

# 2011 Annual Drinking Water Quality Report For

System Name: Town of Bayfield

PWSID CO0-134030

*Esta es información importante. Si no la pueden leer, necesitan que alguien se la traduzca.*

We are pleased to present to you this year's water quality report. Our constant goal is to provide you with a safe and dependable supply of drinking water.

## General Information About Drinking Water

All 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 the water poses a health risk. 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 of infections. These people should seek advice about drinking water from their health care providers. For more information about contaminants and potential health effects, or to receive a copy of the U.S. Environmental Protection Agency (EPA) and the U.S. Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and microbiological contaminants call the EPA *Safe Drinking Water Hotline* at 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 that 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** 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 byproducts of industrial processes and petroleum production, and also

may come from gas stations, urban stormwater runoff, 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 Colorado Department of Public Health and Environment prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

## Our Water Source(s)

The system's sources of water are listed below.

### Los Pinos River

If we used purchased water, this report is required to include water quality data for the purchased water with this report.

The Colorado Department of Public Health and Environment has provided us with a Source Water Assessment Report for our water supply. You may obtain a copy of the report by visiting [www.cdphe.state.co.us/wq/sw/swaphom.html](http://www.cdphe.state.co.us/wq/sw/swaphom.html) or by contacting **Town of Bayfield** at (970)884-9545.

Potential sources of contamination in our source water area come from: N/A

The Source Water Assessment Report provides a screening-level evaluation of potential contamination that **could** occur. It does not mean that the contamination **has or will** occur. We can use this information to evaluate the need to improve our current water treatment capabilities and prepare for future contamination threats. This can help us ensure that quality finished water is delivered to your homes. In addition, the source water assessment results provide a starting point for developing a source water protection plan.

Please contact **Town of Bayfield**  
at (970)884-9545

to learn more about what you can do to help protect your drinking water sources, any questions about the annual drinking water quality report, to learn more about our system,

or to attend scheduled public meetings. We want you, our valued customers, to be informed about the services we provide and the quality water we deliver to you every day.

### Terms and Abbreviations

To help you understand the terms and abbreviations used in this report, we have provided the following definitions:

- **Parts per million (ppm) or Milligrams per liter (mg/L)** - one part per million corresponds to one minute in two years or a single penny in \$10,000.
- **Parts per billion (ppb) or Micrograms per liter (µg/L)** - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.
- **Parts per trillion (ppt) or Nanograms per liter (nanograms/L)** - one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.
- **Parts per quadrillion (ppq) or Picograms per liter (picograms/L)** - one part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in \$10,000,000,000,000.
- **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 clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
- **Action Level (AL)** - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- **Action Level Goal (ALG)** - The “Goal” is the level of a

contaminant in drinking water below which there is no known or expected risk to health. The ALG allows for a margin of safety.

- **Treatment Technique (TT)** - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.
- **Maximum Contaminant Level Goal (MCLG)** - The “Goal” is 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 (MCL)** - The “Maximum Allowed” is 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 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.
- **Maximum Residual Disinfectant Level (MRDL)**: 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.
- **Running Annual Average (RAA)**: An average of monitoring results for the previous 12 calendar months.

### Water Quality Data

We routinely monitor for contaminants in your drinking water according to Federal and State laws. The State of Colorado requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. Some of our data, though representative, may be more than one year old.

These tables show the results of our monitoring for the period of January 1 to December 31, 2010 unless otherwise noted.

#### **Microbiological Contaminants**

Contaminant	MCL	MCLG	Unit	Result	Violation (Yes or No)	Sample Date	Likely Source of Contamination
Total Coliform Bacteria for Systems that collects >40 samples per month	No more than 5% of monthly samples can be positive	0	Absent or Present	ND	NO	Monthly	Naturally present in the environment
Total Coliform Bacteria for Systems that collects <40 samples per month	No more than 1 positive monthly sample	0	Absent or Present		NO		Naturally present in the environment
Fecal coliform and E. Coli	A routine sample & a repeat sample are total coliform positive, & one is also fecal coliform or <i>E. coli</i> positive	0	Absent or Present	ND	NO	Monthly	Human and animal fecal waste

### Turbidity

	TT Requirement	Level Found	Violation (Yes or No)	Sample Date	Likely Source of Contamination
Turbidity	Maximum .3 NTU for any single measurement	Highest single measurement: .17	NO	Date: 5/10/11	Soil Runoff
	In any month, at least 95% of samples must be less than .300 NTU	Lowest monthly percentage of samples meeting TT standard for our technology:	NO	Month: Met 100%	

