

**Partners for a Clean Environment (PACE)
and**



Watershed Approach to Stream Health (WASH)

2003 Progress Report

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Appendices

(Available by request from the Boulder County Public Health Pollution Prevention Program if not included with the report)

- 1. PACE Certification Packet for Retail Stores**
 - 2. PACE Criteria Checklists**
 - 3. Resource Sheets Covering Stormwater Best Management Practices**
 - 4. Best Management Practices/Activity Matrix for Municipal Operations**
 - 5. Best Management Practices for Stormwater Control for 26 Municipal Activities**
 - 6. List of Municipal Site Visits**
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1. Introduction

The **Partners for a Clean Environment**, or **PACE** Program, provides education and recognition for environmental achievement to businesses and municipalities in Boulder County and portions of Weld County. PACE is voluntary and non-regulatory. Pollution prevention (P2) education and technical assistance are offered at no cost to participants. The primary goals of the program are to minimize use of hazardous materials, improve energy efficiency and water conservation, decrease waste, and increase participation.

The program began as a cooperative effort of the city of Boulder Office of Environmental Affairs, Boulder County Public Health, and Boulder Chamber of Commerce. The city of Boulder Water Quality and Environmental Services and the city of Longmont Water/Wastewater Utilities have provided input and support to PACE to achieve water quality goals.

Beginning in 2003, the Watershed Approach to Stream Health (WASH) Project contracted with PACE to help businesses and municipal operations implement stormwater best management practices (BMPs) and prevent stormwater pollution, as required by the Clean Water Act stormwater regulations. Several municipal governments in the Boulder Creek and St. Vrain watersheds formed the WASH Project to cost-effectively meet stormwater regulations and the region's water quality needs. Participants include Boulder County, the cities of Boulder, Longmont and Louisville, and the towns of Superior and Erie.



Established PACE certification sectors include vehicle repair facilities, auto body shops, printers, dental offices, restaurants, and manufacturers. In 2003, PACE piloted new certification programs for retail stores and landscape professionals, and began to develop a certification program for child care centers. Some of these sectors consist of mostly small businesses that generate less waste than a large company, but collectively, they can have a large impact on the environment. Sector-specific criteria for participation in PACE were developed through PACE staff research and input from business and agency representatives. PACE sectors and focus areas include:

Vehicle Repair

- Solvents and cleaners - air emissions, hazardous waste, worker exposure, stormwater
- Waste antifreeze and oil filters - recycling, wastewater discharge, stormwater

Auto Body

- Solvents and paints - air emissions, hazardous waste, worker exposure
- Vehicle washing - stormwater pollution

Printing

- Press chemicals - air emissions, hazardous waste, worker exposure
- Paper products - solid waste, recycling

Restaurants

- Food and beverage containers - solid waste, recycling
- Fats, oil, grease, and cleaning water – wastewater discharges, stormwater pollution
- Energy and water use – resource use, air emissions

Dental Offices

- Silver, lead, and amalgam – wastewater discharges, hazardous waste
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- Office products - solid waste, recycling, environmental purchasing

Manufacturing

- Process chemicals - air emissions, hazardous waste, worker exposure
- Energy and water use - resource use, air emissions, water and wastewater treatment

Retail Stores

- Packaging and office products – solid waste, recycling, and environmental purchasing
- Energy and water use - resource use, air emissions, water and wastewater treatment

Landscape Professionals

- Pesticides and fertilizers - worker exposure, stormwater pollution, and water quality
- Watering and irrigation – resource use and water quality

Child Care Centers

- Pesticides and cleaners – child and worker exposure, indoor air quality
- Radon, lead, mold, and carbon monoxide levels – indoor air quality

Municipal Operations with Stormwater Impact

- Stormwater pollution and water quality

Through the WASH/PACE partnership, PACE will incorporate stormwater criteria into the certification requirements for existing PACE sectors and develop stormwater criteria for all municipal operations that have the potential to impact stormwater. Municipal operations that do not have a corresponding PACE sector will be “WASH certified” when they meet all stormwater criteria. Although these municipal operations will focus on stormwater protection, PACE staff will provide pollution prevention, energy efficiency, and water conservation outreach as well.

The certification and recognition process varies, depending on the type of business or agency. Operational criteria or “checklists” are used to certify most PACE sectors. Retail stores and manufacturers must define and complete environmental projects to achieve and maintain certification. PACE certification for landscape professionals is a training certification program where individuals attend two seminars and complete an exam. PACE staff verifies that certified partners continue to meet the criteria through annual visits or phone calls.

To encourage environmental achievement, PACE provides personalized assistance, examples of successful local business approaches, vendor contact information, and peer references on specific products. A business or municipal operation that meets all criteria receives a plaque and a PACE window decal. As an incentive for participation, certified businesses receive free advertising throughout Boulder County. Advertising also educates the public about local businesses' environmental ethic. The reductions achieved by PACE businesses exceed what could be accomplished through a regulatory approach alone.



