial cooperative steps have resulted in cost savings to the region's customers.

AMERICAN WATER WORKS ASSOCIATION RESEARCH FOUNDATION PROJECTS

The SBWD has participated in the following AWWARF Projects:

1. Distribution System Security Primer
2. Long Term Effects on Disinfection Changes on Water Quality
3. Establishing Site Specific Flushing Velocities
4. Full Scale Implementation of UV Light Disinfection in Groundwater Treatment Systems
5. Ultra-Violet Light Inactivation of Viruses in Natural Water
6. Application of HACCP for Distribution System Protection

Total Project Values from the AWWARF Projects have exceeded \$1.6 million dollars to date.

AWARDS AND RECOGNITION

The South Berwick Water District is proud to announce that Superintendent **Mike Nadeau** recently receive two awards at the Annual Meeting of the Maine Water Utilities Association. Supt. Nadeau received the New England Water Works Association State Leadership Award. The award was given to Supt. Nadeau for his "outstanding leadership and his contributions to the advancement of excellence in the water works profession".

Supt. Nadeau was also presented with the Presidents Award from the Maine Water Utilities Association "in recognition of his extraordinary commitment and years of dedicated service to both the water industry and the Maine Water Utilities Association". Supt. Nadeau has previously been awarded an EPA New England Environmental Educator Award. Supt. Nadeau is the past president of the Maine Water Utilities Association, and the Southern Maine Regional Water Council. He currently serves on the MWUA Legislative and Regulatory Affairs Committee and as a Director of the SMRWC.

SBWD General Foreman **John Leach** just celebrated his 20th anniversary at the District. Mr. Leach currently is a member of the Maine Water Utilities Association Education and Operations Committee. Also, Mr. Leach is currently a lieutenant on the South Berwick Fire Department and has been a member for 28 years.

Office Manager **Rick deRochmont** has been a reserve police officer for the South Berwick Police Department for over 15 years and serves on the Town/District Wellness Program Committee. (As we go to press, Rick has recently left the Water District to pursue another job opportunity. We would like to thank Rick for his years of service and wish him well in his new endeavors.)

Water System Operator **Jerry Leavitt** volunteers his musical skills and can be heard singing at the Summer Nights Music Festival held during the summer months at Central School.

MESSAGE FROM YOUR BOARD OF TRUSTEES: OUTSOURCING

Fiscal pressures, water supply protection and sustainability are key challenges the District continually faces. Infrastructure is complex, politically charged and economically challenging. The fixed costs of the District keep rising as commodity prices continue to escalate. Revenue is flat or declining due to all this and the overall economy. Much like the Town and School District, the Trustees are investigating ways to keep rates stable and affordable.

The good news is that for the most part, our water mains, facilities and water supply is in good shape. So with that, the Trustees will be not only looking regionally to reduce cost but are looking internally as well. The Trustees will be taking a serious look at outsourcing as a step in reducing cost and overhead. Almost every organization outsources in some way. Typically, the function being outsourced is considered non-core to the business and are not directly related to or strategic to the business. For example, the District currently outsources its payroll services, saving valuable time in a cost efficient manner. Outsourcing has been around for a long time. In recent history, businesses began employing the outsourcing model to carry out narrow functions, such as payroll, billing, data entry, and building and grounds maintenance. Those processes may be done more efficiently, and therefore more cost effectively, by companies with specialized tools, facilities and specially trained personnel.

There are some disadvantages to outsourcing as well. One of these is that outsourcing may sometimes eliminate direct communication between the District and its customers. This may prevent the District from continuing the building solid relationships with their customers. The District's decision to outsource will be made in the interest of lowering costs and to make more efficient use of labor, capital, technology and resources. It is our hope that customer service will not suffer, but be greatly enhanced.

The Trustees hold meetings twice each month on the first and third Tuesdays at 7:00 pm. Special meetings are occasionally announced to deal with a specific issue. All meetings are open to the public and are held at the District's offices unless otherwise announced.



