

TABLE OF CONTENTS

I. Executive Summary

II. Introduction

III. History

A. *Work Outline*

1. Description
2. Charts
3. Findings of the Review

B. *City of Eugene Companion Document*

IV. ERT Recommendations & Results

- A. Quick and Easy Changes
- B. III
- C. IV's & V's

V. Review & Future Work Items

VI. Conclusion

I. Executive Summary

In October 2000, the City of Eugene hired CH2M Hill, a consulting company, to perform a review of the City's practices and activities, and their associated *potential* to affect the environment. The final report entitled "*Review of City of Eugene Activities for Potential to Affect the Natural Environment*" was released in March 2001.

This assessment of City activities and their associated environmental impacts was intended to help identify activities that the City performs which may be harmful to the environment and to examine and implement ways to reduce those impacts.

The City formed an Environmental Review Team (ERT) to identify City activities, develop strategies, and implement a timeline for changes to be put in place, City-wide. The goal was for those changes to become consistent practice. In essence, the changes would become the new way that the City conducts business.

This report is a summary of the interviews and work that the consultants and the ERT performed and includes information about strategies and recommendations for change. It also includes a report about the progress that has been made toward implementing those changes and provides a list of items that still need work.

A few Major accomplishments that have resulted from this process are:

- Increased awareness of all City staff pertaining to the materials and supplies that we use to conduct day to day operations.
- Energy conservation efforts regarding electricity, heat, water and fuel
- Conversion to more environmentally friendly fuels, such as bio-diesel and the procurement of hybrid fleet vehicles when they need to be replaced.
- Improved planning, building design standards and features when new facilities are constructed and conversion to more efficient operation modes in existing buildings.
- Improved maintenance procedures related to the care and maintenance of natural and riparian areas.
- Improved practices regarding the capture of wastewater, vehicle washing, etc.

Future Work Items:

- **Consistent use of recycling containers at the airport & other City offices**
- **Use of Pool Bicycles**
- **Consistent use of Saw Cutting vacuum equipment**
- **Use Pervious Concrete**
- **Training to Encourage On-Going Environmental Awareness**
- **Development of Wading Pool Standards**
- **Training on Digital Output Project Plan**
- **Development of an Inventory of Catch Basins in parking facilities**
- **Review of Tree/Brush Removal, unpaved road use & maintenance to access levees & ditches and culvert maintenance practices**

II. Introduction

The environmental review project was managed by the City's Environmental Review Team (ERT), under the direction of the City's Environmental Policy Team (EPT). The EPT was established in 1999 to provide oversight and establish direction for the City's environmental programs and performance.

The EPT formed the Environmental Review Team (ERT) and charged it with evaluating the environmental impact of the City's activities, and recommending necessary modifications to the City's practices. The EPT also formed the Endangered Species Act/Salmon Team (ESAST) to identify the requirements of the Endangered Species Act (ESA) that are applicable to City services and functions, and assess the impacts of the requirements on those services and functions.

Purpose:

The ERT worked to identify areas where improvements could be made, worked with City departments to implement changes, and monitored the progress toward those recommendations.

The purpose of this report is to provide an update of where we are in that process. Some of the changes have been implemented, some are planned for but not yet in place, and others, for a variety of reasons, have not been or will not be implemented.

In this report the activities that were identified have been categorized as:

- Quick & easy changes to implement
- Level III activities (moderate to high level of impact)
- Level IV & V (High or Highest level of impact)
- Future items: those identified as needing implementation, but for a variety of reasons, the changes have not yet taken place.

III. History

The Environmental Policy Team (EPT) was formed in late 1999, and charged with the oversight and coordination of the City's diverse environmental programs. The EPT, comprised of Public Works and Planning and Development Department managers, organized two teams, the Environmental Review Team (ERT), and the Endangered Species Act/Salmon Team (ESAST), to perform specific oversight and coordination duties. The ERT was initially charged with conducting an evaluation of the environmental impact of the City's activities.

A key factor that prompted this evaluation was the recent listings and publication of rules related to threatened salmon species under the Endangered Species Act (ESA). However the ERT review was not restricted to activities that might have impacts to salmon or salmon habitats, but also included any activities with the potential to impact the natural environment.