As the PACE Program has grown, staff has established working relationships with many local businesses and agencies. PACE is regarded as a valuable resource for waste reduction and pollution prevention information. This relationship is one of the many positive aspects of assisting businesses in a non-regulatory approach.

2. 2003 PACE Results

Business Contact and PACE Certification

Currently, 161 businesses and municipal operations are PACE-certified. Excluding manufacturers, 15% of Boulder County businesses and municipal operations in the target sectors are certified. In the city of Boulder, 23% are PACE-certified. Twenty-five businesses became PACE-certified this year. In the city of Boulder, 21 out of 130, or 16%, of the uncertified businesses contacted this year became PACE-certified. Figures 1 and 2 show the extent of PACE outreach in Boulder County as a whole and in the city of Boulder.

Figure 1. Business Participation – Boulder County

Over 80% of the PACE-targeted businesses in Boulder County have been contacted regarding the program with the exception of the largest sector, restaurants.

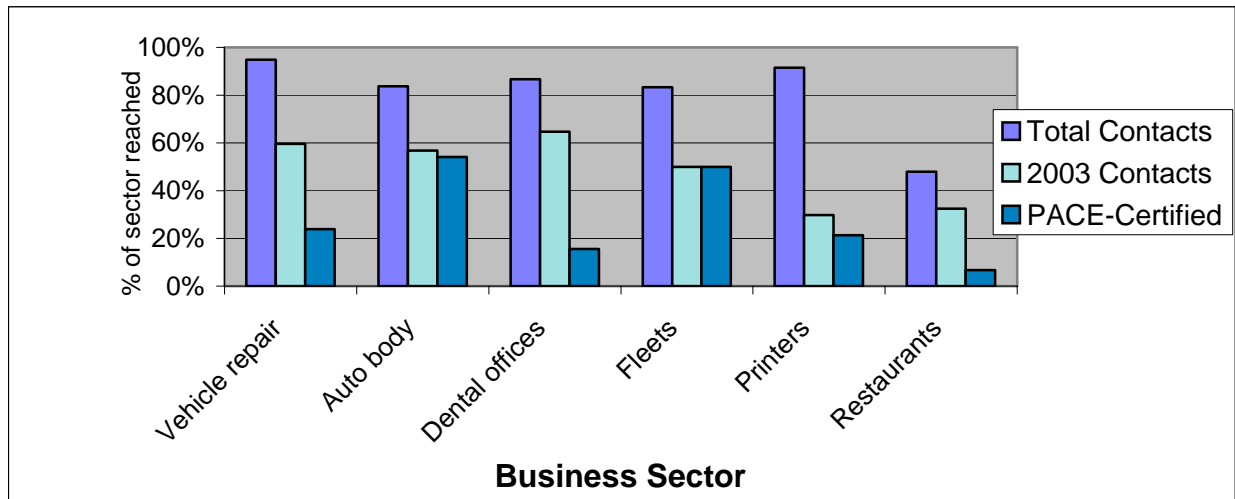
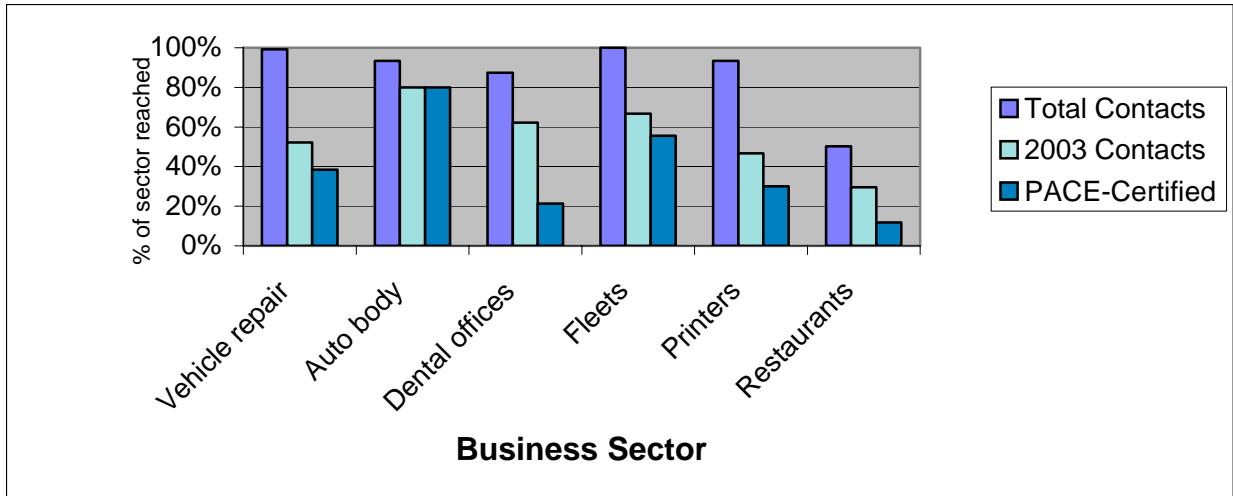


Figure 2. Business Participation – City of Boulder

Outreach over the past 7 years has focused on city of Boulder businesses. Almost 40% of the vehicle repair and 80% of the auto body businesses in the city of Boulder are now certified. We may be approaching limits in the number of city of Boulder businesses in these sectors that will take steps to become PACE-certified.