### Radionuclides

Contaminant	MCL	MCLG	Units	Level Detected & Range	Violation (Yes or No)	Sample Date	Likely Source of Contamination
Beta/photon emitters	Trigger level=15	0	pCi/l	.72	No	1/13/11	Decay of natural and man-made deposits
Alpha emitters	15	0	pCi/l	.63	No	1/13/11	Erosion of natural deposits
Combined radium	5	0	pCi/l	.4	No	1/13/11	Erosion of natural deposits
Uranium	30	0	ppb	.07	No	1/13/11	Erosion of natural deposits

### Lead and Copper

Contaminant	AL	ALG	Units	90 <sup>th</sup> Percentile	Number of Sites over AL	Violation (Yes or No)	Sample Date/Year	Likely Source of Contamination
Copper	1.3	1.3	ppm	.0021	0	NO	6/01/11	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead	15	0	ppb	.0113	0	NO	6/001/11	Corrosion of household plumbing systems, erosion of natural deposits

### Disinfectants

	MRDL	MRDLG	Units	Level Detected & Range	Violation (Yes or No)	Sample Date/Year	Source
Chloramines	4	4	ppm			RAA	Water additive used to control microbes
Chlorine	4	4	ppm	.49	NO	RAA	Water additive used to control microbes
Chloride dioxide	800	800	ppb				Water additive used to control microbes

### Disinfection Byproducts

Contaminant	MCL	MCLG	Units	Average	Range	Highest RAA	Violation (Yes or No)	Sample Date/Year	Likely Source of Contamination
Haloacetic Acids (HAA)	80	N/A	ppb	13.6		13.6	NO	RAA 8/02/11	By-product of drinking water disinfection
Total Trihalomethanes (TTHM)	60	N/A	ppb	30.8		30.8	NO	RAA 8/02/11	By-product of drinking water disinfection
Bromates	10	0	ppb	NT			NO	RAA	By-product of drinking water disinfection
Chlorite	1	0.8	ppm	NT			NO	RAA	By-product of drinking water disinfection

### Total Organic Carbon

Contaminant	Compliance Factor (measurements should not be lower than this factor)	Lowest Running Annual Average (compliance factor)	Running Annual Average Range for the Year (compliance factor)	Violation (Yes or No)	Sample Date/Year	Likely Source of Contamination
Total Organic Carbon (TOC)	1.0	1.0	1.25	NO	RAA	Naturally present in the environment

### Inorganic Contaminants

Contaminant	MCL	MCLG	Units	Level Detected/ Range	Violation (Yes or No)	Sample Date	Likely Source of Contamination
Antimony	6	6	ppb	BDL	NO	1/12/11	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Arsenic * Effective January 23, 2006 the MCL is now 10 ppb.	50*	0	ppb	BDL	NO	1/12/11	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Asbestos	7	7	MFL	NT	NO	N/A	Decay of asbestos cement water mains; erosion of natural deposits
Barium	2	2	ppm	.0517	NO	1/12/11	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Beryllium	4	4	ppb	BDL	NO	1/12/11	Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defense industries
Cadmium	5	5	ppb	BDL	NO	1/12/11	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints
Chromium	100	100	ppb	.0005	NO	1/12/11	Discharge from steel and pulp mills; erosion of natural deposits
Cyanide	200	200	ppb	NT	NO	1/12/11	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
Fluoride	4	4	ppm	BDL	NO	1/12/11	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Mercury (inorganic)	2	2	ppb	BDL	NO	1/12/11	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
Nitrate (as Nitrogen)	10	10	ppm	.08	NO	1/12/11	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (as Nitrogen)	1	1	ppm	<.02	NO	1/12/11	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium	50	50	ppb	.0001	NO	1/12/11	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Thallium	2	0.5	ppb	.000006	NO	1/12/11	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories

