

Keep it Clean Partnership

A partnership of communities in the Boulder and St. Vrain watersheds -
working to protect our water quality



2010

Annual Report

Boulder County • City of Boulder • City of Longmont • City of Louisville • Town of Erie • Town of Superior



**KEEP IT CLEAN
PARTNERSHIP**

3450 Broadway, Boulder, CO 80304 • Phone: 303-441-1439 • Fax: 303-441-1468 • E-mail: jlopitz@bouldercounty.org



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ANNUAL REPORT for 2010
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Executive Summary

Keep It Clean Partnership

2010 Annual Report



To address the impact of stormwater on water quality, the federal Clean Water Act was expanded to include requirements that municipalities control pollutants from municipal separate storm sewage systems (MS4s). The Keep it Clean Partnership (KICP) grew out of the need for local communities to respond to these stormwater regulations that are implemented by the Colorado Department of Public Health and Environment (CDPHE). The Partnership is a collaboration of communities in the Boulder and St. Vrain watersheds, and includes Boulder County; the cities of Boulder, Longmont, and Louisville; and the towns of Superior and Erie (individually referred to as “Partners”), working together to protect water quality through stormwater management.

The KICP uses a unique, collaborative approach to involve various levels of government in creating cost-effective solutions to stormwater and other water quality problems. The KICP embodies the spirit of the watershed approach that was envisioned in the federal Clean Water Act and adopted in the Boulder Valley Comprehensive Plan.



Into the Future

As the KICP Partnership enters its ninth year of implementation, the Partners continue to refine programs to meet the continuing challenges of stormwater management.

Shared KICP Program Evaluation by a Third Party

KICP will request that a third party evaluate current programs and make suggestions for improvement. This activity is conducted the fourth year of every permit term so that the programs can be modified for improved effectiveness before the Partners submit their program descriptions to CDPHE for the subsequent permit term.

Outreach Campaign Refresh

The Campaign Refresh Action Plan completed in 2010 will be put into motion. The actions outlined in the Action Plan will be evaluated, prioritized and budgets assigned to ensure that the H₂O Jo and tributary sign brands can be strengthened and expanded.

Website Revamp

The KICP website will be evaluated and updated to become more dynamic and interactive.



Action Plan Approach Summary

Effluent Limitation Guidelines for Construction Sites

This regulation became effective on February 1, 2010; however, on November 5, 2010 the U.S. Environmental Protection Agency (EPA) retracted the effluent limitation for turbidity as the limit was challenged in court. This action comes in response to the EPA's admission that it improperly interpreted the data set used to establish the limit. EPA hopes to release comment a new limit for turbidity for public in early 2011 that will be incorporated into the CDPHE general construction to be finalized in 2013.

Stormwater Rule

In 2009, EPA began the process of asking for stakeholder input to strengthen stormwater regulations and to establish a comprehensive program to reduce stormwater from newly developed and redeveloped sites. In 2010, EPA sent out a survey to the state, local, and development communities to solicit details on stormwater management and control practices, local regulations, and baseline financial information.

EPA has proposed taking action by November 2012 based on the survey results. Stormwater permits within Colorado will certainly be affected by the outcome of the survey and EPA's regulatory response. None of the KICP Partners received the survey.

Total Maximum Daily Load (TMDL) for E. coli

In 2006, the City of Boulder began participation in the [Water Quality Forum](#) E. coli TMDL workgroup. The group funded a study on E. coli and recreational water quality issues in Colorado. This report was completed and presented to the KICP Partners in January 2010. The City of Boulder at that time also shared their research of the E. coli life cycle within Boulder Creek, a listed segment.

Boulder, Boulder County, Louisville, Erie, and Superior all received letters for CDPHE indicating that their communities' listed stream segments would soon be evaluated for a TMDL. Currently, Boulder is in the process of writing their TMDL plan.

The state is asking all permitted communities to prepare for the TMDL by:

- ◆ Conducting dry weather surveys to identify illicit connections and discharges.
- ◆ Removing or controlling illicit connections/discharges.
- ◆ Providing public education and enforcement of pet waste ordinances and leash laws.
- ◆ Providing pet waste disposal cans in open space areas.
- ◆ Preserving natural riparian buffers.
- ◆ Working with local wildlife managers to assess the need for population controls or active management of urban wildlife.
- ◆ Considering use of such practices where contributing drainage area, depth to groundwater, and soil conditions are appropriate for infiltration-oriented best management practices (BMPs).



KICP will continue to monitor the E. coli TMDL development.

Regulatory Audits

CDPHE has indicated that all MS4 programs will be audited by 2013. In 2010, the Town of Erie had a full program audit, and Longmont had a construction site screening.

The comments from CDPHE have been reviewed, and each KICP Partner is aware that their ordinances will need to be modified in the future, based on the results of Erie's audit.

2010 Highlights

In 2010, the KICP Partners continued to implement and maintain the shared and common programs of their municipal stormwater discharge permits for a second five-year term (2008-2013). All measurable goals of the second permit cycle were met.

Costs

The common and shared KICP programs are implemented by 3.50 full-time employees (FTE). The staff currently includes 1.00 FTE to support the business and municipal outreach, 1.75 to support the residential outreach program, and 0.75 FTE for the Keep it Clean coordinator position. In 2010, the KICP budget was \$410,529, of which \$55,434 (13.5%) was proportionately reimbursed to each of the Partners at the end of 2010. The sharing of programs and costs saves each KICP Partner communities 25-50%, when compared with implementing programs individually.

Outreach Campaign Messaging Success

In 2010, the Partnership administered a survey to determine the effectiveness of the mascots H₂O Jo and Flo, as well as the tributary sign. The survey was designed to gauge the penetration of stormwater pollution prevention messaging across the region. A survey of residents, municipal employees, and business was administered, both in person and online. The survey results revealed a demonstrably strong recognition of the message and brand, as well as a strong understanding of the appropriate water protection behaviors.

The key findings of the survey:

- ◆ **85% awareness** that storm drains connect directly to our local creeks
- ◆ **53% imagery awareness** for H₂O Jo and Flo
- ◆ **76% imagery awareness** for the „Keep it Clean“ tributary sign

The results support continuing with the brand and refining the messaging and outreach methods.

Car Wash Campaign

The car wash campaign is the first of several campaigns to employ the recommendations from the action campaign. Residential car washing has been identified as having impacts to water quality. In an effort to communicate this issue and encourage behavior change amongst residents, a coordinated effort took place with the placement of signage at carwashes, in bus ads, and on chamois distributed at events and auto part stores.

Boulder Youth Corps

The Keep it Clean Partnership solicited the help of five Boulder County Youth Corps teens and their team leader in the summer to help improve the conditions of our waterways. The team built trails near waterways, removed muck from a detention basin, bagged up trash, and hung door hangers.

Online Trainings and Follow-up Site Visits

Online trainings were developed for pressure washers and carpet cleaners. After operators view the training and take a test, they are asked to supply job locations so Partners for a Clean Environment (PACE) Program staff can follow up with them in the field during operations. The businesses are then recognized as knowing the required activities that are protective of water quality.



School and Community Outreach Programs

KICP contracted with the City of Boulder's Watershed Education Program to implement the community outreach and school education programs.

Operation: Water Festival



256 residents participated in 1 of **31** stream teams and collected **145** bags of trash
3,059 students and **132** classrooms/events attended school-based education programs
1,845 students from **77** schools attended the Children's Water Festivals
628 storm drains were labeled with the message, "Dispose no Waste, Drains to Creek."
4,608 door hangers were distributed as part of the storm drain marking program
2,730 residents visited the stormwater booths at **14** community events
128,377 brochures and campaign materials were distributed
500 residents attended 1 of **21** speaker events
480 families took the water protection pledge
12,000 visits to www.KeepitCleanPartnership.org
383,484 cars travel past the 'KICP' tributary signs each day

Stormwater Pollution Prevention Programs

The KICP contracted with the Boulder County Public Health Partners for a Clean Environment (PACE) Program to implement the business and municipal outreach.



12 restaurant hood cleaners, **38** landscaping companies, **32** carpet cleaners, and
45 pressure washers received water quality protection information
19 carwashes received a visit and **25** signs were posted
29 gas stations were contacted
20 facility managers were contacted
89 business stormwater pollution prevention evaluations were completed
16 rental and automotive stores received **1,300** brochures to distribute
291 municipal employees were trained at **12** trainings
75 municipal facilities were visited
2 newsletters were mailed to **280** municipal employees

Erosion Control, Permanent Water Quality Structures, and Illegal Discharge Prevention

KICP worked within their individual communities to implement operating procedures and regulations to manage illegal discharges, active construction, and post-construction management. A contractor evaluated and made recommendations on the individual communities' compliance with the construction requirements of the MS4 permit.

44 participants were provided with construction erosion control training
33 participants were provided with waterway construction training
291 municipal employees were trained about illegal discharge identification
114 illegal discharges received a response
137 active construction sites were inspected **1,853** times
24 post-construction controls were installed



Background, Partnership Overview, and 2010 Highlights

Background

To address the impact of stormwater on water quality, the federal Clean Water Act was expanded to include requirements that municipalities control pollutants from municipal storm drainage systems. In 1990, the U.S. Environmental Protection Agency (EPA) issued the Phase I Stormwater Rules. These rules require National Pollutant Discharge Elimination System (NPDES) permits for operators of municipal separate storm sewer systems (MS4s) serving populations over 100,000 and for runoff associated with industry, including construction sites 5 acres and larger. In 1999, EPA issued the Phase II Stormwater Rule to expand the requirements to small MS4s and construction sites between one and five acres in size.

The Keep it Clean Partnership, formerly known as The Watershed Approach to Stream Health (WASH) Project, grew out of the need for local communities to respond to these new stormwater regulations. In 1999, water quality and stormwater professionals representing various communities in the Boulder Creek and St. Vrain watersheds participated in meetings to help develop the goals, objectives, and project focus that are now incorporated into the Keep it Clean Plan. To further focus efforts, a 2006 Water Quality Roundtable was conducted where experts from local, federal, and state agencies identified six areas of concern typical of urban runoff. These include: pathogens (e.g. e. coli), sediment, nutrients, flow modification, metals, and pesticides. These impacts are considered when implementing programs.

The Keep it Clean Partnership (individually referred to as “Partners”) is a collaboration of communities in the Boulder and St. Vrain watersheds working together to protect water quality through stormwater management. The communities include Boulder County; the cities of Boulder, Longmont, and Louisville; and the towns of Superior and Erie.

The primary goal of the Keep it Clean Partnership (KICP) is to implement a regional stormwater management program, not only to comply with federal Phase II stormwater regulations, but also to address broader water quality issues. The KICP uses a unique, collaborative approach to involve various levels of government in creating cost-effective solutions to stormwater and other water quality problems. The KICP embodies the spirit of the watershed approach envisioned in the federal Clean Water Act and adopted in the Boulder Valley Comprehensive Plan.

Partnership Overview

The KICP operates under a five-year plan that outlines programs tasks, schedules, and budget. Emphasis is placed on developing programs that meet federal Phase II Municipal Stormwater Discharge Regulations. The first plan, developed in 2002, used existing, successful programs; addressed community water quality goals; and allowed for flexibility within jurisdictional oversight. The second plan was finalized in October 2008 when the Partners applied for the 2008-2013 Phase II Municipal Stormwater Discharge Permit with the Colorado Department of Public Health and Environment (CDPHE).

Implementation of the Keep it Clean Plan is governed by an intergovernmental agreement (IGA) and supporting bylaws. The initial IGA was executed in January 2003, and the subsequent one was signed in December 2007. The IGA identified a steering committee as the managing entity; it is made up of one voting representative from each Partner community. The steering committee directs

the KICP coordinator, who provides administrative and management services to implement the Keep it Clean Plan and budget. The IGA identifies Boulder County Public Health (BCPH) as the contracting/fiscal agent. BCPH is also the employer of the KICP coordinator. The Keep it Clean Partners participate in workgroups, which direct implementation of the Keep it Clean Plan.