Pollution Reductions

The estimated waste reductions achieved by the businesses and municipal fleets in 2003 are summarized in Figure 3.

Figure 3. Estimated Annual Pollutant Reductions Achieved
(All sectors except manufacturers)

Pollutant Category	Type of Pollutant Reduced	Quantity
Air Emissions	Volatile organic compounds (VOCs) from thinners, solvents, inks, paints	28 tons ¹
Hazardous Waste	Solvents, brake cleaners, paint waste, amalgam	5,800 gallons ²
Solid Hazardous Waste	X-ray lead from dental offices	41 pounds
Solid Waste	Oil filters, avoided aerosol cans, paper, metal, and other materials	830 tons ³
Wastewater Discharge	Antifreeze discharged to sanitary sewer, fixer from film developing	36,300 gallons ⁴
<p>1 Estimated based on reductions in solvent use in auto and print shops, assuming approximately 6 pounds VOC per gallon. If data were not available, auto shops were assumed to have a 30-gallon solvents tank serviced (i.e., hauled for recycling) every six weeks.</p> <p>2 Estimated using shop information on quantities of solvents and paints hauled as hazardous waste.</p> <p>3 Estimated based on reported recycled cardboard, paper, metal, and oil filters, and aerosol cans avoided through bulk purchase. Assumed approximate weights of 1 pound per filter and 1/2 pound per can.</p> <p>4 Estimated based on reported recycling of antifreeze and fixer from film developing.</p>		

While no additional manufacturers became PACE-certified in 2003, current PACE manufacturers maintained their certification and completed new P2 projects. Figure 4 summarizes results from projects completed in 2003 by IBM Boulder, Roche Colorado Corp., Lexmark International, and SAE Circuits.

Figure 4. Summary of Pollution Reductions by PACE Manufacturers

Category	Reason for Reduction	Annual Reduction
Hazardous Waste	Solvent recycling, product replacement, and process improvements	3,290 tons
Energy Use	Equipment replacement and employee education	13 million kWh (12,350 tons CO ₂)
Water Use	Process modifications and reduced production	4 million gallons
Solid Waste	Source reduction, reuse, and recycling	1,910 tons (used copper and lead)
Cost Savings	Source reduction, product replacement, energy efficiency	\$889,200

PACE worked with certified manufacturers to update the PACE reporting format. Each business will now report energy use, water use, and recycling volumes, as well as specific project results. These changes will allow staff to assess business progress and overall program success.

Environmental Practices

PACE staff can have a large impact on a business's environmental practices, regardless of whether the business is pursuing PACE certification. In 2003, PACE staff began tracking business action and behavior change with regard to awareness and compliance with environmental regulations, stormwater protection, recycling, hazardous materials use, energy efficiency, and water conservation. Figures 5 and 6 summarize business action taken in 2003 as a result of PACE outreach.

Figure 5. Business Environmental Compliance After PACE Contact

Environmental Concern	# Businesses with Compliance Issues	# Businesses Now in Compliance
Automotive businesses disposing antifreeze down the drain	15	4
Automotive businesses disposing aqueous parts washer waste down the drain	7	1
Automotive businesses with outside storage that is a potential stormwater concern	11	8
Dental offices improperly disposing of mercury amalgam, x-ray fixer, or x-ray lead	23	6
Restaurants not maintaining grease traps properly	10	6

Figure 6. Business Environmental Practices After PACE Contact

Environmental Practice/PACE Criteria	# Businesses Not Meeting Criteria	# Businesses that Changed Practices
Automotive businesses using non-chlorinated (less hazardous) brake and carburetor cleaner	3	1
Dental offices using recycled-content office paper	20	2
Restaurants using less hazardous cleaning products and keeping material safety data sheets (MSDS) on file	14	3
Recycling of mixed paper, cardboard, and/or commingled containers	116	4
Water conservation	56	1

PACE Certification for Landscape Professionals Development

Through our partnership with the Boulder County Cooperative Extension and the city of Boulder Water Conservation Program, the PACE training certification program for landscape professionals was piloted in 2003. Individuals are required to attend two of three trainings, including the Boulder County Cooperative Extension Horticulture Short Course in the spring, the City of Boulder Landscaping Symposium in the fall, or the Boulder County Master Gardener Program in 2003 or later. Individuals also must complete a take-home exam with at least 70% correct, and complete a survey form of how they integrate sustainable landscaping in their work. To maintain certification, individuals must complete the survey and two hours of relevant continuing education annually. Certification is available to landscape professionals working for a government agency or a private business located in Boulder County.