To fully understand the level and complexity of potential impacts, the ERT recommended that a consultant be hired to evaluate the City's processes and procedures. Following a competitive process, CH2M Hill was retained by the City to perform the review.

The review encompassed staff interviews, an inventory of City activities and practices which have a potential to impact the environment, and prioritization of these impacts. Results from the review allowed the work teams to make recommendations to the Environmental Policy Team regarding changes that may be necessary to enhance the positive impacts or reduce the negative environmental impacts of City operations, and respond to the Endangered Species Act salmon listing. The inventory also gave staff another tool to work with as the City strives to become a more "sustainable" organization.

The final companion report, entitled "City of Eugene Environmental Reports", includes the Review of City of Eugene Activities for Potential to Affect the Natural Environment (March 2001) and Background and Additional Information to accompany the CH2M Hill Report (May 2001).

In July, 2001, the Environmental Review Team recommended proceeding with two main activities:

- Form staff work teams to analyze 15 of the activities which received high ratings for their potential to negatively affect the environment, and develop strategies and associated budgets for reducing environmental impacts from these activities. (Activities scoring –IV or –V)
- Identify any "quick, easy, and inexpensive" modifications to City activities that would reduce negative impacts, or enhance positive impacts.

In January, 2003, a Review of Selected Activities Scoring –III in the CH2M Hill Report was presented to the EPT, along with staff recommendations. Many of the recommendations were already being reviewed and some were ready to implement immediately.

Information included in this report summarizes the status of City of Eugene practices as of August, 2005. These practices include the –III, - IV, - V, as well as some of the quick, easy and inexpensive modifications. Many of these practices will require on-going or periodic evaluation and implementation of more environmentally-friendly

methods, when feasible. Each practice has been assigned to a lead staff person to continue these efforts.

Consultant RFP

In August of 2000, the Environmental Review Team issued an RFP to assist with the identification of City work activities with potential environmental impacts.

Purpose:

The objective of the RFP was for a consulting firm to assist with identification of City programs and activities that have a potential to negatively impact the environment, and to provide some measure of the magnitude or significance of the potential impact to use in prioritization.

Consultant:

The successful applicant chosen from the RFP process was the consulting firm, CH2M Hill. CH2M Hill produced a report containing a series of charts, tables, and matrices listing the programs and activities with explanatory text and a rating system to assess the potential degree of impact of each of the listed items.

City Participation:

The ERT produced a companion document to the CH2M Hill report. This document reviewed the data provided by CH2M Hill, reviewed departmental practices and included suggestions and timelines for changes the City could implement to decrease the negative impact to the environment. A component of this document includes a matrix spreadsheet developed to track on-going progress toward the goal of more environmentally friendly practices.

Work Outline:

The Review used a systematic hierarchy of analysis to identify activities and their potential to affect the natural environment. The overall approach to complete the Review included the following tasks:

- Conduct staff interviews and compile information to define City activities that have potential to negatively affect the natural environment, habitat, and ESA-listed species.
- Determine the general locations, timing, factors, and pathways by which such potential effects might occur.
- Estimate the potential of the activities to affect the natural environment, and prioritize the activities for potential mitigation efforts.

- Develop an assessment methodology and tool that can be used on an on-going basis if desired.
- Organize by Function or Process Groups
- Coordinate with the Environmental Review Team and ESA Salmon Team

The assessment ranks the environmental impacts of the City's activities into the following impact classes:

Activities with <i>highest potential to negatively</i> affect the natural environment, listed species, or their habitats	-V
Activities with <i>high potential to negatively</i> affect the natural environment, listed species, or their habitats	-IV
Activities with <i>moderate-to-high potential to negatively</i> affect the natural environment, listed species, or their habitats	-III
Activities with <i>low-to-moderate potential to negatively</i> affect the natural environment, listed species, or their habitats	-II
Activities with <i>very low or no potential</i> to affect the natural environment, listed species, or their habitats	I
Activities with <i>low-to-moderate potential to positively</i> affect the natural environment, listed species, or their habitats	+II
Activities with <i>moderate-to-high potential to positively</i> affect the natural environment, listed species, or their habitats	+III
Activities with <i>high potential to positively</i> affect the natural environment, listed species, or their habitats	+IV
Activities with <i>highest potential to positively</i> affect the natural environment, listed species, or their habitats	+V

Staff interviews were conducted to provide an introduction to the project, to communicate the goals and objectives of the project, and to describe the purpose of the interviews.

