In October 1993, Council Resolution 93-144 adopted the Drinking Water Quality Policy (Attachment A). The purpose of the policy is to ensure the continuous delivery of high quality drinking water to Fort Collins Utilities’ customers. This 19th annual report is a requirement of the Drinking Water Quality Policy and summarizes the actions taken in support of policy goals during 2012.

This report was compiled by the Regulatory and Government Affairs Division with contributions from:
Environmental Services Division
Water Field Operations
Water Production Division
Water Resources Division
GOAL #1: The City will provide water services that meet or exceed customer expectations for quality, quantity and reliability.

CUSTOMER SURVEYS
In 2012, the City of Fort Collins contracted with National Research Center, Inc. (NRC) to conduct a community-wide citizen survey. The Fort Collins Citizen Survey serves as a consumer report card for Fort Collins by providing residents the opportunity to rate the quality of life in the city, as well as the community’s amenities, service delivery, and their satisfaction with local government.

Ninety-two percent (92%) of residents gave high marks to the quality of drinking water in the city, which was similar to ratings given in previous survey years and much higher than ratings given by residents in other jurisdictions across the country and along the Front Range.

RELIABILITY, CAPACITY, AND REDUNDANCY
Fort Collins Utilities (FCU) owns and operates the drinking water treatment facility 24 hours a day, seven days a week to ensure a continuous supply of high quality drinking water is delivered to our customers. FCU staff is available at all times to respond to customer complaints and concerns regarding drinking water quality and reliability of service. When a water main break occurs, the situation is generally under control within two hours; repaired and back in service within four hours.

The treatment plant has a design capacity of 87 million gallons per day, to meet future demands for potable water in the service area. Within that capacity are systems and processes to provide high reliability with low risk of failure. This ensures the continual provision of safe drinking water to the community, and that standards are met for community firefighting and emergency activities.

Lake Agnes
GOAL #2: The City will protect and maintain high water quality in the development of all codes, policies, plans and specifications related to the acquisition, production and delivery of water services to its customers.

2012 FOREST FIRE IMPACTS ON WATER SUPPLY
In 2012, the Poudre River watershed, the City of Fort Collins, and Northern Colorado were significantly impacted by drought conditions and large wildfires. The Hewlett and High Park Fires burned approximately 95,000 acres west of Fort Collins and resulted in significant property damage and loss for local residents. Post-fire runoff of ash and sediment into the Poudre River altered the City of Fort Collins’ Source of Supply and Water Treatment Facility operational and strategic approach.

The City has taken several steps to deal with the effects from the fires, including; 1) direct involvement in mitigating the burn areas; 2) placing monitoring stations in the Poudre River upstream of our diversions to respond quickly to poor water quality; 3) building a pre-sedimentation basin to settle ash and sediment out before water is delivered to the treatment plant; and 4) changing water treatment processes to better handle the altered water supply. These steps will help the City to maintain its commitment to providing high quality water to our customers.

Pleasant Valley Pipeline Sedimentation Basin
Fort Collins Utilities began a fast-tracked design of improvements to the intake structure for the Pleasant Valley Pipeline (PVP) located adjacent to the Munroe Canal. The resulting project will consist of a new pre-sedimentation basin to be located on property owned by the Northern Colorado Water Conservancy District (Northern Water).

This basin will dampen the variation of the Poudre River turbidity (normally very low, and as a result of the fire-related sediment, now unpredictably higher) by removing the sediment and debris. While the existing intake structure for the pipeline is already equipped with mechanical screening equipment, these screens cannot handle the volume of debris anticipated during spring and summer 2013 river flows. The presedimentation basin will prevent this
added debris from being deposited in the pipeline and at the treatment facility, and also evens out the extreme fluctuations in water quality from the river. Expected completion date for this basin is mid-June 2013.

**Presedimentation Basin under Construction, June 2013**

**DISTRIBUTION SYSTEM MAINTENANCE**
Maintenance of FCU’s water distribution system includes fire hydrant inspections, exercising water valves, identification of leaks, and the repair of main breaks.

Flushing of the distribution piping is performed every year on approximately half of the city, to maintain water quality.

In 2012, FCU staff maintained, exercised, identified and repaired:
- 3539 fire hydrants
- 12,093 valves
- 108 water main breaks

**PARTNERSHIP FOR SAFE WATER**
This voluntary program strives to enhance water quality through continuous optimization of
the treatment process. Operators, managers and administrators are provided self-assessment and optimization tools to improve performance above and beyond even proposed regulatory levels. In 2012, the Fort Collins Water Treatment Facility earned the Director’s Award for its 13th continuous year at the Phase 3 level.