Both the spring and fall training seminars included an introduction to PACE, and many attendees expressed interest in the program. A total of 84 individuals attended the spring Horticulture Short Course; 22 represented local government agencies or universities, and 34 were with private landscape businesses. The fall landscaping symposium attendance totaled 62, with 30 representing local government agencies or universities, and 23 with private landscape businesses. Three individuals have attended both required training courses and are completing the exam and survey to become PACE-certified.

The following materials were developed as part of this new certification program. Except for the manual and the exam, the materials are available on the PACE web site.

- A brochure for landscape businesses to introduce the new PACE certification program, which was distributed at the spring and fall training sessions.
- *Sustainable Landscaping Information* flyer to be used for resident education and outreach. Multiple copies were distributed to all attendees at the spring short course.
- *Sustainable Landscaping Resource Manual* to provide a reference and common knowledge level for landscape professionals pursuing PACE certification.
- A certification exam and a summary form to document sustainable landscaping practices implemented.

PACE Certification for Retail Stores Development

Through a partnership and contract with the Town of Superior Waste Diversion Advisory

Committee (WDAC) and the Center for ReSource Conservation (CRC), PACE developed and began piloting a new certification program for retail stores. CRC staff researched environmental recognition programs for businesses and specific programs for retail stores that exist across the country. They used these examples to develop a proposed certification and recognition program for Boulder County retail businesses. We obtained input from four retail store representatives on the proposed criteria and program format. The retail stores participating included Payless Shoe Source, Ross Dress for Less, Superior Liquor Market, and Super Target.

The PACE retail certification materials were developed to be flexible enough to apply to a wide range of store types, including grocery stores. The materials are self-explanatory and could be completed by the store Environmental Team as a “self-certification”, with a mandatory visit by PACE staff to verify the criteria as the final step in the certification process. More likely, most stores will probably need some hands-on assistance from PACE, with criteria such as the waste audit to estimate waste diversion or the annual assessment of operating practices. The PACE certification packet for retail stores is attached in Appendix 1.

PACE identified two pilot businesses – Superior Liquor Market, and Super Target. PACE staff conducted an initial site visit with Superior Liquor Market, and will meet with Super Target in January or February 2004.

PACE Certification for Child Care Centers

With support from Caring for Colorado and the Daniel’s Foundation, PACE began to develop a Child Care certification program focusing on indoor air quality and reducing the use of hazardous materials. Boulder County Public Health’s Child Health Liaison (CHL) Program, an established training and coaching program for child care center staff, has been working in partnership with PACE to ensure a successful pilot program. Six of the fifteen eligible child care centers which have a CHL have volunteered to participate in the PACE pilot. The main program accomplishments for 2003 include:

- Attended two meetings with CHLs to obtain input and priorities for the certification program
- Developed draft program design criteria and a survey to ensure buy-in and support for the key program elements including:
 - radon and lead testing
 - mold and combustion equipment site assessment
 - pesticide and chemical storage site review
 - energy-efficiency and water conservation projects
- Conducted short-term radon tests in all six Centers and initiating long-term radon testing
- Provided information and recommendations to the six Centers with elevated radon test levels.

Energy Efficiency Assistance

PACE is helping businesses reduce their energy costs and improve the efficiency of their lighting through a pilot project. PACE received energy efficiency rebate funding from Xcel Energy. A PACE intern is identifying local businesses with outdated, inefficient lighting. When a business is interested in replacing their lighting we provide an estimate from a contractor and assist the business with contract negotiations and implementation. The Xcel Energy rebate shortens the payback period and makes the project more attractive to businesses. If we continue to locate

interns to assist with the project it will continue through mid-2005, or until rebate funds are expended.

3. 2003 PACE Outreach Summary

In addition to site visits, contacts, and new certification development for Boulder County businesses, PACE staff conducted outreach and education to reach an even broader audience as listed below.

Events and Workshops

- Car Care Clinic in June 2003. This is the first year that clinics were held in both Boulder and Longmont. Volunteers checked 46 cars at the Boulder event and 25 cars at the Longmont event. Vehicle owners learned about the environmental and cost benefits of maintaining their cars. The Boulder County clinics were part of a larger Regional Air Quality Council (RAQC) effort at seven sites in the Denver metro region. The RAQC checked gas caps at all sites, and the Boulder Rotary performed child seat safety checks at the Boulder site.
- National Pollution Prevention Week - PACE staff recognized each of the 20 businesses certified since September 2002 by delivering breakfast of bagels and juice.
- Boulder City Council presented the 2003 PACE Pioneer Award to Lexmark International at an October meeting. City Manager Frank Bruno visited the Lexmark facility in December.
- The Boulder City Manager accompanied staff to deliver PACE certificates to new partners.