CH2M HILL facilitated each of the interview sessions with a member of the ERT or ESAST. The interview sessions were conducted in an open forum with question and answer sessions. Each representative at the meeting presented descriptions of their group's responsibilities and duties. Typical information gathered included the following:

- A listing and description of activities performed by the group

- The number of staff in the group
- The frequency and duration of an individual activity
- The number of locations where that activity occurs
- The types of materials or equipment used to perform each activity
- The type and amount of waste reclaimed, produced, or managed by each activity

In some cases follow-up interviews were performed to gather additional information and better understand specific activities.

The following tables list specific categories and activity types that were considered in the assessment and provide information about the interview groups.

Categories and Types of Environmental Effects Considered in the Assessment Worksheet.	
Categories	Effects Types
Consumption	Natural resources; Power; Water; Conservation
Waste Generation	Solid waste; Stormwater; Sanitary wastewater; Contaminants; Recycling
Environment/Habitat Alterations	Water flow; Water quality; Groundwater; Soils; Aquatic habitat; Riparian habitat; Upland habitat; Air quality; Noise and light
Factors Causing Potential Habitat Effects	Water temperature changes; Flow change (increase); Flow change (decrease); Sediment delivery; Contaminants delivery; Nutrients delivery; Riparian vegetation change; Riparian width change; Direct habitat reduction; Habitat access restriction

Interview Groups Conducted for the Review		
Group	Categories	Activity Types
A Oct 25	Transportation Systems; Vehicle Use	Street painting, street sign manufacturing, traffic signal maintenance, traffic pole disposal, yard operations, waste disposal. General city use of vehicles, including cars, trucks, parking enforcement vehicles. Small engine use.
B Oct 31	Street Maintenance and Sanitation; Fleet Maintenance	Street washing and sweeping, street repairs, sand/gravel/deicing chemical application, concrete crew, maintenance yard operations, waste disposal. Vehicle maintenance and repair, waste disposal, new vehicle specifications.
C Nov 1	Stormwater System Maintenance Wastewater System Maintenance Open Channel Maintenance	System repair/rehab, pipe flushing, catch basin cleaning, de-rooting, vector truck operations, open channel bank mowing, brush and debris removal, channel capacity maintenance, spill response, waste disposal.
D Oct 31	Landscape, Parks, Urban Forestry Maintenance and Design; Wetland Restoration; Other Landscape Restoration	Landscape maintenance, pest management, fertilizer and pesticide application, waste disposal, natural area management, wetland management, turf maintenance, urban forestry, parks design. Wetland restoration activities (includes other landscape restoration), exotic plant removal, native planting, tree planting.
E Oct 25	Facilities Maintenance; Downtown Services; Affordable Housing	Building maintenance, washing, painting, repair, parking lot maintenance, HVAC. Chemical use/disposal. Custodial. Swimming pool maintenance. Yard operations. Downtown mall maintenance. Building repair and renovation, lead/asbestos abatement.
F Oct 30	Public Facilities, Infrastructure Engineering, Design, and Construction	Building, street, sewer engineering, design, construction. Street specifications, materials, energy use.
G Oct 26	Office Activities, Reprographics; Purchasing; Information Services Division; Recycling	Paper use, recycling, specs. printers, copiers, computer use. Office supplies. Office waste, food waste. Consumables. Print shop operations, packaging, chemicals. Computer specs, disposal. City recycling programs.
H Nov 1 Nov 22 (airport)	Fire and Emergency Medical Services; Police; Airport	Fire fighting, training, EMS activities, equipment maintenance, disposal of hazardous/unknown materials. General police activities, use of tear gas, pepper spray, drug labs clean-up, training, K-9. Airport operations and maintenance, deicing.
I Oct 26	Library, Recreation, and Cultural Services	Library, swimming pool operations, outdoor program, senior services, specialized recreation, athletics, community centers, senior facilities, Hult Center and Cuthbert Amphitheater.
J Oct 30	Animal Control/Spay and Neuter Clinic; Special Events; Laboratories	Medical supply usage and disposal for animal surgeries/vaccinations. Special event garbage, recycling, clean-up. Police, wastewater laboratory operations.
K Nov 22	Wastewater Management	Wastewater treatment facilities operation and maintenance