Municipal stormwater regulations call for implementation of six minimum control measures (MCMs) to address the impact of stormwater runoff on water quality and stream health. These programs implemented through the KICP Plan are as follows:

1) MCM 1 - Public Education and Outreach

- School-based education programs (classroom programs, water festival, and teacher training)
- Community outreach programs (outreach booth, speakers program, web site, watershed stewardship, and stream volunteers supported with brochures and other outreach materials)
- Tributary signage and storm drain marking
- Business education program (see MCM 3)

2) MCM 2 - Public Participation and Involvement

- Website
- Annual outreach event booths to solicit input on Keep it Clean programs

3) MCM 3 - Illicit Discharge Detection and Elimination

- Legal prohibition of illicit discharges (ordinances)
- Illicit discharge enforcement (hotline, spill response plan, inspections, enforcement, and data tracking)
- Business Education Program
- Storm drainage system mapping

4) MCM 4 - Construction Site Stormwater Runoff Control

- Training and education for construction site operators and inspectors
- Erosion control ordinance (required erosion control for construction sites)
- Erosion control standard operating procedures (SOP) (outlines application and approval procedures for construction site stormwater management plan submittals)
- Erosion control inspection and enforcement (implementation of erosion control ordinance)
- Public input

5) MCM 5 - Post-Construction Stormwater Management

- Post-construction ordinance (required treatment of stormwater runoff)
- Design criteria and standards (outlines type of stormwater treatment or best management practices [BMP] required)
- Development review (ensures appropriate design of BMPs)
- BMP operation and maintenance (requires long-term maintenance of BMPs)

6) MCM 6 - Pollution Prevention and Good Housekeeping for Municipal Operations

- Training and certification for municipal facilities, activities, and employees

Implementation of the Keep it Clean Plan

The Keep it Clean Plan uses a variety of approaches to reduce the discharge of pollutants from the storm drainage system to protect water quality standards, and to satisfy the appropriate water quality requirements of the Colorado Water Quality Control Act and the Colorado Discharge Permit Regulations.

- **Common Elements:** Program elements that have common themes and common implementation procedures. An example was the development of ordinance language.
- **Individual Programs:** Program elements that are exclusively the responsibility of individual Partners to implement. An example is the enforcement of erosion control and illicit discharge ordinances.

- **Shared Programs:** Program elements that are shared by all Partners. The following two contracts are examples:
 - The City of Boulder Water Quality Education Program provides community outreach materials and school programs in each of the Partner jurisdictions.
 - Boulder County's Partners for a Clean Environment (PACE) Program provides outreach materials and conducts site visits, addressing commercial and municipal operations.

2010 Highlights

Through implementation of the Keep it Clean Plan, all Partners achieved compliance with their stormwater discharge permits. A summary of major tasks completed in 2010 follows.

Permit for 2008-2013

The Phase II stormwater discharge permit for the Partners' first permit term expired at the end of 2007. The Partners submitted their program descriptions in June 2008 for coverage under the state's general discharge permit for the second permit term, which ranges from March 2008 to March 2013. In late August 2008, CDPHE asked for more program specifics to be submitted addressing the individual Partner programs surrounding construction and post-construction plan review and enforcement. The final plan was submitted in October 2008; however, the state issued an additional request for details on individual Partner programs but did not require a written response.

It is anticipated that all future Partner program descriptions will be submitted individually.

CDPHE Audits

In June 2010, CDPHE conducted a full program audit of Erie's stormwater program. Erie submitted a revised program description document and adopted a revised ordinance both of which addressed CDPHE comments.

In August 2010, CDPHE conducted a construction site screening inspection within the boundaries of Longmont. Longmont submitted a response to CDPHE's correspondence.

Costs

The Partner communities fund the common and shared program costs. Cost allocation is based on each Partner's urbanized population, as outlined in the Keep it Clean IGA. Costs to implement the individual community programs are the responsibility of each individual community. The KICP programs emphasize cost-effectiveness by sharing programs and using common strategies and leveraging existing programs. The common and shared programs are implemented by 3.50 full-time employees (FTE). The staff currently includes 1.00 FTE to support the business and municipal outreach, 1.75 to support the residential outreach program, and 0.75 FTE Keep it Clean coordinator position.

In 2010, the KICP budget was \$410,529, of which \$55,434 (13.5%) was proportionately reimbursed to each of the Partners. The majority of the reimbursement represents the unspent contingency funds.

Grants

The City of Boulder's Watershed Education Program is currently pursuing a 319 mini-grant to determine how to position H₂O Jo and Flo within the 2010 Year of Water campaign.

School and Community Outreach Programs

The Keep it Clean Partners contracted with the City of Boulder's Watershed Education Program to implement the community outreach and school education programs.

The program continued to reach out to schools and the residential community through school programs, stream teams, speakers programs, pledge programs, promotional material distribution, and storm drain markings. Highlights for 2010 include the following.

In the summer of 2010, KICP teamed with the Boulder County Youth Corps to work in the creeks and surrounding community areas. The team worked hard to build trails near waterways to reduce erosion, removed muck out of a storm drain detention basin so water would flow, bagged up trash so it would no longer harm our environment, and hung door hangers so the word would be spread to "Keep it clean, 'cause we're all downstream." In just eight short weeks, the team completed the following:

Accomplishments:

- ◆ Cleaned and assessed 14.15 miles of streams
- ◆ Marked 170 storm drains
- ◆ Distributed 2,810 door hangers
- ◆ Removed 267 lbs. of trash and 103 lbs. of recycling including 16 lbs. of golf balls.
- ◆ Mulched 133 trees
- ◆ Built 2 trails
- ◆ Removed 4,093 cubic feet of sludge and weeds and trees
- ◆ Identified 4 locations of standing water
- ◆ Identified 2 potential illicit discharges
- ◆ Talked to 19 people

Streams:

- ◆ Skunk Creek
- ◆ Goose Creek
- ◆ St. Vrain
- ◆ Little James Creek
- ◆ Lefthand Canyon Creek
- ◆ Coal Creek
- ◆ Kenosha Farms Drainage Canal

Keep it Clean Campaign Refresh

In 2010, the KICP participated in a Keep it Clean (KIC) campaign refresh project. The innovative KICP campaign, developed in 2004, has been utilized in various forms of media throughout participating communities. KICP staff identified the need to move the KIC campaign to the next phase through assessment and adjustment.

The campaign refresh project included two phases:

- (1) Survey – Gathered market feedback to understand penetration level of Keep it Clean awareness campaign.
- (2) Action Plan – Developed recommendations to adjust campaign for successful next steps in generating awareness and behavior change.

Keep it Clean Campaign Refresh Action Plan recommended five core strategies:

1. Build on Established Brand Equity
2. Create Seasonal Mini Campaigns
3. Activate the Active People
4. Increase Media and Messaging Channels
5. Add Friends and Partners

Coordinated Car Wash Campaign

The car wash campaign was the first of several campaigns to employ the recommendations from the action plan. Car washing has been identified as having impacts to water quality. In an effort to communicate this issue and encourage behavior change amongst residents, a coordinated effort took place with the placement of signage at carwashes, in bus ads, and on chamois distributed at events and auto part stores.

Website Refresh

KICP will work closely with the hired consultant on website redevelopment and migration to a stand-alone and staff-maintained website. The refreshed website is slated to be live by July 1, 2011.

Year of Water 2012

KICP Education Program will participate in the development of the Year of Water 2012 activities and will provide guidance to the Partners on how KICP can celebrate via specific programs in 2012. Staff is participating in the Year of Water 2012 K-12 and statewide campaign subcommittees.

Stormwater Pollution Prevention Programs for Private and Public Sectors

The KICP contracted with Boulder County Public Health's Partners for a Clean Environment (PACE) Program to implement the business and municipal outreach.

Business Outreach

PACE offers a pollution prevention certification program to various business sectors. PACE services are free of charge to interested businesses. In 2010, PACE offered the Keep it Clean Partners five programs to address business activities with stormwater impacts:

- ◆ Continued Outreach to Existing Sectors
- ◆ Outreach to New Sectors
- ◆ PACE Allies
- ◆ One-on-One Training
- ◆ Beyond PACE

Keep it Clean Partners ranked priority for these programs in their communities, and based on these priority rankings, each KICP community received a customized scope of work.

Business outreach continued to the restaurant and vehicle service facilities. For over 15 years, PACE has delivered educational outreach on a range of topics, including energy efficiency, water conservation, and resource management to businesses in Boulder County. For the past eight years, PACE has included stormwater protection messages in its outreach to restaurants, auto repair facilities, and retail businesses in support of the KICP. While the majority of the businesses in these sectors have been contacted by PACE, repeated visits are typically necessary to counteract factors such as employee turnover and simple apathy.

PACE visited several businesses unannounced. Pictures of both good and bad stormwater practices were taken and included in follow-up letters to the managers of the facilities. In 2010, the effort was expanded to meeting one-on-one with homeowners' association property managers.

Municipal Outreach

PACE conducted 75 site visits and provided customized training to 291 municipal employees across 6 different departments in 6 different municipalities. PACE also recognized 6 municipal "Stormwater Heroes" for their efforts to protect stormwater.

Research on dog waste programs, ordinances, signs and incentives for cleanup of dog waste was conducted, and a report summarizing findings and recommendations was submitted to the KICP Steering Committee.

Practices for proper discharge of fire suppression system wastewater from new buildings and from annual testing were developed. PACE staff met with the Boulder Fire Marshal at two facilities to observe standard operating practices for new building and annual tests. A document outlining suggested practices was submitted to CDPHE. Currently, PACE is waiting for final direction from CDPHE on the appropriate practices before disseminating the information to the KICP Partners.

A list of the "Top 5 Stormwater Issues" seen during municipal site visits was developed by reviewing site visit follow-up letters, the PACE database, and deficiency lists from 2007-2010. In 2011, PACE will address the "Top 5 Stormwater Issues" while conducting site visits and as part of the stormwater training classes.

The "Top 5 Stormwater Issues" are:

1. Spills or leaks not cleaned up or not having spill kits or drip pans.
2. No cover and/or containment for storage of containers of hazardous liquids or other materials.
3. Improper maintenance of storm drains, culverts, swales, or detention ponds (structural BMPs).
4. Outdoor storage issues (vehicles, dirt, debris, trash, salt/sand, chemicals or other products).
5. Good housekeeping concerns (trash, dumpsters not covered, areas not swept, etc.)

In 2011, the KICP Steering Committee voted on three programs as "target pollutant programs." PACE staff will work on these three programs in 2011:

1. Design and print signs for fuel spill cleanup and reporting.
2. Provide research and assistance to parks and golf course departments with compliance with EPA's permit for aquatic pesticide application.
3. Conduct "Beyond MCM 6 Site Visits" (unannounced, drive-by educational opportunities with municipal employees - in the field or at facilities).

Erosion Control, Permanent Water Quality Structures, and Illegal Discharge Prevention

The Keep it Clean Partners spent a significant amount of effort working within their individual communities implementing operating procedures and regulatory mechanisms needed to manage illegal discharges, active construction, and post-construction management.

Erosion Control Program Implementation Audit

The Keep it Clean Partners hired a contractor to audit municipal construction inspectors to be sure that individual Partners are implementing the requirements that surround the MS4 construction program oversight. The contractor made individual Partner observations, as well as general KICP recommendations. The communities will individually respond to the suggestions.

Erosion Control Training

The KICP offered one recertification class, which was attended by 22 individuals and 1 Colorado Department of Transportation erosion control certification class, which was attended by 24 individuals. In 2010, 33 individuals attended a class on managing projects in waterways. In 2011, only a certification class will be offered, and individuals needing recertification will need to attend.

Illegal Discharge and Detection

The Partners continue to respond to and track responses to illicit discharges in their communities. The data in 2011 will be tracked individually.

KICP's Approach to 2011

As the KICP Partners enters the ninth year of implementing the shared and common programs for the benefit of all of the Partners, they continue to fine-tune the outreach their shared programs offer and continue to identify programs that will ensure compliance with the stormwater discharge permit and improve local water quality.

In 2011, the KICP will contract with a consultant to offer a third-party evaluation of the management and program focus of the partnership. One Partner has asked that the KICP Partners focus their shared outreach on regionally operating businesses instead of the current fixed facilities approach. This is one area the Partners will ask the consultant to weigh in on as well as suggest any missed opportunities or efficiencies.

In 2011, the information gathered from the analysis of the KICP campaign, consisting of H₂O Jo and Flo, will be utilized to move forward with more seasonal messaging. Campaigns will focus on residential car washes, and landscaping, and will involve both the residential and business communities.

The KICP web site will be given a face lift and migrate to a stand-alone, staff-maintained site. The plan is to provide the public with a more interactive site.

The KICP will play an active role in the development of state-wide Water 2012 campaign and is pursuing a grant to incorporate H₂O Jo.

The Partners are implementing the KICP plan, which continues to be dominated by KICP contract personnel conducting outreach. The KICP continues to educate:

- ◆ School children
- ◆ Adults
- ◆ Businesses
- ◆ Construction operators
- ◆ Municipal employees

In addition to common and shared programs, each individual Partner will continue to be responsible for the following tasks in 2011:

- ◆ Implement the individual ordinances and related procedures, such as:
 - Review and track erosion control plans and proposed permanent water quality structures.
 - Conduct and track construction and post-construction site inspections.
 - Respond to, enforce, and track all illegal discharges.
- ◆ Maintain storm drainage outfall maps.

- ◆ Ensure municipal operations are in compliance with stormwater regulations.
- ◆ Participate in the ongoing implementation of the 2008-2013 KICP Plan.
- ◆ Track the development of the state E. coli total maximum daily load (TMDL) process, which may require communities to control bacterial pollutant sources.

