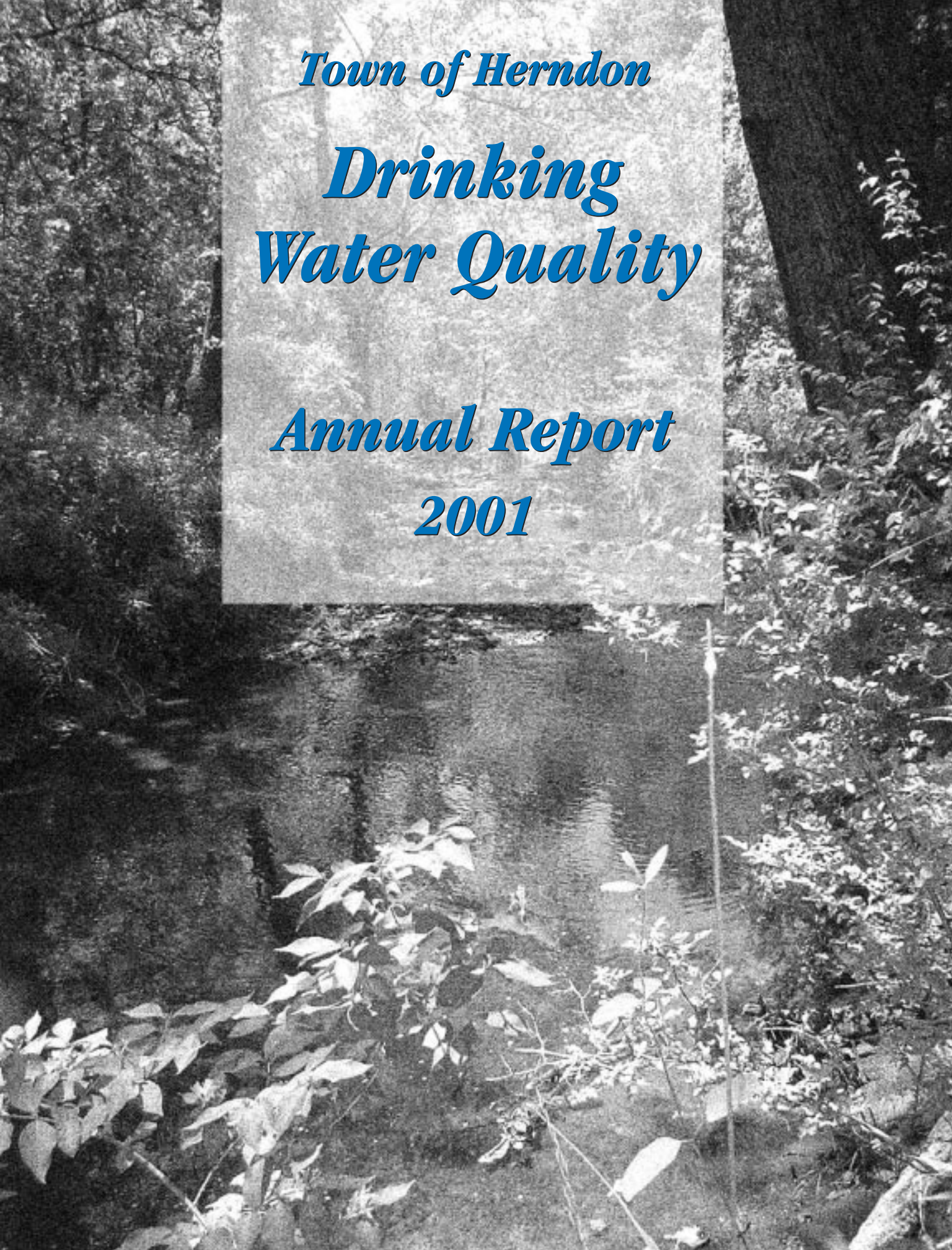

Town of Herndon

Drinking Water Quality

Annual Report 2001

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This report, for Calendar Year 2001, is designed to inform citizens about the town's drinking water quality. Our goal is to provide the Town of Herndon with a safe and dependable supply of drinking water, and we want concerned citizens to understand the efforts we make to protect our water supply. The quality of your drinking water must meet state and federal requirements administered by the Virginia Department of Health (VDH).

If you have questions about this report, or if you want additional information about any aspect of your drinking water or want to know how to participate in decisions that may affect the quality of your drinking water, please contact Mr. Raj Lal at (703) 435-6856.