Findings of the Review

Eleven interview sessions with 90 City staff persons were conducted to define and describe City activities. As a result of these sessions and analysis of materials received from the sessions, the Review identified and assessed:

- 174 specific City activities in 24 process or function categories that potentially affect the natural environment
- 18 types of potential effects on the natural environment
- 10 types of potential habitat effects

City activities with highest-rated *potential to positively* affect the overall natural environment include:

- Utilizing an integrated Pest Management program
- Amazon Creek stream and bank improvement projects
- Delta Ponds wetlands restoration project
- Lower Amazon wetlands restoration project

City activities with the highest-rated *potential to negatively* affect the overall natural environment include:

- Discharge of stormwater
- Use of fleet vehicles
- Construction and operation of streets and roadways
- Treatment of wastewater and effluent discharge.
- Construction and operation of parking areas

The activities with highest-rated *potential to positively* affect ESA-listed aquatic species, particularly Chinook salmon, include:

- Removal of culverts and flood control dikes
- Develop and implement an integrated pest management program
- Removal of invasive plants in wetland and riparian areas
- Delta Ponds wetlands restoration project to enhance wildlife habitat
- Planting native species, including trees
- Response to hazardous material spills
- Cleaning of stormwater catch basins
- Planting and maintaining native plant species

The activities with highest-rated *potential to negatively* affect ESA-listed aquatic species, particularly Chinook salmon, include:

- Discharge of stormwater
- Construction and operation of streets and roadways
- Construction and operation of parking areas
- Fire fighting (industrial/commercial/multi-family units)
- Treatment of wastewater and effluent discharge
- Mowing of banks for open channel and ditch maintenance

The City has several excellent resources and programs that are currently providing positive environmental protection or benefits. These resources and programs provide a solid foundation for environmental management of City activities. Examples of these resources and programs include, among others:

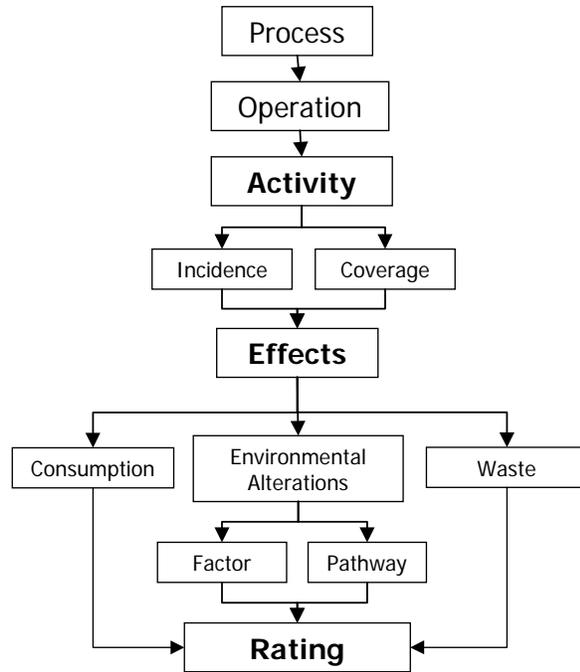
- Wetland areas restoration projects
- Stream and bank improvement projects
- Stormwater management program
- Wastewater management program
- Recycling and conservation activities
- City commitment to sustainability
- Environmental education classes and materials
- Energy use efficiency evaluations
- Integrated Pest Management (IPM) program
- Urban forestry program

Activities Effects Assessment

The Review used a systematic hierarchy to analyze and identify activities and their potential to affect the natural environment. The overall approach to completing the Review included the following tasks:

- Determine the primary City function or process groups that conduct various City activities
- Conduct interview sessions with City staff within each primary group to identify and describe activities
- Compile a comprehensive list of City activities obtained during the interviews and subsequent follow-up and analysis
- Analyze and rank each activity for their potential to affect the natural environment

The diagram below helps demonstrate the review process that took place with each activity to help determine the rating.