### Synthetic Organic Contaminants, Including Pesticides and Herbicides

Contaminant	MCL	MCLG	Units	Level Detected/ Range	Violation (Yes or No)	Sample Date	Likely Source of Contamination
2,4-D	70	70	ppb	ND	NO	1/26/10	Runoff from herbicide used on row crops
2,4,5-TP (Silvex)	50	50	ppb	ND	NO	1/26/10	Residue of banned herbicide
Acrylamide	TT	0	N/A	ND	NO	1/26/10	Added to water during sewage/wastewater treatment
Alachlor	2	0	ppb	ND	NO	1/26/10	Runoff from herbicide used on row crops
Atrazine	3	3	ppb	ND	NO	1/26/10	Runoff from herbicide used on row crops
Benzo (a) pyrene (PAH)	200	0	ppt	ND	NO	1/26/10	Leaching from linings of water storage tanks and distribution lines
Carbofuran	40	40	ppb	ND	NO	1/26/10	Leaching of soil fumigant used on rice and alfalfa
Chlordane	2	0	ppb	ND	NO	1/26/10	Residue of banned termiticide
Dalapon	200	200	ppb	ND	NO	1/26/10	Runoff from herbicide used on rights of way
Di (2-ethylhexyl) adipate	400	400	ppb	ND	NO	1/26/10	Discharge from chemical factories
Di (2-ethylhexyl) phthalate	6	0	ppb	ND	NO	1/26/10	Discharge from rubber and chemical factories
Dibromochloropropane	200	0	ppt	ND	NO	1/26/10	Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards
Dinoseb	7	7	ppb	ND	NO	1/26/10	Runoff from herbicide used on soybeans and vegetables
Diquat	20	20	ppb	ND	NO	1/26/10	Runoff from herbicide use
Dioxin [2,3,7,8-TCDD]	30	0	ppq	ND	NO	1/26/10	Emissions from waste incineration and other combustion; discharge from chemical factories
Endothall	100	100	ppb	ND	NO	1/26/10	Runoff from herbicide use
Endrin	2	2	ppb	ND	NO	1/26/10	Residue of banned insecticide
Epichlorohydrin	TT	0	N/A	ND	NO	1/26/10	Discharge from industrial chemical factories; an impurity of some water treatment chemicals
Ethylene dibromide	50	0	ppt	ND	NO	1/26/10	Discharge from petroleum refineries
Glyphosate	700	700	ppb	ND	NO	1/26/10	Runoff from herbicide use
Heptachlor	400	0	ppt	ND	NO	1/26/10	Residue of banned termiticide
Heptachlor epoxide	200	0	ppt	ND	NO	1/26/10	Breakdown of heptachlor

Contaminant	MCL	MCLG	Units	Level Detected/Range	Violation (Yes or No)	Sample Date	Likely Source of Contamination
Hexachlorobenzene	1	0	ppb	ND	NO	1/26/10	Discharge from metal refineries and agricultural chemical factories
Hexachlorocyclopentadiene	50	50	ppb	ND	NO	1/26/10	Discharge from chemical factories
Lindane	200	200	ppt	ND	NO	1/26/10	Runoff/leaching from insecticide used on cattle, lumber, gardens
Methoxychlor	40	40	ppb	ND	NO	1/26/10	Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, livestock
Oxamyl [Vydate]	200	200	ppb	ND	NO	1/26/10	Runoff/leaching from insecticide used on apples, potatoes and tomatoes
PCBs [Polychlorinated biphenyls]	500	0	ppt	ND	NO	1/26/10	Runoff from landfills; discharge of waste chemicals
Pentachlorophenol	1	0	ppb	ND	NO	1/26/10	Discharge from wood preserving factories
Picloram	500	500	ppb	ND	NO	1/26/10	Herbicide runoff
Simazine	4	4	ppb	ND	NO	1/26/10	Herbicide runoff
Toxaphene	3	0	ppb	ND	NO	1/26/10	Runoff/leaching from insecticide used on cotton and cattle