Future Watershed Considerations

In 2008, a report was released from the National Research Council on *Urban Stormwater Management in the United States*. The report addressed not only the challenges in managing stormwater in an urbanized environment, but it also recommended future management of all water-related permits on a watershed basis. The content of the report will continue to guide the future work of the KICP. The report cited the support for a National Stormwater Rule survey, which was issued by EPA in 2010.

Stormwater Rule Survey

In 2009, EPA began the process of asking for stakeholder input to strengthen stormwater regulations and to establish a comprehensive program to reduce stormwater from newly developed and redeveloped sites. In 2010, EPA sent out a survey to the state, local, and development communities to solicit input on the following areas, including detailed information about stormwater management and control practices, local regulations, and baseline financial information:

- ◆ Expansion of the area subject to federal stormwater regulations.
- ◆ Establishment of specific requirements to control stormwater discharges from new development and redevelopment.
- ◆ Development of a single set of consistent stormwater requirements for all MS4s.
- ◆ Requirement of MS4s to address stormwater discharges in areas of existing development through retrofitting the sewer system or drainage area with improved stormwater control measures.
- ◆ Exploring of specific stormwater provisions to protect sensitive areas.

EPA has proposed releasing the draft rule in September 2011 and taking action in 2012, based on the results.

Effluent Limitation Guidelines for Construction Sites

This regulation become effective on February 1, 2010, and will be phased in over four years. All permits issued by the EPA or delegated states must incorporate the final rule requirements. EPA plans to incorporate the new rules into its Construction General Permit by June 30, 2011. CDPHE can then begin discussions in July 2011 as the Colorado General Construction permit update process is initiated.

All construction sites over an acre are currently required to obtain permit coverage and must implement a range of erosion and sediment controls and pollution prevention measures.

A turbidity limit included in this new regulation will be recalculated because the initial science that determined the limit of 280 Nephelometric Turbidity Units was challenged. EPA plans to have the new limit by June 29, 2011.

The turbidity limit was to be phased in on all sites that disturb 20 or more acres of land at one time, and then in 2014, include all construction sites disturbing 10 or more acres of land at one time. Currently, there is some discussion that the phasing approach may be streamlined.

Specific national minimum best management practices (BMPs) will also be specified for all sites over an acre.

Total Maximum Daily Load

On a semi-annual basis, the CDPHE Water Quality Control Division (WQCD) develops a list of impaired waters in the state, as mandated under Section 303(d) of the federal Clean Water Act. Pollutants entering the impaired water are generally controlled through numeric limits on permitted discharges, which could include wastewater treatment and/or stormwater discharges.

Three creek segments in the KICP communities have been listed as impaired for Escherichia coli, or E. coli. The following table outlines the stream segments, as well as the communities discharging to these segments:

303(d) Listed: Impaired Stream Segment	KICP Community Discharging to Segment*
Boulder Creek from 13 th Street to the confluence with South Boulder Creek	Boulder
Coal Creek from Highway 36 to Boulder Creek	Louisville
Boulder Creek from Coal Creek to St. Vrain Creek	Erie, Superior
Rock Creek in Segment 8	Superior

* Any National Pollutant Discharge Elimination System (NPDES) permittee discharging to these stream segments may be included in a TMDL process.

The municipal stormwater discharge permits include language that provide for the implementation of total maximum daily load requirements. Affected communities, therefore, may have to meet numeric discharge standards through a TMDL process associated with their discharge permit(s).

The implication of an E. coli TMDL for any of these communities is uncertain at this time; however, if numeric standard of 126 cfu/100ml is established, it may be difficult, if not cost-prohibitive, to meet such a standard. KICP may be able to assist in the regional effort of TMDL tasks. In 2010, the City of Boulder began working with CDPHE to develop the TMDL for Boulder Creek. For 2011, no items or tasks have been identified, but KICP will continue to monitor the E. coli TMDL and evaluate the potential for participation.

Temperature Standard

In 2006, the WQCD proposed changes to statewide water temperature standards. A more restrictive and complex set of temperature standards were adopted in the Colorado Basic Standards and Methodologies for Surface Water. The WQCD will evaluate receiving water temperature data and determine whether discharges, such as treated effluent from wastewater treatment facilities, should have a lower effluent temperature to protect aquatic life (recognizing that temperature variations result from natural conditions and irreversible human impacts).

Nutrient Standards

In 2002, the WQCD released their Nutrient Criteria Development Plan for the development and implementation of nutrient criteria in Colorado. They have been working towards developing nutrient criteria for nitrogen, phosphorus, and chlorophyll a. Algae, measured as chlorophyll a, has been identified as the primary indicator for evaluating the health of lakes and reservoirs. The WQCD is also evaluating the relationship between chlorophyll a and nitrogen and phosphorus concentrations.

For streams and rivers, the WQCD is focusing on controlling nitrogen and/or phosphorus contributions based on the health of the aquatic community, specifically macro invertebrates. The WQCD proposed statewide nutrient criteria to the Water Quality Control Commission at the 2010 Basic Standards Hearing. Nutrient criteria development work group meetings continued through 2010 and into early 2011 in preparation for the June 2011 proposal to the Water Quality Control Commission.

Aquatic Life Standards

The WQCD initiated the Aquatic Life Work Group in 2000 as part of their process of developing aquatic life water quality standards, which are expressed as biocriteria. The primary function of biocriteria is to describe the biological condition that is necessary to support the designated use of the water body, including lakes, reservoirs, rivers, and streams. Bioassessment tools are being developed to quantify the biological condition of an aquatic community. The primary intent of biocriteria is not to set a regulatory standard, but instead to be used to detect impairment in aquatic life and identify probable causes of the impairment. To date, the approach to developing biocriteria has focused on using macro invertebrate population data, habitat assessments (physical features), and fish population data. One of the main challenges in developing biocriteria is determining “expected conditions.” The expected condition will reflect a range of biological characteristics that are considered “normal” or “healthy” for a water body. Impairment of a water body will be based on the comparison of the expected condition to the actual condition, based on collected data. The Basic Standards Rulemaking Hearing was held in 2010.

Airborne Contaminants

The U.S. Geological Survey’s National Water Quality Assessment Program included the first comprehensive evaluation of waterways in the U.S. The study identified airborne contaminants as a source of hydrocarbon pollutants in surface water, stormwater, and groundwater. The burning of fossil fuels likely formed these contaminants. EPA has indicated that these contaminants will be regulated in the future.

Sediment

CDPHE has adopted guidance concerning sediment deposition impacts to aquatic life in streams and rivers. The guidance document, “Provisional Implementation Guidance for Determining Sediment Deposition Impacts to Aquatic Life in Streams and Rivers,” focuses on the application of “expected conditions” with respect to aquatic life classification, nutrient criteria, and narrative sediment standard issues. The Water Quality Control Commission (WQCC) is currently developing sediment regulations, which are expected to be completed by 2011.

Presence of Invasive Species in Colorado

In 2008, Quagga and Zebra Mussels were detected in Colorado reservoirs, including Carter Lake, upstream of Boulder Reservoir. The State of Colorado initiated an extensive monitoring and education program related to the invasive species.

Climate Change

One of the biggest factors impacting water quality is the modification of stream flows and groundwater levels. These modifications are due in a large part to increased runoff from urban areas and to diversions and return flows from agricultural and municipal water demands. This hydrologic modification of the natural stream system leaves little water in the creek to provide dilution of pollutants, or to maintain habitat and the natural stream channel. These hydrologic conditions may be further affected by climate change.

In a recent study completed by the University of Colorado for the City of Boulder's Water Resources Workgroup, researchers predict dryer winters and wetter springs with an earlier mountain snow runoff period. These conditions could lead to depleted stream flows in the winter, threatening aquatic life and resulting in more frequent and severe flooding in the spring, which could lead to accelerated stream bank erosion and degradation of aquatic and riparian habitat. Both conditions could lead to degraded water quality.

2010 Activities

MINIMUM CONTROL MEASURES

The following is a summary
of
activities implemented under
the Keep it Clean Plan
for each of the
Six Minimum Control Measures (MCMs)

MCM 1 - Public Education and Outreach

Permit Requirement

The 2008-2013 permit requires:

The permittee must implement a public education program in an effort to promote behavior change by the public to reduce water quality impacts associated with pollutants in stormwater runoff and illicit discharges that includes:

- 1) *Targeting specific pollutants and pollutant sources determined by the permittee to be impacting, or to have the potential to impact, the beneficial uses of receiving waters;*
- 2) *Conducting outreach activities about the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce pollutants in stormwater runoff; and*
- 3) *Informing businesses and the general public of the municipality's prohibitions against and/or the water quality impacts associated with illegal discharges and improper disposal of waste.*

Program Objective

Getting the Word Out - Public Education: Individuals play a key role in reducing stormwater impacts in their day-to-day activities. To successfully achieve water quality goals, a public education program must first educate the public on the extent and nature of the problems associated with urban runoff. Next, the public must be instructed on what they can do to help solve the problem; and finally, a successful program must provide opportunities for hands-on activities.

Program Implementation

The Keep it Clean Partners contract with the City of Boulder to provide the Keep it Clean Education Program, which include activities required under MCM 1 and MCM 2 for all Keep it Clean Partner communities. The Keep it Clean Education Program staff, with direction from the Keep it Clean Steering Committee and input from PACE staff, implemented programs outlined in the Keep it Clean Plan. Individual Partners are responsible for certain program elements, including the continued distribution of brochures and directing their citizens to the KICP website. The KICP Education Program conducts school-based education and community-based outreach programs to educate teachers, students, and families (adults) on ways to change their behavior to reduce water pollutants. The entire KICP Stormwater Education Program's annual report is available at www.KeepitCleanPartnership.org. The following is a summary of that report.

School-Based Education Programs

Operation Water Festival

Annually, two day long events with hands-on water quality activities will be conducted. The festival is provided for Boulder Valley School District (BVSD) and St. Vrain Valley School District (SVVSD) students.

H₂O Jo and Flo reappeared in 2010 as hosts for the BVSD and SVVSD water festivals with their message, "Keep it clean, „cause we're all downstream!"

A total of 1,066 BVSD 4th and 5th grade students and their teachers from 43 classrooms in 19 BVSD schools attended the 18th annual Children's Water Festival held at the University of Colorado (CU)

campus on May 12, 2010. Sponsors included the Northern Colorado Conservancy District, CU's Office of Community Relations, and the U.S. Bureau of Reclamation.

A total of 779 SVVSD 5th grade students and their teachers from 34 classrooms in 11 SVVSD schools attended the Longmont Children's Water Festival, held at the Raddison Events Center in Longmont on May 6, 2010. Additional sponsors included the City of Longmont, the U.S. Bureau of Reclamation, and the Northern Colorado Water Conservancy District.

This year marked the fifth year of the pre-festival Operation Water Festival Program. The materials focus on fundamental water awareness, conservation, pollution, and flooding designed for 4th and 5th graders. The program, Operation Water Festival, includes a complete teacher's packet featuring teacher's guides, student worksheets, and flashcards on each water topic.

A key benefit of the Operation Water Festival materials is the take-home water agent book. Students are encouraged to work with family members to complete the assignments. As a result, parents and siblings learn about water protection and conservation.

All BVSD and SVVSD classes attending the Children's Water Festival participated in the Water Ambassador Program.

School-Based Education Programs

Annually, a minimum of 60 classroom and/or field-based programs will be offered to BVSD and SVVSD teachers and students.

The Get to Know Your H₂O postcard, featuring a school-based graphic of H₂O Jo, brief description, and link to the website with classroom programs, was distributed to all K-5 teachers and 6-12 science teachers in BVSD and SVVSD, as well as to local private schools. The postcard was also sent to teachers via an email attachment. Keep it Clean Partnership Education staff facilitated 132 stormwater education programs and reached a total of 3,059 BVSD and SVVSD students in 2010.

Classroom Programs

Partner	Number of Classrooms	Number of Students
Boulder	41	1047
Longmont	47	988
Boulder County	11	256
Louisville	7	154
Erie	18	412
Superior	8	202
Total	132	3059

In addition to providing classroom and field-based programs, KICP staff provided training and loan equipment/resources to teachers wishing to teach programs in their own classrooms. In 2010, 20 teachers provided programs for 1,757 students in 8 BVSD and SVVSD classrooms.

The year 2010 marked another successful year partnering with local environmental organizations to host the Science is Everywhere Program. The program included hosting a water education table at Loma Linda Elementary School in Longmont, where 50 students participated in a stormwater pollution prevention program. The following week, many of these same students, along with their

families (siblings and grandparents included), attended the Science is Everywhere night at the National Center for Atmospheric Research (NCAR) in Boulder. A total of 90 people attended the event, where students taught families lessons learned at the water quality station and other stations they visited the prior week.