Presentations

- Interview on KGNU radio station regarding PACE receipt of the 2002 Colorado P2 Champion Award.
- Presentation on the PACE Program to a Colorado State University Waste Management Class in February.
- Presentation on the PACE Program to the Boulder Food Co-op in February.
- Presentation to Kiwanis Club of Boulder in August.
- Presentation covering good environmental practices for dental offices to the Boulder County Dental Hygienist Society in October.

Educational Materials and Outreach

- Channel 8 interview with Redwood Landscaping and Nature's Design landscape companies regarding sustainable landscaping and PACE certification for landscape professionals; included in "The Green Report", a regularly aired program on Channel 8.
 - Two Channel 8 one-minute spots (Eco-Tips) featuring PACE business representatives describing the program.
 - Daily environmental tips were shared with city of Boulder, city of Longmont, and Boulder County employees, business contacts, and local media during National Pollution Prevention Week in September 2003.
 - One issue of the *PACE Update* newsletter was distributed to more than 1,000 businesses.
 - Revised fact sheets:
 - Reducing Business Junk Mail.
 - Environmental Practices for Dental Offices.
 - Silver Recovery Resource Sheet.
 - Printer Resource Sheet.
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- Oil Filter Recycling.
 - Environmental Achievement for Restaurants.
 - Fluorescent Bulb Recycling Vendor List.
 - Hazardous Waste Disposal Vendor List.
- New fact sheets:
 - Managing Amalgam Waste from Traps and Filters, along with updated lists of fixer, lead, and amalgam recycling vendors for dental offices.
 - Managing Aqueous Parts Cleaner Waste for vehicle repair facilities.
 - Air Compressor Maintenance.
 - Energy-Efficient Lighting Guide for restaurants.
 - Ongoing advertisements on local radio stations, in the Chamber of Commerce newsletter, and in the newspaper.
 - Press releases to identify newly certified PACE businesses that described their P2 accomplishments.
 - Three utility bill inserts to 27,000 Boulder water users promoting the PACE Program – one highlighted businesses certified in the past year, one focused on vehicle repair and body shops, and one focused on energy efficiency for residents and businesses.
 - Presentations by PACE Partners Lexmark International and Roche Colorado at the Boulder County Clean Air Consortium Business Breakfast for Better Air in November 2003.
 - Energy-efficiency presentations to 2 elementary school classes.

4. 2004 PACE Goals

Business Outreach

The PACE program is now fully staffed, and the new staff have developed expertise in their areas of responsibility. This will increase our efficiency and effectiveness in contacting and educating county businesses. We will continue to check in annually with PACE-certified businesses and help other businesses take action to achieve certification. We hope to certify 5 to 10 percent of the roughly 290 businesses we will contact that are not currently PACE-certified. We will contact mostly Boulder and Longmont businesses through PACE contract funding from these cities. We will contact additional businesses in the WASH Project area regarding stormwater protection and PACE certification. Focus areas continue to be dental offices and restaurants until we have contacted 100% of the businesses in these sectors. New PACE staff with a more technical background will work with city of Boulder printers. We also will complete the pilot phase of PACE retail certification, and plan to introduce ten new stores to the program.

PACE Certification for Landscape Professionals

The spring training course is in development. The course flyer will go out to all attendees of either the spring or fall trainings last year, with a special note about their eligibility for PACE certification, what is involved to become certified, and the benefits. The flyer itself will also include PACE certification information.

Other 2004 efforts will focus on program marketing and improving resources. PACE staff will update the PACE Landscape web page with more information and a master list of PACE-certified individuals. We will also develop promotional materials for certified landscapers and strategies for marketing the benefits of sustainable landscaping to attract clients. We will request

input from PACE certified landscapers to improve the *Sustainable Landscaping Resource Manual*, exam, and survey form.

PACE Certification for Child Care Centers

We plan to begin to PACE-certify the six pilot child care centers. Activities in 2004 will include:

- Testing for lead and developing remediation plans as necessary based on the test results.
- Providing information on the long-term radon tests and developing mitigation suggestions as necessary based on the test results.
- Conducting site assessments to assess mold environment, combustion equipment functioning, and chemical and pesticide storage.
- Working with Centers to identify energy efficiency and water conservation projects.
- Following up with Centers to ensure that remediation takes place, recommendations are implemented, and indoor air quality issues are resolved.