**IN-HOUSE TARGETS**
As a result of the Drinking Water Quality Policy, FCU has developed internal target values for finished water that are more stringent than State and Federal standards and recommendations.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>FCWTF Target Value</th>
<th>State Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>7.80-8.00 su</td>
<td>6.5-8.5 su</td>
</tr>
<tr>
<td>Chlorine</td>
<td>0.70-0.80 mg/L</td>
<td>&lt; 4 mg/L</td>
</tr>
<tr>
<td>Turbidity</td>
<td>&lt;0.10 ntu</td>
<td>&lt; 1 ntu</td>
</tr>
<tr>
<td>Fluoride</td>
<td>0.90-1.05 mg/L</td>
<td>&lt; 4 mg/L</td>
</tr>
<tr>
<td>Aluminum</td>
<td>&lt;30 ug/L</td>
<td>50-200 ug/L</td>
</tr>
<tr>
<td>Color</td>
<td>&lt;2.5 scu</td>
<td>&lt; 15 scu</td>
</tr>
<tr>
<td>Manganese</td>
<td>&lt;5.0 ug/L</td>
<td>&lt; 50 ug/L</td>
</tr>
<tr>
<td>Chlorite</td>
<td>&lt;0.6 mg/L</td>
<td>&lt; 1.0 mg/L</td>
</tr>
<tr>
<td>Chlorine Dioxide</td>
<td>&lt;0.2 mg/L</td>
<td>&lt; 0.8 mg/L</td>
</tr>
</tbody>
</table>

mg/L = milligrams per liter  
scu = standard color unit  
su = standard unit  
ug/L = microgram per liter  
ntu = nephelo turbidity unit
CERTIFIED LABORATORY

The City of Fort Collins is required to comply with State and Federal drinking water standards. These standards require that a certified laboratory performs all regulatory compliance testing. The City’s Water Quality Lab staff provides State-certified regulatory compliance testing and reporting for FCU as well as ten other regional water agencies.

State-of-the-art ICP-MS (inductively-coupled plasma mass spectrometry) and GC-MS (gas chromatography) systems provide speed, accuracy and versatility, in serving the needs of both the Water Quality and Pollution Control Labs. In addition, chemists from both labs are certified by the Colorado Department of Public Health and Environment (CDPHE) to test and report data from the ICP-MS instrument for regulatory compliance.

The City’s Water Quality Lab first achieved Certification in bacteriology testing in 1978. Since that time the lab has gained certified status for a large array of water quality tests. Certified status is achieved through a multi-step process, including:

- **The successful completion of formal written applications**
  
The application process includes documentation regarding the qualifications of lab staff, training, equipment, quality assurance documentation, facilities and budget as well as proof of successful analysis of “unknown” performance audit samples each year.

- **Performance audit tests**
  
  These annual audits involve analysis of samples from EPA and other providers that contain unknown quantities of unknown constituents. This rigorous approach covers an array of parameters and weeds out possible reporting of false positive and false negative results.

- **Periodic on-site CDPHE inspections**
  
  Evaluation of lab staff includes review and verification of their formal educational qualifications, lab training, and lab-related work experience as well as hands-on
demonstration of laboratory skills. In addition, details of written and actual test methods and procedures are reviewed to ensure “to-the-letter” compliance with required EPA specifications. Certification inspections also include review of the lab’s budget, equipment, facilities and work processes.

**STATE CERTIFIED OPERATORS**
The water treatment facility operators are all certified by CDPHE as certified water professionals. Nine operators, plus the plant superintendent and plant manager, have earned the highest level of classification as Class A. Additionally, one operator is certified at the Class B-level.

**WATER QUALITY COMPLAINTS**
In 2012, the City received 43 drinking water quality complaints, equating to a rate of 1.1 per 1,000 customers. Based on the most recent QualServe report from the American Water Works Association (AWWA), 49 other participating Utilities had a median number of technical water complaints of 5.31 per 1,000 customer accounts. The “best” quartile rate observed by other participating Utilities was 2.06 per 1,000; at 1.1 per 1,000, the City was “better than the best”.

2012 Drinking Water Complaints by Quarter and Type
ASSET MANAGEMENT
In 2012, FCU continued risk forecasting efforts within its water production and distribution asset base. The Asset Management risk forecast is a process to evaluate the condition of the equipment, piping, and facilities; the types of risks associated with the system and determinations as to timeline for mitigation.

Some highlights of 2012 progress:
- Staff updated the risk assessment for the water distribution system.
- Staff updated the Lifecycle Management Plan for the water distribution system.
- Staff prioritized the Capital Improvement Plan for the water fund, ranking both distribution and plant projects.
- Staff began groundwork for a new, comprehensive work order system, expected to be online at the treatment facility in 2013.

ENVIRONMENTAL MANAGEMENT SYSTEM (EMS)
In November 2012, the Environmental Management System at the Water Treatment Facility and Water Quality Lab was certified compliant with the ISO 14001:2004 standard through a third party certification process. The EMS is designed to meet requirements defined by the International Organization of Standardization (ISO); requirements are related to legal compliance, pollution prevention and continual improvement of environmental performance.

Implementation of the EMS has provided the following key benefits:
- Continuity of Operations
- Continual Improvement
- Inspires Innovation
- Employee Engagement
- Defined process to correct non-conformances
- Environmental objectives and action plans
- Reduction of Risk

The work of the EMS continues, as staff utilizes the structure of the system to set objectives and targets aimed at continual improvement of environmental performance.
ENVIRONMENTAL LEADERSHIP PROGRAM
The Environmental Leadership Program is a statewide environmental recognition and reward program administered by CDPHE’s Sustainability Program. The Environmental Leadership Program offers benefits and incentives to members that voluntarily go beyond compliance with state and federal regulations and who are committed to continual environmental improvement. The WTF is currently a Silver Partner, and has submitted application for Gold Partner status based on process improvements and certification in the ISO 14001:2004 EMS standard.