Ordinances and resolutions pertaining to water quality and distribution are advertised locally prior to Town Council hearings. Town Council work sessions and regular sessions are held twice a month on Tuesday nights except for the months of December, June, July, and August. In each of these months the Town Council meets for only one work session and one regular session.

Please refer to the town calendar regarding dates and times.

General Information

Drinking water, including bottled drinking water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water is a health risk. More information can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

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 microbiological contaminants are available from the Safe Drinking Water Hotline (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: (1) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife. (2) Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming. (3) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses. (4) 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 storm water runoff, and septic systems. (5) 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, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Sources of Drinking Water in the Town of Herndon

The Town of Herndon draws surface water from two primary sources: the Potomac River and the Occoquan Reservoir fed by the Occoquan River. Treatment facilities are located at opposite ends of Fairfax County and feed an interconnected distribution system. The James J. Corbalis, Jr. Treatment Plant, located in the northern part of Fairfax County, draws water from the Potomac River. The Occoquan Treatment Plant draws water from the Occoquan Reservoir, which is located on the southern border of Fairfax County.

Source Water Assessment and Protection

The 1996 Amendments to the Safe Drinking Water Act (SDWA) provided for source water assessment and protection programs designed to build a prevention barrier to drinking water contamination. Under the SDWA, states are required to develop comprehensive Source Water Assessment Programs that identify the areas that supply public tap water, inventory contaminants, and assess water system susceptibility to contamination.

The Water Authority, through a grant from the Virginia Department of Health, has completed an inventory of potential sources of contamination and a survey of land use activities within the Potomac and Occoquan Watersheds. The Virginia Department of Health is currently reviewing the complete Source Water Assessment and is expected, based on the information provided through the grant study, to make a determination of susceptibility of contamination later this year. The Virginia Department of Health is in process to conduct and complete the Source Water Assessment by August of 2002, and the town will provide more information on it in the next CCR report.

Treatment of the Town of Herndon Drinking Water Supply

Water treatment is the process of cleaning water so it is safe for human consumption. When raw water enters the treatment plant, coagulants are added to make small particles adhere to one another, become heavy, and settle in a sedimentation basin.

The water is then filtered to remove the remaining fine particles. Treatment chemicals that are added are: chlorine to kill harmful bacteria and viruses, a corrosion inhibitor to minimize dissolution of lead used in older household plumbing, and fluoride to protect teeth. If odors or unpleasant tastes are present in the raw water, powdered activated carbon and potassium permanganate are added to the treatment process.

Test Results

Some sample results to include those found in table III (Turbidity) and the first section of table IV (Other Chemical and Radiological Contaminants), were obtained from the Fairfax County Water Authority because that agency monitors and supplies the water source to our system.

We constantly monitor for various contaminants in the water supply to meet all regulatory requirements. The tables list only those contaminants that had some level of detection. Many other contaminants have been analyzed but were not present or were below the detection limits of the lab equipment.

Much of our water quality data is from testing done in 1998. However, the state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Even though some of our data may be more than one year old, it is accurate.

Maximum Contaminant Levels are set at very stringent levels by the U.S. Environmental Protection Agency. In developing the standards, the EPA assumes that the average adult drinks 2 liters of water each day throughout a 70-year life span. The 0EPA generally sets Maximum Contaminant Levels at levels that will result in no adverse health effects from some contaminants or a one-in-ten-thousand to one-in-a-million chance of having the described health effect for other contaminants.

I. Definitions

Contaminants in your drinking water are routinely monitored according to federal and state regulations.The tables on the next few pages show the most recent results of our monitoring. In the tables and elsewhere in this report you will find many terms and abbreviations you might not be familiar with. The following definitions are provided to help you better understand these terms.

Parts per million (ppm) — one part per million. This fraction corresponds to one minute in two years or a single penny in $10,000.

Parts per billion (ppb) — one part per billion. This fraction corresponds to one minute in 2,000 years or a single penny in $10,000,000.

Parts per trillion (ppt) — one part per trillion. This fraction corresponds to one minute in 2,000,000 years or a single penny in $10,000,000,000.

Picocuries per liter (pCi/L) — picocuries per liter is a measure of the radioactivity in water.