Left to right: Henry Miller, Paul Klebaur, James Sullivan, Warren Spencer and Doug Letellier

WATER QUALITY TEST RESULTS

PWSID ME0091470

CONTAMINANT	DATE	RESULTS	MCL/AL	MCLG
MICROBIOLOGICAL				
Total Coliform (1)	2007	0 pos	1 pos	0 pos
INORGANICS				
Arsenic (2)	10/18/06	10 ppb	10 ppb	0 ppb
Barium	10/18/06	0.010 ppm	2 ppm	2 ppm
Chromium	10/18/06	2 ppb	100 ppb	100 ppb
Copper 90th% Value (4)	08/22/05	0.12 ppm	1.3 ppm	1.3 ppm
Fluoride (3)	06/01/06	0.48 ppm	4 ppm	4 ppm
Lead 90th% Value (4)	08/22/05	4 ppb	15 ppb	0 ppb
Mercury	09/08/06	0.055 ppb	2 ppb	2 ppb
RADIONUCLIDES				
Radon Screen (8)	06/01/06	2840 pCi/l	4000 pCi/l	N/A
DISINFECTANTS AND BYPRODUCTS				
Trihalomethanes RAA TTHM (9)		2.32 ppb	80 ppb	0 ppb

DEFINITIONS & SOURCES

- Coliform: Naturally present in the environment.
- Arsenic: Erosion of natural deposits. Runoff from orchards, glass and electronic production wastes.
- Barium: Erosion of natural deposits. Discharge of drilling wastes. Discharge from metal refineries.
- Chromium: Erosion of natural deposits. Discharge from steel and pulp mills.
- Copper: Corrosion of household plumbing systems.
- Fluoride: Erosion of natural deposits.
- Lead: Corrosion of household plumbing systems.
- Mercury: Erosion of natural deposits. Discharge from factories. Runoff from landfills and crop land.
- Radon: Erosion of natural deposits.
- Disinfectants: By-products of chlorination of drinking water.

MCL: The highest level of a contaminant that is allowed in drinking water.

MCLG: The level of a contaminant in drinking water below which there is no known or expected risk to health.

RAA: The average of all monthly or quarterly samples for the last year at all sample locations.

AL: The concentration that, if exceeded, triggers treatment that a water system must follow.

ADDITIONAL INFORMATION

Source: 9 wells; Treatment: Chlorination, filtration

Violations: No violations in 2007; Waivers: 1/12005-12/31/2007 Partial waiver (TCP, TQ3, TSO)

SECONDARY CONTAMINANTS

Sodium	76 ppm	09/08/06
Chloride	233 ppm	09/08/06
Iron	0.16 ppm	06/01/06
Magnesium	1.5 ppm	10/18/06
Manganese	0.013 ppm	09/08/06
Nickel	0.003 ppm	10/18/06
Sulfate	33 ppm	06/01/06
Zinc	0.009 ppm	10/18/06

All other regulated drinking water contaminants were below detection levels.

INFORMATION REGARDING LEAD

Elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials associated with service lines and home plumbing. The South Berwick Water 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 water for 30 seconds to 2 minutes before using water for drinking or cooking. More information on lead in drinking water is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

NOTES

- 1.) Total Coliform Bacteria: Reported as the highest monthly number of positive samples, for water systems that take <40 samples per month. For water systems that take > 40 samples per month, no more than 5% may be positive.
- 2.) Arsenic: The EPA adopted the new MCL standard in Oct 2001. Water systems must meet this new standard by Jan.
- 3.) Fluoride: Fluoride levels must be maintained between 1-2 ppm, for those water systems that fluoridate their water.
- 4.) Lead/Copper: AL are measured at consumer's tap. 90% of the test must be equal to or below action level.
- 5.) Radon: The State of Maine currently recommends follow-up action (treatment) for Radon levels in drinking water above 20,000 pCi/L. The U.S. EPA is considering setting lower standards for Radon in drinking water.
- 6.) Gross Alpha: Action level over 5 pCi/L requires testing for Radium. Action level over 15 pCi/L requires testing for Radon and Uranium.
- 7.) Nitrate: Nitrate in drinking water at levels above 10 ppm is a health risk for infants less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health provider.
- 8.) Uranium: The U.S. EPA adopted the new MCL standard of 30ug/L (ppb), in December 2000. Water systems must meet this new standard after December 2003.
- 9.) TTHM/HAA5: Total Trihalomethanes and Haloacetic Acids (TTHM and HAA5) are formed as a by-product of drinking water chlorination. The chemical reaction occurs when chlorine combines with naturally occurring matter in the water.