CH2M Hill met and coordinated with the City’s Environmental Review Team (ERT) and ESA Salmon Team (ESAST) during the course of the Review. CH2M Hill facilitated a half-day kick-off meeting with the ERT to establish clear goals and objectives, determine the basis for the assessment process, and coordinate logistics and scheduling for subsequent review activities. A particularly important outcome of the kick-off meeting was to identify all relevant sources of information on City activities and scheduling of subsequent work group interviews.

CH2M Hill also met with the ERT and ESAST to discuss methods and results. This included careful review and refinement of the Assessment Worksheet used to identify, rate, and prioritize activities for their potential to affect the natural environment. This was a key step in the process to ensure the use the worksheet to evaluate and communicate environmental effects. Presentation of results and observations were also made to the ERT and ESAST to receive feedback, answer questions, and discuss possible follow-up assessment.

Activities were assessed using five different categories:

Overall environmental impact: This includes consideration of all environmental media, such as natural resource and power consumption, waste generation, water flow variations, contaminants or toxics, riparian habitat alteration, and air quality alteration.

Impact on habitats: This includes water flow and quality and aquatic, riparian, and upland habitat effects.

ESA Relevance: Salmon. This ranks activities for their *potential* to affect Chinook salmon.

ESA Relevance: Other aquatic species. This ranks activities for their *potential* to affect aquatic species other than salmon, such as Oregon chub and western pond turtle.

ESA Relevance: Terrestrial species. This ranks activities for their *potential* to affect terrestrial or land-using species.

City Activities with Highly-Rated Relevance to ESA-Listed Species: The approach for rating effects on ESA-listed Chinook salmon differs from the approach for rating habitat effects in two ways:

- (1) The ratings for ESA-listed salmon focus on aquatic-related habitat factors; and
- (2) The ratings for ESA-listed salmon include an adjustment to account for whether ESA-listed salmon are known or suspected to occur in the drainage areas where the activity occurs.

City activities with highly rated potential to *negatively* affect ESA-listed Chinook salmon include:

(Highest-rated potential, ESA Relevance Categories –V)

- Street/roadway construction and operation
- Parking areas construction and operation
- Stormwater outfalls discharge
- Fire fighting (industrial / commercial / multi-family units)
- Wastewater treatment and effluent discharge
- Open Channel bank mowing and ditch maintenance

(High-rated potential, ESA Relevance Categories –IV)

- Tree and brush removal to maintain flow in channels
- Extreme wet weather wastewater overflow events
- Culvert installation and maintenance
- Unpaved road use and maintenance to access levees and ditches
- Fire vehicle washing

City activities with highly rated potential to *positively* affect ESA-listed Chinook salmon include: (Highest-rated potential, ESA Relevance Categories +V)

- Culvert and flood control dike removal
- Integrated Pest Management Program development and implementation
- Removal of invasive plants in wetland and riparian areas
- Delta Ponds wetlands restoration project
- Native species planting, including trees
- HazMat/spill response
- Stormwater catch basin cleanout
- Native vegetation species planting and maintenance

(High-rated potential, ESA Relevance Categories +IV)

- Amazon Creek stream and bank improvement project
- Lower Amazon wetlands restoration project
- Street tree planting and maintenance
- Eugene Stream Team activities
- Street sweeping
- Stormwater public education materials development
- Cleanup and disposal of dumping/spills
- Slide repair – erosion related
- Parking areas sweeping

City of Eugene Companion Document

In May 2001, the Environmental Review Team prepared a document *“Background and Additional Information to Accompany Review of City of Eugene Activities for Potential to Affect the Natural Environment, CH2M Hill, March 2001”* which provided details on the City activities which were rated in the highest rated classes for both positive and negative effects for overall environmental impact, habitat effects, and relevance to ESA-listed species.

This document contains further information on follow-up activities developed by the Environmental Review Team in two categories. First, the inexpensive, easy and quick to implement changes to some City activities which are in the process of being implemented; and second, an analysis of 16 activities which received a high rating (-IV or -V) in the CH2M Hill review for potential to negatively affect the environment or salmon habitats.