Nephelometric Turbidity Unit (NTU) — nephelometric turbidity unit is a measure of the clarityor cloudiness of water. Turbidity in excess of 5 NTU is just noticeable to the average person. Turbidity is monitored because it is a good indicator of the effectiveness of our filtration system.

Action Level (AL) — the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

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

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 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.

NRL — no regulatory limit.

Water Quality Results

II. Lead and Copper Contaminants — Detections are described below.

Contaminant	Units of Measurement	Action Level	MCLG	Results of samples for the 90th Percentile Value	Action Level Exceedance (Y/N)	Sampling Year	# of Sampling Sites Exceeding Action Level	Typical Source of Contamination
Lead	ppb	15	0	0.005	N	2001	0	Corrosion of household plumbing systems
Copper	ppm	1.3	1.3	0.0571	N	2001	0	Corrosion of household plumbing systems

III. Microbiological Contaminants — There were no detections.

IV. Turbidity — Detections are described below.

Contaminant	Treatment Technique Limits	Average Annual Turbidity	Level detected	Violation (Y/N)	Sampling Year	Typical Source of Contamination
Turbidity	1) 5 NTU maximum 2) 0.5 NTU 95% of the time	0.079	1. Highest Single Measurement = 0.53. Lowest Monthly Percentage = 99.99%	N	2001	Soil Runoff

Regulated Contaminants

Contaminant	Units of Measurement	MCLG	MCL	Average Level Detected	Violations (Y/N)	Range of Detection at Sampling Points	Sampling Year	Typical Source of Contamination
Atrazine	ppb	3	3	0.09	N	ND-0.30	2000	Runoff from herbicide used on row crops
Di(2-ethylhexyl) phthalate	ppb	0	6	0.08	N	ND-0.70	2001	Discharge from rubber chemical factories
Barium	ppb	2	2	0.05	N	0.04-0.07	2001	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Fluoride	ppm	4	4	0.8	N	0.30-1.30	2001	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories."
Nitrate (as Nitrogen)	ppm	10	10	1.2	N	ND-3.10	2001	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits."
Nitrite (as Nitrogen)	ppm	1	1	0.02	N	ND-0.15	2001	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
*Beta/Photon Emitter	(pCi/L)	0	50	4	N	1.90-6.80	1999	Decay of natural and man-made deposits
*Alpha Emitters	(pCi/L)	0	15	0.7	N	ND-1.80	1999	Erosion of natural deposits

**The MCL for the Beta particles is written as 4 mrem/year. EPA considers 50 pCi/L to be the level of concern for Beta Particles.*

Contaminant	Units of Measurement	MCLG	MCL	Average Level Detected	Violations (Y/N)	Range of Detection at Sampling Points	Sampling Year	Typical Source of Contamination
Total Trihalomethanes	ppb	0	100	34.5	N	1--77	2001	By-Product of drinking water chlorination

Unregulated Contaminants

Contaminant	Units of Measurement	MCLG	MCL	Average Level Detected	Violations (Y/N)	Range of Detection at Sampling Points	Sampling Year	Typical Source of Contamination
Chloroform	ppb	NRL	NRL	41.5	N	5.2-77.9	2001	By-product of drinking water chlorination
Bromodichloromethane	ppb	NRL	NRL	9.4	N	4.5-12.4	2001	By-product of drinking water chlorination
Chlorodibromomethane	ppb	NRL	NRL	2.1	N	1.0-3.0	2001	By-product of drinking water chlorination
Total Halonitriles	ppb	NRL	NRL	6.12	N	2.78 - 13.5	1998	By-product of drinking water chlorination
Total Ketones	ppb	NRL	NRL	4.12	N	1.80 - 8.67	1998	By-product of drinking water chlorination
Chloropicrin	ppb	NRL	NRL	1.06	N	ND - 3.04	1998	By-product of drinking water chlorination
Chloral Hydrate	ppb	NRL	NRL	5.18	N	0.87-13.90	1998	
Haloacetic Acids (5)	ppb	NRL	NRL	42	N	15.8 - 82.0	1998	By-product of drinking water chlorination
Cyanogen Chloride	ppb	NRL	NRL	1.57	N	ND - 3.91	1998	By-product of drinking water chlorination

Our goal is to provide the Town of Herndon with a safe and dependable supply of drinking water.

Town of Herndon
Virginia
Enriching the Quality of Life and Promoting a Sense of Community

Town of Herndon
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