Teacher Workshop

Annually, one training will be offered to BVSD and SVVSD K-12 teachers on the use of KICP-sponsored and other water quality curriculum.

The web-based Watershed Resource Guide contains background information and activities related to the Boulder Creek and St. Vrain Creek watersheds. Watershed and Project WET (Water Education for Teachers) materials are used as the basis for the annual Get to Know Your H₂O Teacher Training. All BVSD and SVVSD K-5 grade teachers and 6th-12th grade science teachers received an email advertising the free two-day training.

A total of 23 educators participated in this workshop in August 2010. Together, those educators will reach over 1,162 students in the 2010-2011 school year.

Community-Based Outreach Programs

Outreach Booth

Provides stormwater pollution prevention materials to the public. Annually, a staffed booth travels to at least one special event in each of the partner communities.

Utilizing graphics and messages created for the “Keep it Clean” water quality campaign, a special events outreach booth was developed. The booth includes hands-on, portable, engaging activities that serve as tools for community members to learn about stormwater pollution and recognize how their behaviors can affect water quality. KICP staff provides citizens with an opportunity to discuss, provide input on, and learn about stormwater issues.

The booth reached 2,730 individuals at a minimum of one large-scale community event.

Festivals or Special Events

Partner	Date of Event	Event	Visitors
Boulder	April 1, 2010	CU Internship Fair	30
	April 30, 2010	Colorado Children’s Day	275
	May 8, 2010	Pharmaceutical Collection Event	410
	May 15, 2010	Community Clean Up Day	30
	August 9, 2010	CU RA Resource Fair	186
	September 25, 2010	Pharmaceutical Collection Event	230
Longmont	March 13, 2010	Science is Everywhere Family Night	90
	April 17, 2010	Arbor Day	225
	July 10, 2010	Rhythm On the River	371
Boulder County	April 22, 2010	IBM Earth Day Fair	195
	July 8, 2010	Niwot Rhythm on the Rails	54
Louisville	June 5, 2010	Taste of Louisville	343
Erie	July 10, 2010	Concerts in the Park	181
Superior	September 11, 2010	Chili Cook-off	110
Total			2,730

The H₂O Jo mascot attended 14 school and community events in the Keep it Clean communities.

Speakers Program

Staff and expert speakers attend events in each of the KICP communities to present water quality information to various community groups.

The Speakers Program includes a list of speakers available to present water quality information at local events. A program overview, the presentation options, and a list of speakers are available at www.KeepitCleanPartnership.org. KICP staff provided 21 presentations and reached 500 people. In 2010, a total of three homeowners associations committed to inserting stormwater information in a residential newsletter. In addition, several Stream Team members were recruited through the Speaker's Programs.

Speaking Events

Date	Group	Number of Participants	Location
1/7/10	Wetland Talk	13	Boulder County
1/8/10	Ditch and Reservoir Company Alliance	15	Boulder County
1/20/10	CU Sewall Hall	20	Boulder
2/23/10	StreamTeam Presentation	13	Boulder
3/9/10	Continental View HOA	15	Louisville
3/11/10	Water Agent Meeting	100	Boulder
3/11/10	Scout Leaders	9	Longmont
3/18/10	Water Agent Meeting	75	Longmont
4/14/10	Dr. Langer Water Class	50	Boulder
4/22/10	StreamTeam Presentation	8	Longmont
6/8/10	Police League	12	Boulder
6/10/10	Erie Chamber of Commerce	15	Erie
7/20/10	Summit at Rock Creek HOA Meeting	7	Superior
8/9/10	KICP Presentation at REI	11	Boulder County
8/11/10	Walking Wednesday	6	Boulder

8/24/10	KICP Presentation	6	Boulder County
9/25/10	Water Quality Presentation OSMP	60	Boulder County
11/5/10	E. coli, Dry Creek Program	4	Boulder
11/10/10	History of Boulder's Water and KICP	30	Boulder County
11/12/10	Mountain View Mobile Homes	22	Longmont
11/17/10	Sunwest HOA	9	Erie
Total		500	

Watershed Stewardship Program

Trains volunteers to be neighborhood water quality advocates. Staff will offer programs in each KICP community.

The Watershed Stewardship Program is a neighborhood-based behavior change and outreach program. The goal is to engage residents in water protection activities so they reduce stormwater pollution in their community.

The program was offered via the website and printed recruitment materials. In 2010, the Boulder County Youth Corps team, as well as a local faith-based organization, participated in the program. Results, however, were not provided to the KICP.

Stream Teams

Provides community volunteers the opportunity to be involved in water protection activities by providing resources and training for creek cleanups, water quality monitoring, and more. Staff will support teams in each KICP community.

KICP Education staff continues to meet and consult with program partners, the United States Geological Survey (USGS), and the Boulder Creek Watershed Initiative (BCWI) to develop program resources and recruit and manage volunteers. The StreamTeam Program was promoted to the general public via press releases and direct mail/email to target groups. To date, 31 groups are enrolled as active StreamTeams. Keep it Clean Partnership staff provided training on how to perform safe creek cleanup activities and, where appropriate, how to use sampling equipment, which is loaned free of charge to all interested parties.

Stream Teams

Partner	Number of Groups	Number of Participants	Bags of Trash Collected
Boulder	10	93	66
Longmont	9	73	19
Boulder County	4	30	32
Louisville	4	46	9
Erie	2	8	17
Superior	2	6	2
Total	31	256	145

Informational and Promotional Materials

Brochures, fact sheets, and product give-aways are produced, as needed, for distribution at school and community events. At a minimum, distribution will take place annually at special events in each partner community. Distribution also takes place through the school-based education programs and within public municipal areas.

Distribution of the Keep it Clean general residential brochure continued. A total of 9,268 Spanish and English language brochures were distributed throughout KICP communities at school, community, business outreach, and residential direct mail programs. The City of Boulder produced a 1/3-page version of the Keep it Clean brochure for inclusion in utility bill inserts. This brochure featured information in both Spanish and English and was mailed to 29,000 Boulder residents. The City of Longmont included a quarter page on stormwater quality in their annual Drinking Water Report, which was mailed to 36,000 addresses. Longmont also featured the Keep it Clean message in the CityLine publication, which reaches 40,000 residents, and the Longmont Life publication, which reaches 42,000 community members. In total, the KICP distributed 128,377 brochures and flyers.

Campaign promotional materials are distributed to bring the campaign message into Keep it Clean Partnership community homes, businesses, and schools. KICP distributed 438 magnets; 1,578 tattoos; 7,912 stickers; 3,511 *Adventures of H₂O Jo and Flo* activity books; and 670 place mats.

Informational and Promotional Material Distribution

Partner	Number of households	Number of brochures and campaign materials distributed in 2010
Boulder	39,596	41,362
Longmont	26,667	80,760
Boulder County	8,900	1,900
Louisville	7,216	1,477
Erie	3,750	2,105
Superior	4,500	773
Total	90,629	128,377

Pledge Program

In 2009, though not a permit requirement, the Education staff coordinated with the PACE team to outline a community and school-based pledge program, including goals, content, and a work plan.

PACE and Education staff, with the assistance of a social marketing expert, developed a pledge program concept paper.

The year 2010 marked the first year for full-scale program implementation. Both the community-based and school-based Keep it Clean pledge program are tools to increase the number of Keep it Clean Partnership community residents who take action to reduce the amount of stormwater pollution that washes off of their homes and business properties into local streams.

The community/residential pledge was offered at each of the KICP outreach booth events, inviting community members to pledge to mark a local storm drain and hang door hangers in the same area. In 2010, a total of 41 people pledged to mark 41 storm drains and hang 47 door hangers. Through email and phone communication, staff confirmed that pledge program participants marked 36 storm drains and hung 42 door hangers.

The school-based pledge program, offered through the school education program and including water festival participants, invited students and their families to select and pledge to specific water protection actions at home. Participating families selected from a list of seven actions. A total of 480 families pledged to take a total of 2,833 water protection actions.

Each pledge program participant who chose to provide an email address receives the Keep it Clean newsletter. In 2010, a total of 219 pledge program participants have provided an email address. The spring newsletter report indicated a 30.1% open rate and a 6.5% click rate on the web link included in the newsletter, while the fall detailed report indicated a 27.2% open rate and a 2.6% click rate. Staff believes the newsletter is an effective tool to deliver stormwater protection information to adults in our Keep it Clean Partnership communities.

Tributary Signage and Storm Drain Marking

Storm Drain Marking

In the first permit term, 25% of all KICP storm drains were marked. KICP Education staff will maintain equipment and support volunteer groups to mark an additional 3% of the storm drains in each KICP community. Where appropriate, program participants may also post door hangers that explain the stormwater pollution prevention message.

Keep it Clean Education staff facilitated storm drain stenciling activities with over 358 youth and citizens in Keep it Clean communities. Keep it Clean Education staff used curb markers to identify 743 storm drains, exceeding the goal of 3% marked drains. In addition, the Town of Erie installed 170 stormwater lids with the „no dumping“ message imprinted on them. A total of 913 drains were marked.

Storm Drain Marking Program volunteers distributed 2,338 fish door hangers as part of the marking program in neighborhoods. The brightly colored, fish-shaped door hangers, available in both English and Spanish, were distributed to property owners in the same block that the storm drains were marked. The door hangers included information about the Storm Drain Marking Program and provided tips on ways to protect and conserve local waters. The door hanger also lists the www.KeepitCleanPartnership.org website and the Keep it Clean spill hotline (303-441-4444).

Door Hanger Distribution

Partner	Number of Door Hangers distributed in 2010
Boulder	1402
Longmont	747
Boulder County	1330
Louisville	443
Erie	193
Superior	493
Total	4608

Volunteers were recruited via a flyer to local community groups, the cities of Boulder and Longmont community service programs, and through school and scout groups.

Storm Drain Marking

Partner	Total Number of Storm Drains	2003	2004	2005	2006	2007	2008	2009	2010	Percent of Total Marked in 2010
Boulder	4,180	209	439	402	264	402	228	440	288	10.5%
Longmont	1,820	99	95	115	170	193	83	115	179	6.3%
Boulder County	225	82	40	31	23	50	36	15	58	6.7%
Louisville	600	43	137	31	31	83	26	58	43	9.7%
Erie	685	62	17	162	144	70	42	253	22	36.9%
Superior	300	22	20	74	20	30	36	32	38	10.7%
Total	7,810	517	748	815	652	828	451	913	628	8.0%

Tributary Signage

A minimum of 5 tributary signs are posted within each of the KICP Partner communities in prominent locations.

In 2003, tributary signs were designed and installed along major intersection marking significant waterways, with the intent of increasing public awareness of local water resources. The sign caption reads, "Keep it clean, ,cause we're all downstream!" and includes the local creek name.

In 2010, Longmont installed three additional signs near Lefthand Creek.

Tributary Signs

Partner	Number of Tributary Signs 2010
Boulder	43
Longmont	9
Boulder County	5
Louisville	8
Erie	5
Superior	6
Total	76

In total, over 383,484 cars travel past these signs each day.

Daily Vehicle Miles passing Tributary Signs

Partner	Number of daily vehicles traveled (DVT) for streets with tributary signs installed
Boulder	207,531
Longmont	70,021
Boulder County	32,733
Louisville	29,100
Erie	6,899
Superior	37,200
Total	383,484

Reaching Diverse Audiences

Businesses, teachers, students, and residents of diverse backgrounds are reached through the programs mentioned above. In addition, the KICP program has published and distributed two brochures that were translated into Spanish.

The Spanish vehicle maintenance and general KICP brochures continue to be distributed.

Keep it Clean Campaign Refresh

In 2010, the Keep It Clean Partnership participated in the Keep it Clean (KIC) campaign refresh project. The innovative KICP campaign, developed in 2004, has been utilized in various forms of media throughout participating communities. KICP staff identified the need to move the KIC campaign to the next phase through assessment and adjustment.

The campaign refresh project included two phases:

1. Survey – Gather feedback to understand penetration level of Keep it Clean awareness campaign.
2. Action Plan – Develop recommendations to adjust campaign for successful next steps in generating awareness and behavior change.

Survey

The survey's goal was to determine the effectiveness and impact of KIC campaign and outreach to-date through a spot-check survey of residents, municipal employees, and businesses. The survey was administered both in person and via an online survey. Residents, businesses, and municipal employees in Boulder, Longmont, Boulder County, Louisville, Erie, and Superior were surveyed. The questions aimed to measure impact of campaign messaging, message penetration and brand recognition, as well as gather data on water protection behaviors, actions, and messaging ideas.

Survey results reveal demonstrably strong messaging and brand awareness. Analysis of both quantitative and qualitative data shows that messaging is clear and measurably effective. Even when not seen previously, messaging „speaks for itself,” and survey participants „get it.” The high level of recognition indicates considerable campaign success.