Events and Workshops

We will continue to participate in events that have been successful over the past few years. These include the Car Care Clinic in Boulder and Longmont, the Boulder County Clean Air Consortium Fall Seminar, Pollution Prevention Week messages, and recognition of newly certified businesses. We also hope to work with the Boulder County Dental Society to distribute PACE information to dentists at a member meeting. We plan to continue energy-efficiency presentations for Boulder County school classrooms, but will also research transitioning this outreach to a similar program through the Colorado Energy Science Center (CESC).

5. 2003 WASH/PACE Results

Stormwater regulations call for implementation of six minimum control measures (MCM) to address the impact of stormwater runoff on water quality and stream health, including: 1) Public Education and Outreach, 2) Public Participation and Involvement, 3) Illicit Discharge Detection and Elimination, 4) Construction Site Stormwater Runoff Control, 5) Post-construction Stormwater Management, and 6) Pollution Prevention and Good Housekeeping for Municipal Operations. The WASH/PACE partnership focuses on MCM 3 and MCM 6.

MCM 3 – Illicit Discharge Detection and Elimination

This portion of the WASH/PACE Project focuses on educating the commercial sector about stormwater pollution and best management practices (BMPs) they can follow to prevent stormwater pollution. The approach and tasks completed in 2003 are summarized below.

- 1) Developed WASH Certification Criteria for Automotive Businesses and Restaurants.
 - Conducted Internet research and communicated with staff from model stormwater programs across the U.S. to collect and review BMPs and materials developed for these sectors (coordinated with municipal operations as part of MCM 6).
 - Developed draft stormwater criteria to be required of all PACE-certified businesses, and solicited input from existing PACE businesses regarding feasibility and appropriateness of the criteria. The PACE Criteria Checklists for vehicle repair, auto body, and restaurants are attached in Appendix 2.
-

- 2) Incorporated Stormwater Education in PACE Landscaping and Retail Certifications.
 - Conducted Internet research and worked with the WASH Educational Team to develop a fact sheet on stormwater protection for landscape professionals.
 - Shared information on potential stormwater impact from pressure-washing sidewalks, shopping carts, etc. with the retail store focus group. A brochure and outreach plan regarding pressure-washing BMPs will be developed in 2004.

- 3) Conducted PACE Site Visits to Educate Businesses and Assess Stormwater Impact.
 - Reviewed stormwater criteria during site visits.
 - Included *After the Storm* brochure with PACE outreach materials sent to businesses.
 - Because we focused on program development and have not completed all supporting materials, we have many data gaps regarding compliance with stormwater criteria. We did not WASH-certify any businesses in 2003.
 - Refer to Figure 7 for a breakdown of visits completed.

Figure 7. 2003 Stormwater Outreach to Businesses

PACE has provided information on the new stormwater program requirements, one-on-one, to 20% of the PACE sector businesses in the WASH area.

Jurisdiction	Vehicle Repair and Auto Body		Restaurants	
	Total Businesses ¹	WASH Contacts ²	Total Businesses ¹	WASH Contacts ²
Boulder County (Gunbarrel, Hygiene, Niwot)	3	1	4	4
City of Boulder	131	57 ³	268	22 ³
City of Longmont	82	52 ³	188	0
City of Louisville	8	3	50	1
Town of Erie	4	1	4	1
Town of Superior	1	1	9	7
Total WASH Area	229	115	523	35

¹We have not identified all businesses in Boulder County Unincorporated areas. We will identify businesses in the field using the WASH map showing urbanized unincorporated areas.

²All vehicle repair and auto body contacts after April 15, 2003 included distribution and/or discussion of stormwater information. All restaurant contacts after October 1, 2003 included distribution and/or discussion of stormwater information, and four Boulder restaurants also provided input regarding stormwater certification criteria.

³The cities of Boulder and Longmont have contracted with PACE for pollution prevention business outreach. As a result, a larger proportion of businesses in these municipalities received WASH information along with their PACE contacts.

- 4) Coordinated Materials Development with the WASH Educational Team.
 - Jointly developed the *After the Storm* brochure for use with both residential and business audiences.
 - Began discussions regarding door stickers to educate business staff (restaurants, groceries, auto facilities, etc.) to never dump wastes on the ground, and to help individuals understand that the storm drain connects directly to surface water.
- 5) Developed Public Education Materials for PACE Sectors.
 - Developed a stormwater fact sheet for automotive businesses. Coordinated with MCM 6 requirements so that one sheet would meet needs for municipal fleet maintenance operations and vehicle repair and auto body businesses (Appendix 3).
 - Added stormwater information into the existing restaurant fact sheet (Appendix 3).
 - Developed a letter introducing stormwater concerns. Will mail the letter, the *After the Storm* brochure, and the PACE *Environmental Achievement for Restaurants* fact sheet to over 550 restaurants in Boulder County in February 2004.
- 6) Responded to Illicit Discharge Incidents as Appropriate.
 - Participated in a coordination meeting with the County's Environmental Emergency Response Team (EERT) to discuss existing efforts and collaboration in response to illicit discharges and the creation of a stormwater ordinance.
 - Informed WASH Steering Committee members of illicit discharge incidents in their jurisdictions.
- 7) Incorporated WASH Criteria and Entered Site Visit Data into the PACE Database.