### Volatile Organic Contaminants

Contaminant	MCL	MCLG	Units	Level Detected/Range	Violation (Yes or No)	Sample Date	Likely Source of Contamination
Benzene	5	0	ppb	<1	NO	1/12/11	Discharge from factories; leaching from gas storage tanks and landfills
Carbon tetrachloride	5	0	ppb	<1	NO	1/12/11	Discharge from chemical plants and other industrial activities
Chlorobenzene	100	100	ppb	<1	NO	1/12/11	Discharge from chemical and agricultural chemical factories
o-Dichlorobenzene	600	600	ppb	<1	NO	1/12/11	Discharge from industrial chemical factories
p-Dichlorobenzene	75	75	ppb	<1	NO	1/12/11	Discharge from industrial chemical factories
1,2-Dichloroethane	5	0	ppb	<1	NO	1/12/11	Discharge from industrial chemical factories
1,1-Dichloroethylene	7	7	ppb	<1	NO	1/12/11	Discharge from industrial chemical factories
cis-1,2-Dichloroethylene	70	70	ppb	<1	NO	1/12/11	Discharge from industrial chemical factories
trans-1,2-Dichloroethylene	100	100	ppb	<1	NO	1/12/11	Discharge from industrial chemical factories
Dichloromethane	5	0	ppb	<1	NO	1/12/11	Discharge from pharmaceutical and chemical factories
1,2-Dichloropropane	5	0	ppb	<1	NO	1/12/11	Discharge from industrial chemical factories
Ethylbenzene	700	700	ppb	<1	NO	1/12/11	Discharge from petroleum refineries
Styrene	100	100	ppb	<1	NO	1/12/11	Discharge from rubber and plastic factories; leaching from landfills
Tetrachloroethylene	5	0	ppb	<1	NO	1/12/11	Discharge from factories and dry cleaners
1,2,4-Trichlorobenzene	70	70	ppb	<1	NO	1/12/11	Discharge from textile-finishing factories
1,1,1-Trichloroethane	200	200	ppb	<1	NO	1/12/11	Discharge from metal degreasing sites and other factories
1,1,2-Trichloroethane	5	3	ppb	<1	NO	1/12/11	Discharge from industrial chemical factories
Trichloroethylene	5	0	ppb	<1	NO	1/12/11	Discharge from metal degreasing sites and other factories
Toluene	1	1	ppm	<.01	NO	1/12/11	Discharge from petroleum factories
Vinyl Chloride	2	0	ppb	<1	NO	1/12/11	Leaching from PVC piping; discharge from chemical factories
Xylenes	10	10	ppm	<.03	NO	1/12/11	Discharge from petroleum factories; discharge from chemical factories

### Unregulated Contaminants

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

Contaminant	MCL	MCLG	Units	Level Detected/Range	Violation (Yes or No)	Sample Date	Likely Source of Contamination
	N/A	N/A			N/A		
	N/A	N/A			N/A		
	N/A	N/A			N/A		

## Secondary Contaminants

Secondary standards are non-enforceable guidelines for contaminants that may cause cosmetic effects or aesthetic effects in drinking water. EPA recommends these standards but does not require water systems to comply.

Contaminant	Secondary Standard	MCLG	Units	Level Detected/Range	Violation (Yes or No)	Sample Date	Likely Source
Aluminum	0.05 to 0.2	N/A	ppm		N/A		
Color	15	N/A	color units		N/A		
Corrosivity	noncorrosive	N/A	N/A		N/A		
Foaming Agents	0.5	N/A	ppm		N/A		
Iron	0.3	N/A	ppm		N/A		
Manganese	0.05	N/A	ppm		N/A		
Odor	3	N/A	threshold odor number		N/A		
pH	6.5 – 8.5	N/A	ppm		N/A		
Silver	0.10	N/A	ppm		N/A		
Sodium	N/A	N/A	ppm	3.2	N/A	1/12/11	
Sulfate	250	N/A	ppm		N/A		
Total Dissolved Solids	500	N/A	ppm		N/A		
Zinc	5	N/A	ppm		N/A		

### Health Effects Information About the Above Tables

**Nitrate** in drinking water at levels above 10 ppm is a health risk for infants of 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, and detected nitrate levels are above 5 ppm, you should ask advice from your health care provider.

If **arsenic** is less than the MCL, your drinking water meets EPA's standards. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

Infants and young children are typically more vulnerable to **lead** in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested. Flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the EPA *Safe Drinking Water Hotline* at 1-800-426-4791.

### Violations

The following violations were received by our water system or were ongoing in the calendar year 2011.

Type/Description	Compliance Period
Backflow devises are not tested annually.	2011
System has not implemented appropriate cross conection control measures.	2011
System has an uncontrolled cross-connection that can or may allow contamination to enter the drinking water that could cause sanitary risk.	2011

An explanation of the violation(s) in the above table, the steps taken to resolve the violation(s) and any required health effects information are required to be included with this report.

See attached report.

# Town of Bayfield

## Drinking Water Violations and Responses

### 2011

During the inspection of the Drinking Water Plant and the Distribution System for the Town of Bayfield we received violation notices for cross connection issues within the Town.

A cross connection is a connection to the drinking water system from another water source, such as irrigation from ditches, wells, fire suppression systems, etc.

A few of the violations noted were from customers connecting irrigation systems to the towns system without proper testable back flow devices installed. These have been accounted for and either installed with proper equipment or disconnected.

All connections to the town water system have non testable backflow devices on the meters. The regulation states however that for certain high risk customers testable devices are required and need to be tested yearly.

The Town also did not maintain a proper yearly testing plan as required by the Drinking Water Regulations Article 12. We have corrected these items with identifying all required customers to test and are happy to inform you that all equipment passed and is up to date with the required regulations. The Town of Bayfield now has properly initiated a cross control program and at this time is within compliance with all required regulations.