Key Survey Findings

- ◆ **85 percent awareness** that storm drains connect directly to our local creeks without treatment.
- ◆ **53 percent imagery awareness** for H₂O Jo and Flo
- ◆ **76 percent imagery awareness** for the „Keep it Clean“ tributary sign

Action Plan

Spot-check survey results were used to inform the action plan. The action plan offers strategies and steps that KICP can set in motion over the next year and beyond to perpetuate key messages about water quality in Boulder County and parts of Weld County. The campaign neatly uses two distinct elements: water quality mascots H₂O Jo & Flo and the over-arching Keep it Clean Tributary imagery. Both were designed to work in tandem, creating a timeless message while retaining potency.

The action plan outlines five core strategies.

1. Build on Established Brand Equity.
2. Create Seasonal Mini Campaigns.
3. Activate the Active People.
4. Increase Media and Messaging Channels.
5. Add Friends and Partners.

Car Wash Campaign

The car wash campaign was the first of several campaigns to employ the recommendations from the action campaign. Car washing has been identified as having impacts to water quality. In an effort to communicate this issue and encourage behavior change amongst residents, the KICP Education staff worked closely with PACE on a coordinated car wash campaign. The campaign goals are to:

- ◆ Increase awareness of pollution prevention techniques among car wash owners/operators and fulfill the education and outreach goals.
- ◆ Encourage the residential community to use commercial car washes instead of washing their vehicles at home on impervious surfaces.
- ◆ Provide an alternative, protective of water quality, to charities that would like to use car washing as a fundraising tool.
- ◆ Increase branding for KICP.

While PACE implemented a variety of activities to support these goals, the KICP Education team supported the effort in the following ways:

- ◆ Explored, designed, and ordered chamois for distribution at event booths.
- ◆ Distributed over 100 chamois at event booths. In addition, Longmont distributed 300 chamois previously created for their community.
- ◆ Created and placed 44 bus ads that drive citizens to commercial car washes.
- ◆ Issued a spring e-newsletter on issues with home car washing. A total of 304 people received the newsletter. The text was sent to partners for distribution to employees, including 2,700 Boulder County employees who received this message.

This coordinated mini campaign effort will be expanded in 2011, and the template will be applied to the landscape industry.

Boulder County Youth Corps Team

In 2010, the Keep it Clean Partnership sponsored a Youth Corps Team. The Keep it Clean Partnership solicited the help of five Boulder County Youth Corps teens and their team leader in the summer to help improve the condition of our waterways. The team built trails near waterways, removed muck from a detention basin, bagged up trash, and hung door hangers.

In just eight short weeks, the team completed the following accomplishments:

- ◆ Cleaned and assessed 14.15 miles of streams
- ◆ Marked 170 storm drains
- ◆ Distributed 2,810 door hangers
- ◆ Removed 267 lbs. of trash and 103 lbs. of recycling (including 16 lbs. of golf balls)
- ◆ Mulched 133 trees
- ◆ Built ¼ mile of trail and maintained 220 feet of trail
- ◆ Removed 3,687 cubic feet of sludge and weeds and trees
- ◆ Identified 4 locations of standing water
- ◆ Identified 2 potential illicit discharges
- ◆ Talked to 19 people

The Youth Corps provides opportunities for Boulder County teens to develop a sense of community involvement through personal accomplishment, teamwork, and service to the county. Corps members benefit by learning strong work habits, new skills, and the value of environmental and civic stewardship. Keep it Clean Partnership plans to work with a Public Health Youth Corps team again in 2011.

Illicit Discharge Education to Business and the Public

Partners for a Clean Environment (PACE) program reaches restaurants, vehicle service facilities, and other businesses that have the potential to adversely impact water quality. Outreach is performed either by direct personal contact, educational materials, or web resources.

The KICP Education Program informs residents of the impact of improper disposal of wastes. This is done through direct personal contact, educational materials, or web resources.

The PACE Program conducts visits and observations with commercial business. The point of contact is to educate on proper practices so water quality is not adversely affected. For details on the business outreach effort, see the Minimum Control Measure (MCM) 3 section.

The KICP Education Program continued personal contact to educate the public on the impact of daily activities on water quality. This is conveyed during event booth and school interactions.

2011 Focus

During the development of the 2008-2013 KICP programs, a stronger emphasis on adult outreach was outlined. The KICP Stormwater Education Program has realized that the development of a communications plan is instrumental in effectively recruiting for the predominately adult-focused Stream Team, Speaker, and Watershed Stewardship Programs.

Boulder County Youth Corps

Again in 2011, KICP Education staff will work with the Boulder County Youth Corps. The KICP education coordinator will refine the 2010 organizational plan and will work closely with KICP Partners to ensure a successful and efficient 2011 Youth Corps season.

Keep it Clean Campaign Refresh

Moving forward on recommendations outlined in the action plan requires determining an overall budget and prioritizing campaign elements. Beginning in 2011, the KICP Education team will work with PACE and the KICP coordinator to identify priority campaign activities, the associated budget, and an implementation timeline.

Coordinated KICP/PACE Car Wash and Landscape Campaign

PACE and KICP Education staff will again work together on a coordinated car wash campaign in 2010. In addition, the groups will coordinate on a landscape campaign which targets residents and the landscape industry.

Website Refresh

KICP Education Program coordinator along with the KICP coordinator will work closely with the hired consultant on website re-development and migration to a stand-alone, staff maintained website. KIC Partners will receive project updates and will have opportunity to provide input at specific intervals throughout the project time line. The refreshed website is slated to be live by July 1, 2011.

Year of Water 2012

KICP Education Program coordinator will keep the KICP in the loop with Year of Water 2012 activities and will provide guidance to the Partners as to how the KICP can celebrate via specific programs in 2012. Staff is participating in the Year of Water 2012 K-12 and statewide campaign subcommittees.

Program Changes

The neighborhood stewardship program will still be offered, but it will not be actively promoted. Resources will be allocated to developing the Youth Corps program and expanding the Speakers Program.

Budget

Proposed: \$145,324

Actual: \$139,226

Unexpended funds: \$6,098

MCM 2 - Public Involvement and Participation

Permit Requirement

The 2008-2013 permit requires:

The permittee must implement a public involvement program as follows:

- 1) *The permittee must comply with the State and local public notice requirements when implementing the CDPS Stormwater Management Programs required under this permit. Notice of all public hearings should be published in a community publication or newspaper of general circulation, to provide opportunities for public involvement that reach a majority of citizens through the notification process.*
- 2) *The permittee must provide a mechanism and process to allow the public to review and provide input on the CDPS Stormwater Management Program.*

Program Objective

Promoting Public Participation: To ensure buy-in and support from the public, participation is critical. This includes providing information and seeking public input on stormwater management issues.

Program Implementation

The Keep it Clean Partners contract with the City of Boulder to provide the Keep it Clean Education Programs, which includes activities required under MCM 1 and MCM 2 for all Keep it Clean Partner communities. Individual Partners are responsible for certain program elements, such as directing their citizens to the KICP website. The Keep it Clean programs include participatory programs, such as storm drain stenciling and stream teams. The KICP Steering Committee agendas and minutes are posted monthly online. The entire KICP Education Program's annual report is available at www.KeepitCleanPartnership.org. The following is a summary of that report, as it relates to public participation.

Public Notices

The KICP Steering Committee agendas and minutes are posted monthly online. All individual KICP Partner's meetings are publicly noticed, as required by local ordinance.

Providing a Mechanism for Public Involvement/Feedback

Either the general KICP or the KICP Education phone number is listed on publications. The KICP website lists all the contact information for all Partners. Each Partner's website provides a link to the KICP website. The KICP Stormwater Management Program descriptions document is posted on the KICP website. An outreach booth (see MCM 1) is sponsored annually in each Partner community, where program feedback and suggestions are welcomed from the public.

The public continued to navigate through the Keep it Clean Partnership background information (including the six MCMs, annual reports, and stormwater resources) and Education and Outreach Program information. The www.KeepitCleanPartnership.org website is updated frequently to include the most current project information. In addition, teachers and staff continue to use this site for program registration.

Website Viewings

Year	Average Monthly Requests	Average Monthly Distinct Hosts Served
2004	1,587	703
2005	3,363	859

2006	3,029	1,543
2007	2,653	1,380
2008	3,373	1,340
2009	3,332	1,150
2010	3,898	971

All Keep it Clean Partners list the Keep it Clean website on their own communities' websites, which include:

- ◆ **Boulder County:** www.bouldercounty.org
- ◆ **Boulder:** www.boulderwater.net
- ◆ **Longmont:** www.ci.longmont.co.us
- ◆ **Louisville:** www.ci.louisville.co.us
- ◆ **Superior:** www.townofsuperior.com
- ◆ **Erie:** www.erieco.gov

Website Refresh

The Keep it Clean Partnership solicited informal proposals for the development of a website that evolves the current website to a more contemporary, dynamic, and interactive website. The project was awarded in late December with an expected commencement in January 2011.

The managed by the KICP Education coordinator in tandem with the KICP coordinator, includes the following activities:

- ◆ Migration of current website content to a new, stand-alone website.
- ◆ New site map development
- ◆ New site design
- ◆ Training on website maintenance

Keep it Clean Partnership Programs in the Press

- ◆ The KICP Education Program's Boulder County Youth Corps was featured in an article in the September/October edition of *Longmont Life*, which reaches 42,000 community members.
- ◆ The Keep it Clean Partnership and water quality message was the focus of an article in the *Boulder Weekly* on November 18, 2010.
- ◆ The Water Festival program was mentioned in a caption and in a large picture in the "Local" section of the *Daily Camera* on May 13, 2010.
- ◆ The Boulder County Youth Corps Public Health (Keep it Clean) team was the focus of an article in the *Louisville Times* on July 21, 2010.

Presentations at Conferences

In October 2010, The KICP Education Coordinator presented information on the Keep it Clean campaign refresh project at the Colorado Foundation for Water Education's pre-conference workshop held in Vail, Colorado.

Program Changes

None

Budget

Funds are identified in MCM 1.

MCM 3 - Illegal Discharge Detection and Elimination

Permit Requirement

The 2008-2013 permit requires:

The permittee must develop, implement and enforce a program to detect and eliminate illicit discharges (as defined at 61.2) into the permittee's MS4. Illicit discharges do not include discharges or flows from firefighting activities, or other activities specifically authorized by a separate CDPS permit. The permittee must:

- 1) *Develop and maintain a current storm sewer system map, showing the location of all municipal storm sewer outfalls and the names and location of all state waters that receive discharges from those outfalls.
 - a. *To the extent allowable under State or local law, effectively prohibit, through ordinance or other regulatory mechanism, illicit discharges (except those identified in subparagraph 5 and 6 of this section) into the storm sewer system, and implement appropriate enforcement procedures and actions.**
- 2) *Develop, implement, and document a plan to detect and address non-stormwater discharges, including illicit discharges and illegal dumping, to the system. The plan must include the following three components: procedures for locating priority areas likely to have illicit discharges, including areas with higher likelihood of illicit connections; procedures for tracing the source of an illicit discharge; and procedures for removing the source of the discharge.*
- 3) *Develop and implement a program to train municipal staff to recognize and appropriately respond to illicit discharges observed during typical duties. The program must address who will be likely to make such observation and therefore receive training, and how staff will report observed suspected illicit discharges.*
- 4) *Specific Deadline for Renewal Permittees: Renewal Permittees must comply with the requirement of subparagraph (4) by no later than December 31, 2009.*
- 5) *Address the following categories of non-stormwater discharges or flows (i.e., illicit discharges) only if the permittee identifies them as significant contributors of pollutants to the permittee's MS4: landscape irrigation, lawn watering, diverted stream flows, irrigation return flow, rising ground waters, uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20)), uncontaminated pumped ground water, springs, flows from riparian habitats and wetlands, water line flushing, discharges from potable water sources, foundation drains, air conditioning condensation, water from crawl space pumps, footing drains, individual residential car washing, dechlorinated swimming pool discharges, and water incidental to street sweeping (including associated sidewalks and medians) and that is not associated with construction.*

The permittee may also develop a list of occasional incidental non-stormwater discharges similar to those in the above paragraph, (e.g., non-commercial or charity car washes, etc.) that will not be addressed as illicit discharges. These non-stormwater discharges must not be reasonably expected (based on information available to the permittee) to be significant sources of pollutants to the MS4, because of either the nature of the discharges or conditions the permittee has established for allowing these discharges to the MS4 (e.g., a charity car wash with appropriate controls on frequency, proximity to sensitive water bodies, BMPs, etc.). The permittee must document in their program any local controls or conditions placed on the discharges. The permittee must include a provision prohibiting any individual non-stormwater discharge that is determined to be contributing significant amounts of pollutants to the MS4.