MCM 6 – Pollution Prevention and Good Housekeeping for Municipal Operations

This portion of the WASH/PACE Project focuses on identifying potential stormwater concerns in municipal operations and training municipal employees on best management practices (BMPs) they can follow to prevent stormwater pollution. The approach and tasks completed in 2003 are summarized below.

- 1) Developed an Inventory of All Potential Sources of Stormwater Pollution
 - In May, WASH/PACE staff developed a template to identify municipal operations in the WASH Project area that are potential sources of stormwater pollution.
 - Steering Committee members partially completed these inventories electronically and returned them to PACE.
 - PACE staff contacted municipal departments to fill gaps and expand upon information provided by the Steering Committee.
 - Data collected for the inventory included:
 - Source or type of operation
 - Location of facility/operation
 - Contact information
 - Activities conducted on-site
 - Proximity to stormwater or surface water
 - Potential impact to stormwater or surface water
 - Percent of site with impervious surface
 - Existing and needed control measures
-

- In July, the inventory of all municipal operations in the WASH Project area was completed, with over 150 operations identified. The breakdown of potential sources by jurisdiction is as follows:

Figure 8. Number of Municipal Operations Identified in Stormwater Source Inventory

Municipality	# of Site Visits
Boulder County	18+
Boulder	48
Erie	14
Longmont	45
Louisville	18
Superior	13
TOTAL	156

- 2) Identified Priority Operations
 - PACE staff used the inventory to prioritize municipal operations based on number of facilities, number of stormwater polluting activities identified, acreage, distance to surface water, and the percent of impervious surface on-site.
 - The **Five Priority Operations** identified include:
 - Vehicle Repair or Fleet Maintenance
 - Street/Road Maintenance
 - Storm Drain System Maintenance
 - Parks Maintenance
 - Golf Course Maintenance

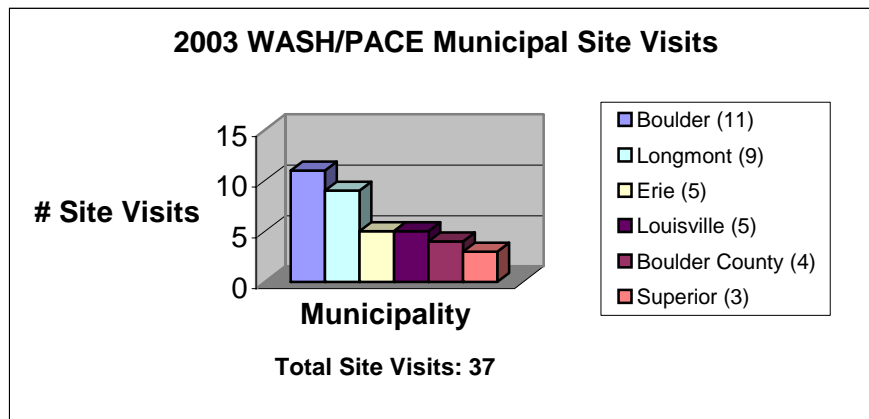
 - 3) Created Best Management Practices
 - Created a BMP/Activity Matrix to help determine what BMPs would likely apply to which activities (see Appendix 4).
 - Developed BMPs for stormwater control for 26 different activities or operations (see Appendix 5).
 - Incorporated the “long BMPs” into a “reference library” that employees could refer to as part of an overall Stormwater Control Plan.
 - Conducted three focus groups in August of 2003 to get input from municipal employees on the draft BMPs. The attendees were asked what activities they performed each day that affected stormwater and whether or not the BMPs were reasonable or attainable. After the focus group meetings, the BMPs were modified to reflect input received from the focus groups.
 - The 3 focus group meetings were as follows:
 - Vehicle Repair - August 7
 - Parks and Golf Courses - August 13
 - Street/Storm Drain Maintenance - August 14

 - 4) Developed Educational Materials and Certification Criteria
 - Developed four PACE Criteria Checklists for the priority operations that specify the required BMPs (see Appendix 2). PACE staff use these checklists to gather data on-site to determine if an operation is “PACE-Certified in Stormwater Control.”
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- Developed five resource sheets for “Stormwater Best Management Practices” for the five priority municipal operations. These sheets list the required BMPs for PACE certification (see Appendix 3).
 - **Parks & Golf Courses** – combined into one resource sheet since their activities are very similar.
 - **Street Maintenance Operations**
 - **Storm Drain Maintenance Operations**
 - **Vehicle Repair Facilities**
 - **Universal BMPs** – combined practices that apply to all operations, such as good housekeeping, employee and contractor training, and spill cleanup.
- Distributed resource sheets and criteria checklists to designated staff in each municipality (identified from the focus groups) and to the WASH Steering Committee for review and comments in mid-October.