QUESTIONS, COMMENTS AND OTHER INFORMATION

We are proud of the work we do for you, and to be your source for all your water services. If you have any questions, comments or concerns about your water quality or service, please call the South Berwick Water District at (207) 384-2257 during business hours (8 AM – 4:30 PM, Monday through Friday, except for holidays).

You can also find SBWD and other information on the Internet by going to our website at www.sbwd.org

IMPORTANT PHONE NUMBERS

Environmental Protection Agency
Safe Drinking Water Hotline: (800) 426-4791

American Water Works Association
General Information: (800) 926-7337

Center for Disease Control
Public Inquiries: (800) 311-3435

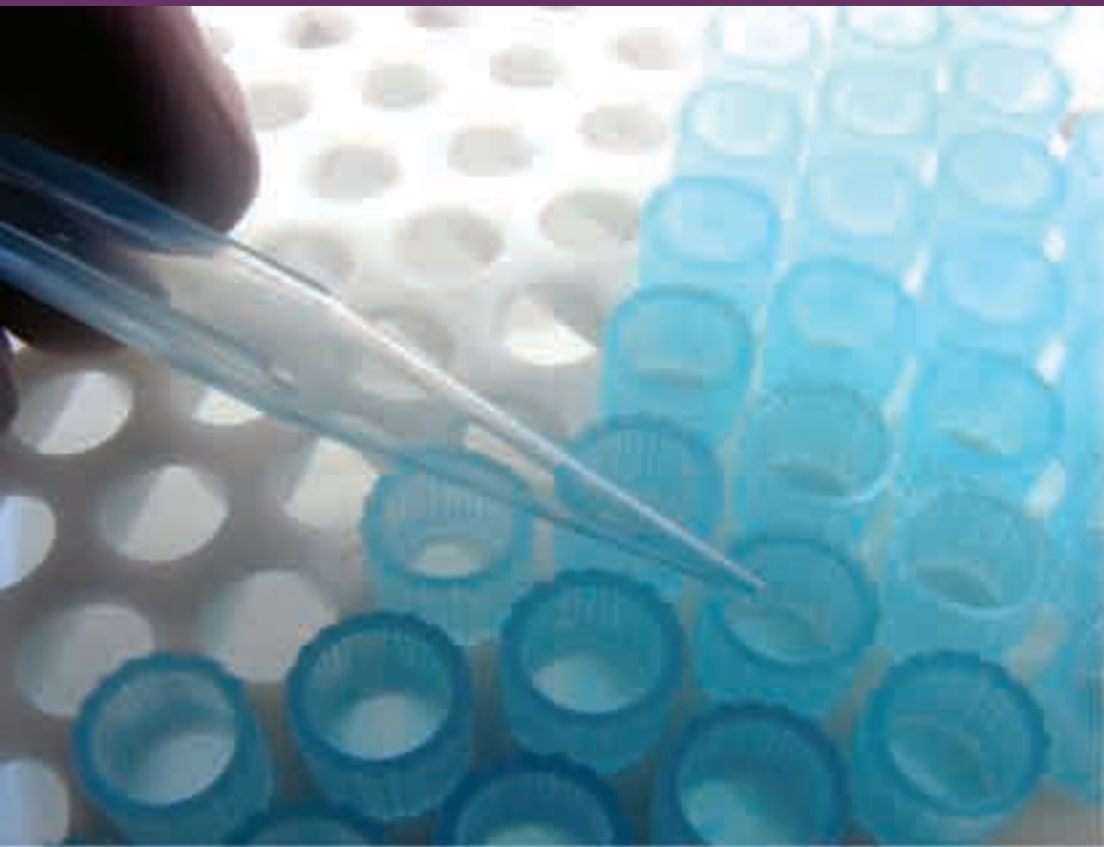
ADDITIONAL CONSUMER RESOURCES

WATER USE IT WISELY
www.wateruseitwisely.com

H2Ouse
www.H2ouse.org

EPA Drinking Water and Health: What you need to know
www.epa.gov/safewater/dwh

Great Works Regional Land Trust
www.gwrlt.org



**Protecting public health and safety
by ensuring the highest quality water**

South Berwick Water District

80 Berwick Road

South Berwick, ME 03908

(207) 384-2257

www.sbwd.org