- 6) *The following sources are excluded from the prohibition against non-stormwater discharges and the requirements of subsections (2) and (3) above:*
- a. *Discharges resulting from emergency firefighting activities. Such discharges are specifically authorized under this permit (see Part I.A.2)*
 - b. *Discharges specifically authorized by a separate CDPS permit.*

Program Objective

Detecting and Eliminating Improper or Illegal Connections and Discharges: A cost-effective way to reduce some of the worst stormwater pollutants is to identify and eliminate illegal connections and discharges.

Program Implementation

The Keep it Clean Plan includes public and municipal employee education training, spill response, and regulatory language to control illegal discharges. In addition, public information material discusses the impacts of spills on water quality and lists a hotline for reporting illegal discharges.

The maintenance of the outfall map, the response to discharges, and enforcement is performed by the individual KICP Partners.

Outfall Map

All KICP Partners have completed their outfall maps, which are updated on an as-needed basis.

The CDPS Stormwater Management Program Description document submitted by KICP in October 2008 details the individual Partners’ process for updating outfall maps.

Regulatory Mechanism

All Keep it Clean Partners have illegal discharge ordinances in place. The following table includes web links to the Partners’ ordinances.

Partner	Ordinance Adopted	Web Link
Boulder	December 6, 2004	Boulder Revised Code 1981, Title 11, Chapter 5, Section 5 (b) (BRC 11-5-5b)
Longmont	January 12, 2005 April 2009 (revised)	Chapter 14.26, Stormwater Illicit Discharges and Permit Requirements
Boulder County	September 13, 2005	Ordinance no. 2005-1, Ordinance Concerning Illicit Stormwater Discharge
Louisville	December 21, 2004	Title 13, Water/Sewer, Chapter 13.36
Erie	November 9, 2004	Title 8, Chapter 4, Illicit Discharges and Storm Water Quality Permit Requirements
Superior	December 13, 2004	Chapter 11, Article IV

Illicit Discharge Detection and Elimination Plan

Each KICP Partner has developed and is implementing a plan that addresses illicit discharges and illegal dumping to their storm drainage systems. The plans include the following three components: procedures for locating priority areas likely to have illicit discharges, procedures for tracing the source of an illicit discharge, and procedures for removing the source of the discharge. In addition, Boulder County's Partners for a Clean Environment (PACE) Program assists in identifying illicit and threatened discharges. They educate the offender and refer the information to the enforcing community. Discharges that are unknown or hazardous in nature are responded to by the local municipal fire department with assistance from the County's Environmental Emergency Response Team.

The CDPS Stormwater Management Program Description document submitted by KICP in October 2008 details the individual Partners description of plans and procedures in place for locating, tracing, and removing illicit discharges.

The Keep it Clean Partners shared an illegal discharge incident database, hosted on the www.KeepitCleanPartnership.org website. The Boulder County Environmental Emergency Response Team (EERT), which responds to hazardous material and other spills, has contributed data to the database as well.

Illicit Discharge Enforcement Actions

Partner	Totals	Enforcement Actions
Boulder	14	1 fine, 10 written, 2 verbal, 1 cleanup
Longmont	46	21 written, 22 verbal, 3 cleanup
Boulder County	2	2 verbal
Louisville	0	
Erie	4	4 verbal
Superior	48	18 written, 30 verbal
Total	114	109*

* includes only verbal and written

Illicit Discharge Education to Businesses

Partners for a Clean Environment (PACE) Program reaches restaurants, vehicle service facilities, and other businesses that have the potential to adversely impact water quality. Outreach is performed either by direct personal contact, educational materials, or web resources.

The Keep it Clean Partners contract with the Boulder County Partners for a Clean Environment (PACE) Program to provide stormwater pollution prevention education and materials to businesses operating in the Keep it Clean communities. Major work elements performed by PACE in 2010 for the KICP are outlined below.

About PACE

PACE offers a pollution prevention certification program to various business sectors and has expanded outreach efforts beyond the certification program. PACE services are offered free-of-charge to businesses.

The five program areas implemented to address business activities with stormwater impacts are:

1. Continued Outreach to Existing Sectors.
2. Outreach to New Sectors.
3. PACE Allies.
4. One-on-One Training.
5. Beyond PACE.

Annually, the Keep it Clean Partners assign priority to these programs for their communities. Based on these priority rankings, each KICP community receives a customized scope of work. Each of these programs is described below, along with the results achieved in 2010.

Continued Outreach to Existing Sectors/PACE Certification

For over 15 years, PACE has delivered educational outreach on a range of topics, including energy efficiency, water conservation, and resource management to businesses in Boulder County. For the past eight years, PACE has included stormwater protection messages in its outreach to restaurants, auto repair facilities, and retail businesses in support of the KICP. While the majority of the businesses in these sectors have been contacted by PACE, repeated visits are typically necessary to counteract such factors as employee turnover and simple apathy.

PACE conducted site visits, which provided one-on-one technical assistance to educate businesses, identify stormwater impacts, and identify solutions.

Existing Sector Outreach

Partner	Existing Sector Visits
Boulder	50
Longmont	27
Boulder County	2
Louisville	4
Erie	2
Superior	5
Total	90

New Sector Outreach

PACE provides stormwater outreach to businesses that are not currently included in PACE’s existing certification program. These business sectors included commercial building maintenance, facility managers, pressure washers, do-it-yourself auto parts stores, and equipment rental stores.

PACE developed stormwater pollution prevention best management practices (BMPs) and outreach material for gas stations and carwashes. In 2010, the activities were surveyed, and 24 signs thanking patrons for using a commercial carwash were installed.

PACE also distributed 1,300 brochures and 200 chamois to 6 rental stores and 10 auto parts stores in the KICP communities.

New Sector Outreach

Partner	Gas Station Visits (total)	Car Wash Visits (total)
Boulder	11 (26)	4 (5)
Longmont	11 (27)	8 (10)
Boulder County	3 (3)	1 (1)
Louisville	2 (4)	2 (2)
Erie	1 (2)	3 (1)
Superior	1 (3)	1 (3)
Total	29(65) 45% visited	19 (22) 86% visited

PACE Allies

The PACE Allies program was developed as a mechanism for working with service providers that do not fit the traditional PACE model of businesses – of being in a fixed location. Service providers like mobile cleaners and landscape maintenance companies can affect a business’s ability to comply with stormwater ordinances. Certifying these service providers will allow PACE to present businesses with a list of service providers that understand and are able to follow stormwater BMPs.

Pressure Washers:

- ◆ Online training and test completed and posted on the Boulder County Public Health (BCPH) website.
- ◆ Three pressure washers completed the training and exam and are now recognized.
- ◆ Five municipal employees have taken the training and passed the test.
- ◆ PACE shared the training module with the City of Denver’s Environmental Health Division, which plans to post a version on their website.
- ◆ Letters explaining the training and certification were sent to 45 pressure-washing businesses, and follow-up phone calls have been made.

Landscapers:

- ◆ Letters explaining the training and certification were sent to 38 landscaping businesses.

One-on-One Training

Property managers can often have a greater impact on stormwater quality than the individual tenants or property owners. Property managers are typically responsible for the cleaning of parking areas and building exteriors, providing and maintaining dumpsters, and servicing HVAC equipment. In 2010,

the outreach to property managers was expanded to include information on permanent water quality structures and focused primarily on facility managers servicing multifamily complexes.

One-on-One Training

Partner	Training Visits
Boulder	6
Longmont	7
Boulder County	2
Louisville	1*
Erie	1
Superior	1
Total	18

*Sweep performed in lieu of HOA visit

Beyond PACE Outreach

Activities that negatively impact stormwater quality are frequently observed in non-PACE sectors. The hours provided by the KICP Partners allow PACE to respond to these incidents and provide educational outreach on regulations and BMPs. The outreach was conducted at the request of a KICP community or when observed by PACE staff when working in the field.

PACE staff documented the incidents and forwarded the information to the appropriate KICP community personnel. At the end of the 3rd quarter, PACE notifies the Keep it Clean Partners with remaining hours and asks that they identify specific geographic business areas to be targeted by PACE for outreach.

Beyond PACE Outreach

Partner	Actual Hours
Boulder	44
Longmont	27
Boulder County	9
Louisville	9
Erie	4
Superior	2
Total	95

Municipal Staff Education

PACE provides yearly and as-requested training to KICP Partners' municipal staff on observing and reporting illicit discharges. This training is provided to field personnel during classroom and/or tailgate sessions.

Number of Employees Trained per Municipality and Department

Partner	Fleets	Public Works/ Streets	Parks/ Golf	Facility Maintenance	Fire Depart	WWTP and Contractors	Total
Boulder		13	46				59
Longmont		6	53			27	86
Boulder County		59		18			77
Louisville		7	8			15	30
Erie		17	16			1	34
Superior		2	2		1		5
Total		104	125	18	1	43	291

Household Hazardous Waste (HHW) Disposal Program

Though not a permit requirement, all of the Keep it Clean Partners signed a five-year intergovernmental agreement to participate in the countywide Household Hazardous Waste (HHW) Program. The shared cost for implementing the HHW Program is separate from the KICP Program, and therefore is not included in the MCM's budget.

Program Changes

None

Budget

Proposed: \$77,193

Actual: \$71,421

Unexpended funds: \$5,772

MCM 4 - Construction Site Stormwater Runoff Control

Permit Requirement

The 2008-2013 permit requires:

The permittee must:

- 1) *Develop, implement, and enforce a program to reduce pollutants in any stormwater runoff, and to reduce pollutants in, or prevent when required in accordance with I.B.3, non-stormwater discharges that have the potential to result in water quality impacts (e.g., construction dewatering, wash water, etc.), to the MS4 from construction activities that result in a land disturbance of one or more acres. Reduction of pollutants in discharges from construction activity disturbing less than one acre must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one or more acres. If the Division waives requirements for stormwater discharges associated with a small construction activity in accordance with 61.3(2)(f)(ii)(B) (the “R-Factor” waiver), the permittee is not required to develop, implement, and/ or enforce its program to reduce pollutant discharges from such a site.*
- 2) *Develop and implement the program to assure adequate design, implementation, and maintenance of BMP’s at construction sites within the MS4 to reduce pollutant discharges and protect water quality. The program must include, at a minimum, the development, implementation, and documentation of:*
 - i) *Program Requirements, including:*
 - A) *An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions and procedures adequate to ensure compliance, to the extent allowable under State or local law.*
 - B) *Requirements for construction site operators to implement appropriate erosion and sediment control BMP’s.*
 - C) *Requirements for construction site operators to implement BMP’s to control waste such as discarded building materials, concrete truck washout, chemicals, litter, sanitary waste, and other non-stormwater discharges including construction dewatering and wash water, at the construction site that may cause adverse impacts to water quality.*
 - ii) *Compliance Assessment, including:*
 - A) *Procedures for site plan review which incorporate consideration of potential water quality impacts.*
 - B) *Procedures for construction site compliance assessment, including*
 - 1) *Site inspections; and*
 - 2) *Receipt and consideration of information submitted by the public.*
 - iii) *Compliance Assurance, including:*
 - A) *Procedures for enforcement of control measures that includes documented procedures for response to violations of the permittee’s program requirements. Procedures must include specific processes and sanctions adequate to minimize the occurrence of, and obtain compliance from, chronic and recalcitrant violators of control measures.*
- 1) *Specific Deadline for Renewal Permittees: Renewal Permittees must comply with the requirement of subparagraph*

(A) to develop, document and implement response procedures that specifically address chronic and recalcitrant violators by no later than December 31, 2009.

B) An education and training program for municipalities, their representatives and/or construction contractors. At a minimum, the program must include an information program for construction site operators unfamiliar with the reviewing authority's regulatory requirements.

Program Objective

Controlling Construction Site Runoff: Effective construction site pollution prevention can dramatically reduce sediment loading to stream ecosystems. An effective erosion control program must include adequate ordinance language, effective inspection and enforcement, and appropriate development and construction standards.

Program Implementation

The Keep it Clean Plan includes all of the previously mentioned components. In addition, the Keep it Clean Plan includes contractor training and a certification program. These program elements ensure consistent countywide education and minimum standards.

Regulatory Mechanism

All Keep it Clean Partners have construction ordinances in place. The following table includes web links to the Partners' ordinances.

Partner	Ordinance Adopted	Web Link
Boulder	December 6, 2004	Boulder Revised Code 1981, Title 11, Chapter 5, Section 5 (b) (BRC 11-5-5b)
Longmont	January 12, 2005 June 2009 (revised)	Chapter 14.26, Stormwater Illicit Discharges and Permit Requirements
Boulder County	August 11, 2005	Article 7, Development Standards
Louisville	December 21, 2004	Title 13, Water/Sewer, Chapter 13.36
Erie	November 9, 2004	Title 8, Chapter 4, Illicit Discharges and Storm Water Quality Permit Requirements
Superior	December 13, 2004	Chapter 11, Article IV

Requirements for Construction Site Operators to Implement Appropriate Erosion Control BMPs

All KICP Partners' ordinances require that stormwater management plans meet the requirements of the CDPS General Permit for Stormwater Discharges Associated with Construction Activities (Stormwater Construction Permit). All KICP Partners ordinances require that BMPs are designed to meet the technical standards of:

Urban Drainage and Flood Control District's Urban Storm Drainage Criteria Manual Volume 3-BMP or its successor.