5) Conducted Site Visits

- In late August and early September, PACE conducted site visits with five municipal operations to determine the practicality of the BMPs/criteria, and to give staff a better understanding of operations. The facilities visited were:
 - Town of Erie, Vehicle and Street Maintenance Facility
 - Boulder County Road Maintenance, Longmont
 - Twin Peaks Golf Course, Longmont
 - Coal Creek Golf Course, Louisville
 - City of Boulder’s Vehicle Maintenance Facility
- Edited the BMPs and criteria based on site visit experience.
- From the end of October through December, PACE staff conducted 32 more site visits (see Appendix 6 for a list of site visits).



- Sent follow-up letters to each operation after the visit, noting the practices that were already in place to protect stormwater, and the potential stormwater impacts that need to be corrected to achieve PACE/WASH certification. Most operations already follow most of the BMPs, but there were some common “areas of deficiency”.
 - The most common deficiency was in vehicle washing. Only 50% (13 out of 26) of the operations visited that washed vehicles or equipment had a designated vehicle-washing area plumbed to the sanitary sewer.
 - **Common Deficiencies**
-

- Lack of designated vehicle washing area plumbed to sanitary sewer
- Lack of Spill Prevention and Control Plans
- Uncontained storage of salt/sand
- Spills at fueling areas
- Uncovered outside containers and materials storage

6) Outlined Elements of a Municipal Stormwater Control Plan

- Updated the PACE database to include the stormwater criteria for priority sectors.
- PACE is designing a generic Stormwater Control Plan that will include the elements listed in the table below. A notebook will be created in 2004 containing information on these elements and providing a central location for copies of required BMPs and resource sheets.

Elements of a Stormwater Control Plan	Tracking System
1. Employee training plan and logs	Stormwater Control Plan notebook
2. Implementation and tracking of BMPs	PACE database
3. Run-off control plans	Stormwater Control Plan notebook
4. Map of facility	Stormwater Control Plan notebook
5. Spill Prevention and Response Plan	Stormwater Control Plan notebook
6. Recordkeeping	Stormwater Control Plan notebook
7. BMP lists, resource sheets, stormwater messages, and other resources	Stormwater Control Plan notebook
8. Tracking of inspections (copies of site visit checklists, follow-up letters, etc.)	PACE database

- Examples of **recordkeeping** that may be required:
 - Pounds of fertilizer applied
 - Pounds of pesticide applied
 - Capital expenditures for BMPs
 - Number of spills/leaks/discharges greater than 1 gallon and corrective actions taken
 - Number of catch basins cleaned
 - Tons or cubic yards of debris collected
 - Number of contaminated or suspected contaminated basins
 - Number of curb miles swept

7) Developed Training Messages and Identified Video Opportunities

- In December, PACE contracted with David Boon to develop key training messages for stormwater pollution prevention in the five priority sectors and common activities.
 - Conducted site visits to photograph local operations and practices. A PowerPoint presentation was developed with over 100 slides containing photographs and text to show good and bad practices and “what is wrong with this picture” scenarios.
 - The slides will be used to train supervisors and employees on best management practices and common activities that impact stormwater. The messages, photographs, and locations will also be used in the training video to be developed in 2004.
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6. 2004 WASH/PACE Goals

MCM 3 – Illicit Discharge Detection and Elimination

- Develop an outreach strategy and materials to educate non-PACE business sectors about illicit discharges and stormwater pollution prevention. The three target sectors for 2004 are **pressure washing** (both businesses who do their own washing and mobile cleaning businesses), **auto supply stores**, and **private golf courses**.
- Develop a letter and send information summarizing WASH, stormwater concerns, and BMPs to automotive businesses in the WASH Project area.
- Continue site visits to provide stormwater education and WASH certification for the vehicle repair, auto body, and restaurant businesses in the WASH Project area.

MCM 6 – Pollution Prevention and Good Housekeeping for Municipal Operations

- Produce a training video incorporating key messages and BMPs. The video will be provided to each priority operation's employees with a training session by PACE staff in 2005 and future years. The video will then be given to municipal supervisors to use as part of their new employee or regularly scheduled employee training.
 - Continue conducting site visits in the five "priority sectors" (approximately 60 operations) and begin to certify operations.
 - Develop certification criteria for the "non-priority sectors" (i.e. buildings and facilities, fire departments, water treatment plants).
 - Develop and distribute Stormwater Control Plan binders that will include Spill Prevention and Run-off Control Plans, site maps, employee training logs, BMPs, resource sheets, stormwater messages/PowerPoint slides, copies of site visits and letters, and additional stormwater pollution prevention information.
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