Any other alternative methodology approved by the jurisdiction, which is demonstrated to be effective.

In 2010, Urban Drainage and Flood Control finalized the updating of Volume 3.

Requirements for Construction Site Operators to Control Waste including Discarded Building Materials, Concrete Truck Washout, Chemicals, Litter, and Sanitary Waste

All KICP Partners' ordinances require that stormwater management plans meet the requirements of the CDPS General Permit for Stormwater Discharges Associated with Construction Activities (Stormwater Construction Permit). The Stormwater Construction Permit requires that Stormwater Management Plans (SWMPs) include practices for stormwater pollution prevention, which includes controlling waste, such as discarded building materials, concrete truck washout, chemicals, litter, sanitary waste, and other non-stormwater discharges, including construction dewatering and wash water.

Procedures for Site Plan Review

All KICP Partners' ordinances require that stormwater management plans meet the requirements of the CDPS General Permit for Stormwater Discharges Associated with Construction Activities (Stormwater Construction Permit).

The CDPS Stormwater Management Program description document submitted by KICP in October 2008 details the individual Partners' processes for construction site plan submittal, review, and preliminary approval process; the system used to track status of stormwater control site plans; procedures for ongoing review of site plans during active construction; and how consideration of potential water quality impacts are achieved.

Procedure for Receipt and Consideration of Information Submitted by the Public

Each KICP Partner has community specific procedures in place for receiving and recording public complaints.

The CDPS Stormwater Management Program description document submitted by KICP in October 2008 details the individual Partners' processes for processing inquiries or tracking and documenting complaints received from the public.

Procedures for Site Inspection and Enforcement of Control Measures.

Each KICP Partner has community-specific procedures in place for conducting construction site inspections and enforcement. The procedures may include how inspections are conducted, documented and how enforcement is carried out. The KICP Partners utilize verbal warnings through stop work orders. Enforcement options are described in each Partner's ordinance.

The CDPS Stormwater Management Program description document submitted by KICP in October 2008 details the individual Partners' procedures used for inspections; it includes inspection documentation, frequency, and prioritization, and how sites and inspections are tracked. Procedures for regularly scheduled compliance inspections, complaint response inspections, and reconnaissance inspections (as applicable) are described. In addition, procedures used for enforcement, to include any documentation used that dictates responses to non-compliance; tracking of enforcement actions; enforcement tools; and escalation procedures for chronic and recalcitrant violators are described.

Construction Inspections and Enforcement

Partner	Number of Active Construction Sites Over an Acre	Number of Inspections	Enforcement Actions
Boulder	39	Full -252 Reconnaissance - 545	1 fine, 1 stop work, 20 written, 51 verbal
Longmont	38	Full -300	27 verbal
Boulder County	13	Full -12 Reconnaissance- 20	1 stop work, 8 written, 15 verbal
Louisville	8	Full - 91	1 fine, 14 written
Erie	24	Full - 1 Reconnaissance - 500	16 written, 50 verbal
Superior	15	Full - 117 Reconnaissance - 15	3 written, 3 verbal
Total	137	Full - 773 Reconnaissance - 1080	208*

*Includes only written and verbal

Training and Education for Construction Site Operators

Each KICP Partner informs construction site operators of the regulatory requirements during the pre-construction meeting. The KICP website has a page specific to construction and lists link to each Partner's ordinance. The KICP Partners offer construction site stormwater management trainings, which are open to both municipal and private entities.

The KICP has been implementing a training program for construction site operators and inspectors since 2003. Most of the Keep it Clean Partners require, by ordinance, that the individuals inspecting erosion control and sediment removal practices be certified by an acceptable program.

The Keep it Clean Partners chose to hire a contractor to audit municipal construction inspectors to be sure that individual Partners are implementing the requirements that surround the MS4 construction program oversight.

The contractor's findings will continue to aid the Partners in ensuring compliance. Recommendations made by the contractor include:

- ◆ Ensuring that inspectors understand the difference between sediment and erosion control.
- ◆ Implementing erosion control as soon as the earth is disturbed.
- ◆ Facilitating inspector plan reading skills; ensuring that inspectors understand why it's important to install BMPs per an approved plan set.
- ◆ Making inspectors part of the team, helping them understand the CDPHE permit requirements. (Example: Control of potential pollutant sources, tracking.)
- ◆ Ensuring that inspectors understand that BMP maintenance is a vital part of their stormwater protection role.
- ◆ Considering conducting a more in-depth audit which looks at documentation relative to site conditions.
- ◆ Ensuring more interdepartmental coordination.
- ◆ Recognizing special construction processes during the plan review phase.
- ◆ Considering targeted on-site training for inspectors.
- ◆ Developing inspection procedures.

Forty-four individuals from the private and public construction sector participated in the Keep it Clean erosion control certification training, and 33 individuals participated in a waterway best management training class.

Program Changes

KICP is now offering Colorado Department of Transportation erosion control certification.

Budget

Proposed: \$26,095

Actual: \$22,549

Unexpended funds: \$3,546

MCM 5 - Post-Construction Stormwater Management

Permit Requirement

The 2008-2013 permit requires:

The permittee must develop, implement, and enforce a program to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the MS4. The program must ensure that controls are in place that would prevent or minimize water quality impacts. The permittee must:

- 1) Develop, implement, and document strategies which include the use of structural and/or non-structural BMPs appropriate for the community that address the discharge of pollutants from new development and redevelopment projects, and/or that maintain or restore hydrologic conditions at sites to minimize the discharge of pollutants and prevent in-channel impacts associated with increased imperviousness;*
- 2) Use an ordinance or other regulatory mechanism to address post- construction runoff from new development and redevelopment projects to the extent allowable under State or local law;*
- 3) Develop, implement, and document procedures to determine if the BMPs required under Item (1), above, are being installed according to specifications. (This may be developed in conjunction with the Construction program area, as described in Part I.B.4);*
- 4) Develop, Implement, and document procedures to ensure adequate long-term operation and maintenance of BMPs, including procedures to enforce the requirements for other parties to maintain BMPs when necessary;*
- 5) Develop, implement, and document an enforcement program, which addresses appropriate responses to common noncompliance issues, including those associated with both installation (subparagraph (3), above) and long term operation and maintenance (subparagraph (4), above) of the required control measures;*
- 6) Develop and implement procedures and mechanisms to track the location of and adequacy of operation of long-term BMPs implemented in accordance with the program.*

Program Objective

Addressing Stormwater in New Development and Redevelopment: It is estimated that when a tributary drainage basin reaches 10–20 percent impervious, there are significant ecological stresses on the aquatic ecosystem. Therefore, the most important strategy for addressing stormwater is to focus on land use and development. One of the best strategies is to address the aggregate amount of new impervious surfaces and disconnecting impervious areas. Other strategies include implementing effective best management practices (BMPs) for the control and treatment of site runoff, such as stormwater detention or grass swales. An effective post-construction program must include adequate ordinance language, effective inspection, and enforcement.

Program Implementation

The Keep it Clean Plan includes all of the aforementioned components. In addition, the Keep it Clean Partners continue to educate municipal staff and the private sector in the advantages of infiltration BMPs. The 2008-2013 permit language includes added language to strengthen the goal of implementing BMPs that would benefit water quality over time and attempt to reduce the impact of land development.

Regulatory Mechanism

All Keep it Clean Partners have post-construction ordinances in place. The following table includes web links to the Partners' ordinances.

Partner	Ordinance Adopted	Web Link
Boulder	December 6, 2004	Boulder Revised Code 1981, Title 11, Chapter 5, Section 5 (b) (BRC 11-5-5b)
Longmont	January 12, 2005 June 2009 (revised)	Chapter 14.26, Stormwater Illicit Discharges and Permit Requirements
Boulder County	August 11, 2005	Article 7, Development Standards
Louisville	December 21, 2004	Title 13, Water/Sewer, Chapter 13.36
Erie	November 9, 2004	Title 8, Chapter 4, Illicit Discharges and Storm Water Quality Permit Requirements
Superior	December 13, 2004	Chapter 11, Article IV

Design Criteria and Standards

All KICP Partners, by ordinance, have required BMPs designed to meet the technical standards of:

Urban Drainage and Flood Control District's Urban Storm Drainage Criteria Manual-Volume 3 BMP or its successor.

Any other alternative methodology approved by the jurisdiction that is demonstrated to be effective.

Review and Approval Procedures

Each KICP Partner has community-specific procedures and requirements in place that address how plans for both public and private BMPs are tracked, reviewed, and confirmed as built.

The CDPS Stormwater Management Program description document submitted by KICP in October 2008 details the individual Partners' procedures for plan review process; the systems implemented to track status of plans; how correct installation of BMPs is confirmed; and the enforcement procedures used when BMPs have not been built as approved.

Tracking

Each KICP Partner has a system to track permanent BMP locations and requirements for maintenance of BMPs installed since the adoption of their ordinance.

The CDPS Stormwater Management Program description document submitted by KICP in October 2008 details the individual Partners' procedures for tracking permanent BMP locations and maintenance history.

Ensuring Operation and Maintenance

Each KICP Partner has community-specific procedures in place for conducting BMP inspections and enforcement. Each KICP Partner has community-specific procedures for enforcement. Enforcement options are described in each Partner's ordinance.

The CDPS Stormwater Management Program description document submitted by KICP in October 2008 details the individual Partners' inspection programs, including routine and complaint response inspections.

Post-Construction Inspection and Enforcement

Partner	Number of New BMPs in 2010	Total Number of Existing BMPs	Number of BMPs Inspected	Number of BMP Inspections	Enforcement Actions
Boulder	12	110	110	110	3
Longmont	2	63	10	10	1
Boulder County	6	8	2	2	0
Louisville	1	17	17	17	0
Erie	1	5	5	9	9
Superior	2	36	36	238	0
Total	24	239	180	386	13

Program Changes

None

Budget

Proposed: \$4,899

Actual: \$3,524

Unexpended funds: \$1,375

MCM 6 - Pollution Prevention and Good Housekeeping for Municipal Operations

Permit Requirement

The 2008-2013 permit requires:

The permittee must develop and implement an operation and maintenance program that includes an employee training component and has the ultimate goal of preventing or reducing pollutants in runoff from municipal operations. The program must also inform public employees of impacts associated with illegal discharges and improper disposal of waste from municipal operations. The program must prevent and/or reduce stormwater pollution from facilities such as streets, roads, highways, municipal parking lots, maintenance and storage yards, fleet or maintenance shops with outdoor storage areas, salt/sand storage locations and snow disposal areas operated by the permittee, and waste transfer stations, and from activities such as park and open space maintenance, fleet and building maintenance, street maintenance, new construction of municipal facilities, and stormwater system maintenance, as applicable. The permittee must:

- 1) *Develop and maintain written procedures for the implementation of an operation and maintenance program to prevent or reduce pollutants in runoff from the permittee's municipal operations. The program must specifically list the municipal operations (i.e., activities and facilities) that are impacted by this operation and maintenance program. The program must also include a list of industrial facilities the permittee owns or operates that are subject to separate coverage under the State's general stormwater permits for discharges of stormwater associated with industrial activity;*
 - i. *Specific Deadline for Renewal Permittees: Renewal Permittees must comply with the requirement of subparagraph (1) by no later than December 31, 2009.*
- 2) *Develop and implement procedures to provide training to municipal employees as necessary to implement the program under Item 1, above.*

Program Objective

Implementing Pollution Prevention for Municipal Operations. A surprising number of municipal operations can affect water quality and quantity. These activities range from the storage and handling of harmful chemicals to the maintenance of municipal properties, vehicles, roads, and storm sewer systems. Activities like integrated pest management, water conservation, recycling, and education programs can prove to be very effective in addressing these pollutant sources.

Program Implementation

The KICP provides an education and certification/compliance program through the Partners for a Clean Environment (PACE) Program for municipal operations.

Implementation of an Operation and Maintenance Program

The Partners for a Clean Environment (PACE) Program provides a stormwater pollution prevention program to KICP Partners' municipal facilities through an inspection and certification program. Certification is based on criteria developed specifically for the facility through industry standards and municipal staff recommendations. Facilities are targeted based on potential to impact water quality. PACE conducts yearly or biannual audits of municipal operations to ensure that procedures are being implemented that meet the self-imposed certification program. PACE notifies the facility or operations manager, as well as the KICP Partner's stormwater manager, if any deficiencies are noted during sites visits.

The Keep it Clean Partners contracts with the PACE Program to develop a certification program for municipal operations. The following outlines a summary of activities completed in 2010.

Outreach to Municipal Operations

In 2010, 75 site visits were conducted at municipal facilities in the KICP communities. Site visits involved walking around the facility, performing an audit of stormwater BMPs, documenting non-compliance issues, taking photographs (that were later used for training staff), completing PACE’s criteria checklist, sending follow-up letters with photos and information on how to improve, reviewing or providing self-inspection checklists, and/or reviewing the facility’s certification status and plans. Pre-site visits, “windshield surveys,” were conducted prior to or separate from site visits but were not counted as a “site visit” until the final letter and meeting were completed.

Site Visits per Municipality

Partner	Completed Site Visits or Reviews
Boulder	25
Longmont	16
Boulder County	15
Louisville	8
Erie	6
Superior	5
Total	75

Municipal Employee Stormwater Training Program

PACE provides yearly and as-requested training to municipal staff on operational BMPs and on observing and reporting illicit discharges. This training is provided to field personnel during classroom and/or tailgate sessions.

Newsletters and recognition programs may be used to support this effort.

PACE has designed several training approaches to ensure the most effective approach for the target audience.

New and Seasonal Employee Training

Two different stormwater training presentations have been developed for the different municipal sectors: *Stormwater 101* for Tier 1 Operations (fleet, parks, golf course, street and storm drain maintenance), and *Stormwater 102* for Tier 2 Operations (municipal fire departments, building & facilities maintenance departments). Both trainings provide basic information on stormwater compliance, illicit discharge identification and reporting, local contact information, and best management practices to prevent stormwater pollution. The “*Storm Watch*” video, created in 2006 for KICP/PACE, is viewed during the training classes. The *Stormwater 101* and *102* presentations can be found at www.pacepartners.com.

Tailored, On-site Training

These customized, on-site trainings required PACE staff to visit the facility before the training to take photos of stormwater issues/concerns, good housekeeping measures, and/or BMPs. The photos were then incorporated into a customized presentation. This approach helps employees to recognize and take ownership of stormwater issues at their job sites. It also provides PACE staff with a chance to conduct a site visit for stormwater compliance. Employees that implemented BMPs or good housekeeping measures were recognized by rewards of gift certificates, and their names were listed in the quarterly *Stormwater* newsletters (See “Employee Recognition” below). PACE staff then returned to the facility to ensure issues were addressed, or they requested that the manager contact them when the matter was resolved.

Tailgate Training

“Tailgate” training sessions were conducted with municipal and contracted employee where PACE would observe daily field operations and provide input on stormwater issues. These tailgate sessions allowed PACE staff to better understand the challenges to stormwater pollution prevention on the job and to observe standard operating procedures.

In total, 291 employees were trained at 12 different training sessions.

Number of Employees Trained per Municipality and Department

Partner	Fleets	Public Works/ Streets	Parks/ Golf	Facility Maintenance	Fire Depart	WWTP and Contractors	Total
Boulder		13	46				59
Longmont		6	53			27	86
Boulder County		59		18			77
Louisville		7	8			15	30
Erie		17	16			1	34
Superior		2	2		1		5
Total		104	125	18	1	43	291

Municipal Employee Recognition Program

The Municipal Employee Recognition Program, or “*Stormwater Heroes*” program, was designed to increase municipal staff’s knowledge and awareness of stormwater pollution prevention so they would participate in water protection behaviors. The program was also intended to empower staff to protect local water quality and to recognize that the work that they do directly affects water quality. PACE recognized employees who protected storm drains or reported illegal discharges with awards, such as stickers, water bottles, names in newsletters, and/or gift certificates. Community-based social marketing techniques were utilized to change employee behavior.

The Municipal Employee Pledge Program was developed to create ownership and to motivate employees to take actions to protect storm drains and keep our water clean. Employees are asked during training sessions to pledge to “Keep It Clean.” They receive a printed pledge form to remind them of their pledge and a water bottle as a prompt. The employees signed their pledge on a tear-off slip at the bottom, which was kept by PACE staff for recordkeeping. The three pledge actions are:

1. *Locate and Protect* storm drains near work site.
2. *Cover and Contain* any materials stored outside and *Clean Up* spills.
3. *Report* any pollutants that may enter storm drains.

Accomplishments

- ◆ 6 *Stormwater Heroes* were announced in two semi-annual newsletters.
- ◆ Two \$25 gift certificates were distributed to 4 *Stormwater Heroes* via a raffle.
- ◆ Five \$15 gift certificates were distributed to training attendees via a raffle.
- ◆ 40 “*Protect Storm Drains*” stickers were distributed during trainings and site visits.
- ◆ 30 “*Keep it Clean*” static-cling window decals were distributed during trainings and site visits.
- ◆ 145 “*Keep it Clean*” Pledge travel mugs or water bottles were distributed.
- ◆ 144 employees signed the “*Keep it Clean*” Municipal Employee Pledge.
- ◆ 2 *Stormwater Newsletters* were written and distributed via e-mail to approximately 280 employees and posted on www.pacepartners.com website. The newsletter contained articles of interest, recognized operation(s) that had the most improvement in stormwater BMPs, and identified the operations most in need of improvement.

Target Pollutant Program

The Keep It Clean Partnership identified five “target” pollutants areas for PACE to further analyze. Those priority pollutants were: *E. coli*, sediment, Poly-Aromatic Hydrocarbons (PAHs), fertilizers, pesticides, and petroleum products.

The City of Boulder and the Water Quality Forum *E. coli* TMDL Workgroup conducted a study on *E. coli* and recreational water quality issues in Colorado. This report was completed and presented to the KICP Partners in January 2010. The City of Boulder also presented their research of the *E. coli* life cycle within Boulder Creek.

CDPHE requested that all MS4s prepare for the TMDL by:

- Providing public education and enforcement of pet waste ordinances and leash laws.
- Providing pet waste disposal cans in open space areas.
- Working with local wildlife managers to assess the need for population controls or active management of urban wildlife.

In 2010, PACE conducted research on dog waste programs, ordinances, signs, and incentives for cleanup of dog waste in the US, UK, and in the KICP communities. The report summarized the finding, and recommendations were prepared and submitted to the KICP Steering Committee. The report will serve to guide further program development.

PACE also worked on best management practices for proper discharge of fire suppression system wastewater from new buildings and from annual testing. PACE staff met with the Boulder Fire Marshal at two facilities to observe standard operating practices for new building and annual tests. PACE also reviewed a draft document from CDPHE on these types of discharges and prepared a summary of findings from the training.

PACE reviewed past site visit follow-up letters, the PACE database, and deficiency lists from 2007-2010 and developed a list of the “Top 5 Stormwater Issues” seen at site visits in the KICP.

In 2011, PACE will address the Top 5 stormwater issues while conducting site visits and as part of the stormwater training classes.

The Top 5 stormwater issues are:

1. Spills or leaks not being cleaned up or not having spill kits or drip pans.
2. No cover and/or containment for storage of containers of hazardous liquids or other materials.
3. Improper maintenance of storm drains, culverts, swales, or detention ponds (structural BMPs).
4. Outdoor storage issues (vehicles, dirt, debris, trash, salt/sand, chemicals, or other products).
5. Good housekeeping concerns (trash, dumpsters not covered, areas not swept, etc.)

In 2011, the KICP Steering Committee voted on three programs as “target pollutant programs”.

PACE staff will work on these three programs in 2011:

1. Design and print signs for fuel spill cleanup and reporting.
2. Provide research and assistance to parks and golf course departments in regards to compliance with EPA’s NPDES permit for aquatic pesticide application.
3. Conduct "Beyond MCM 6 Site Visits" (unannounced, drive-by educational opportunities with municipal employees - in the field or at facilities).

Program Changes

None

Budget

Proposed: \$74,092

Actual: \$70,893

Unexpended funds: \$3,199

Partnership Working Agreement

Keep it Clean Partners Are:

- Dedicated to the stated goals and objectives of the project.
- Active participants, attending meetings and voicing opinions equally.
- Willing to share resources and data.
- Clear about their agencies' needs and interest in participating in the project.
- Completing the bulk of KICP work in subgroups.

Keep it Clean Partners Will:

- Be prompt to meetings and participate to the highest level of their ability.
- Maintain focus, prioritize all actions, and encourage involvement of all.
- Understand that not all communities have the resources to attend every meeting.
- Complete assigned tasks that are agreed upon in the group.
- Stay informed about discussions and decisions that take place at Keep it Clean meetings in their absence.

Keep it Clean Partners Are:

- Participating in good faith and working towards the identified common goals and objectives.
- Committed to the protection of water quality within the Boulder Creek and St. Vrain River watersheds.
- Committed to sharing information and resources with other Keep it Clean Partners.
- Committed to developing strategies and solutions that benefit the general public and represent the shared goals and objectives of the KICP.

Keep it Clean Partnership Decisions:

- Will be discussed in an organized manner and the process will be open to all.
- Will be made by consensus, an approach to find an inclusive solution that everyone can support.

Keep it Clean Partners:

- Understand compromise may be necessary to reach Keep it Clean common goals.
- Show a commitment to mediate disagreement.

Partner Contact Information

City of Boulder

Jeff Arthur, Civil Engineer II
City of Boulder Public Works
1739 Broadway, Suite 300
Boulder, CO 80306-0791
303-441-4418
arthurj@bouldercolorado.gov

Brian Campbell, Civil Engineer II
City of Boulder Public Works
1739 Broadway, Suite 300
Boulder, CO 80306-0791
303-441-3121
campbellb@bouldercolorado.gov

Donna Scott, Stormwater Quality Specialist
City of Boulder Water Quality
4049 75th Street
Boulder, CO 80301
303-413-7364
scottd@bouldercolorado.gov

County of Boulder

Dale Case, Planner
Boulder County Land Use Planning
P.O. Box 471
Boulder, CO 80306
303-441-3930
dcase@bouldercounty.org

Denise Grimm, Planner
Boulder County Land Use Planning
P.O. Box 471
Boulder, CO 80306
303-441-3930
dgrimm@bouldercounty.org

Janice Lopitz, KICP Coordinator
Boulder County Public Health
3450 Broadway
Boulder, CO 80304
303-441-1439
jlopitz@bouldercounty.org

Dave Webster, Engineer
Boulder County Transportation/Engineering
P.O. Box 471
Boulder, CO 80306
720-564-2660
dwebster@bouldercounty.org

Mark Williams, Water Quality Coordinator
Boulder County Public Health
3450 Broadway
Boulder, CO 80304
303-441-1143
mwilliams@bouldercounty.org

City of Longmont

Cal Youngberg, Environmental Program Mgr.
City of Longmont
350 Kimbark Street
Longmont, CO 80501
303-651-8399
cal.youngberg@ci.longmont.co.us

Ela Nelson, Civil Engineer
City of Longmont
350 Kimbark Street
Longmont, CO 80501
303-774-4390
ela.nelson@ci.longmont.co.us

Kathryne Marko, Associate Civil Engineer
City of Longmont
350 Kimbark Street
Longmont, CO 80501
303-651-8906
kathryne.marko@ci.longmont.co.us

Town of Erie

Wendi Palmer, Engineer
Town of Erie
645 Holbrook
Erie, CO 80516
303-926-2875
wpalmer@erieco.gov

City of Louisville

Ken Mason, Water Quality Coordinator
City of Louisville Public Works
749 Main Street
Louisville, CO 80027
303-335-4780
masonk@ci.louisville.co.us

Tom Phare, Public Work Director
City of Louisville Public Works
749 Main Street
Louisville, CO 80027
303-335-4601
pharet@ci.louisville.co.us

Town of Superior

Kurt Kowar Public Works Director
Town of Superior
124 East Coal Creek Drive
Superior, CO 80027
303-499-3675
kurtk@townofsuperior.com

Judy Hauschulz, Administrator
Town of Superior
124 East Coal Creek Drive
Superior, CO 80027
303-499-3675
judyh@townofsuperior.com

Other Participants

Pam Milmoie, Air/Business Coordinator
Boulder County Public Health
3450 Broadway
Boulder, CO 80304
303-441-1189
pmilmoie@bouldercounty.org

Bill Hayes, Env. Health Specialist
Boulder County Public Health
3450 Broadway
Boulder, CO 80304
303-441-1574
bhayes@bouldercounty.org

Bonnie Greenwood, Env. Health Specialist
Boulder County Public Health
3450 Broadway
Boulder, CO 80304
303-441-1174
bsgreenwood@bouldercounty.org

Curry Rosato
Watershed Outreach Coordinator
City of Boulder Water Quality
4049 75th Street
Boulder, CO 80301
303-413-7365
rosatoc@bouldercolorado.gov

Nathan Moore
CDPHE
WQCD-P-B2
4300 Cherry Creek Drive South
Denver, CO 80246-1530
303-692-3555
nathan.moore@state.co.us