Purpose:

The purpose of the City's companion document was to help City staff sift through all the information that CH2M Hill identified through their process, and allow a mechanism to categorize activities and assess strategies that would help implement change and identify timelines to put those changes in place. It also helped highlight those items that already had existing management procedures in place, or were identified as not planned for implementation.

In addition to the classification of activities, this document helped create long term goal strategies. A matrix was created to track and implement changes over time. Periodically the members of the EPT have been asked to provide reports about progress toward long term goals and identified changes. A summary of this information is included in the pages that follow.

IV. Recommendations and Results

The ERT categorized City activities according to their impact to the environment. Along with this categorization, the ERT put forward recommendations and projected timelines for implementation of those changes. The information on the following pages is a review of the issues, strategies and recommendations for each of the identified areas and is broken into three categories:

- ❖ **Quick, Easy & Inexpensive Changes to Implement**
- ❖ **Category III**
- ❖ **Category IV & V**

Quick and Easy Changes

<ul style="list-style-type: none"> • Landscape Maintenance • Vehicles • Streets • Office 	<ul style="list-style-type: none"> • Recycling • Training • Capital Projects
--	--

For each of the items listed above there were strategies identified that the ERT felt could be quickly, easily, and in some cases, inexpensively put in place to allow almost immediate change. The information is consolidated into the tables below.

Landscape Maintenance

<u>Issue</u>	<u>Recommendation / Strategy</u>	<u>Status</u>
Pest Management:	Work toward using Integrated Pest Management principles and practices in <u>all</u> City-managed landscaping, including Fire, Airport, and Wastewater facilities. This may require a change in maintenance standards at some locations. Provide IPM training to staff as necessary.	In January 2002 over 60 City staff from several Divisions received an all-day training session on IPM principles and practices led by Parks and Open Space Division staff. Staff continue to receive annual trainings and are encouraged to utilize alternatives to pesticides as much as possible. Work has begun within the PW Parks and Open Space Division on a draft IPM policy document that is intended to be approved and eventually utilized City-wide. Additionally, POS NR staff are in the process of incorporating IPM coordination duties into the Nuisance Vegetation Code Enforcement Program Manager position.
Invasive Species	Implement a policy prohibiting planting of invasive species, and encouraging native species planting whenever practicable in City projects. Parks and Open Space Division staff, assisted by Planning Division staff, to develop an Administrative Order, which will include a list of invasive species, and information on native species. The intent of the Administrative Order will be implemented primarily through contract specifications.	A database on native plantings has been established. Action complete.
Water Conservation Efforts Related to Irrigation of City Parks & Other Properties	Implement the use of the Maxicom computer system to manage all City irrigation where practicable.	Parks and Open Space staff coordinated with Facilities Division staff to develop a list of facilities where this technology is not in use. Cost estimates to implement system for areas on the list will then be developed for Environmental Policy Team review. Update: This system has been implemented and is successfully working.

Native Plant Nursery at the Wastewater Treatment Plant	Provide coordination for native plant nursery at the Wastewater Treatment Plant. The goal is to increase the capability of the nursery (in terms of production), improve ability to coordinate with volunteers, and provide City projects with useful plant materials.	The Wastewater Native Plant Nursery is in place and is functional. In addition to the Native Plant Nursery at Wastewater, a new, larger, more readily accessible Native Plant Nursery has been constructed and put into operation in Alton Baker Park next to the new Community Garden. The new nursery is fully plumbed throughout, has automatic irrigation within the shade house, has numerous raised beds, a tool shed and a seeding/potting shed. It is much more convenient in terms of accessibility for both City staff and for volunteers and has more than doubled the City's capacity to propagate, shelter, and repot both new seedlings, cuttings, and salvaged native plants. The first Native Plant Nursery at the Wastewater Treatment Plant continues to operate as well as it is in a secure environment, has shade houses for sensitive plants and a ready source of irrigation water.
Invasive Pests/Animal Species, specifically nutria	Develop a management plan for animals (nutria, etc) destructive to restoration and other projects. Nutria are non-native animals that are very invasive into wetlands and streams. Although nutria are common in wetlands, they have not posed a problem to restoration projects. However, in Amazon Creek they have posed problems. Any plan to manage population levels will require a regional approach and should include the US Army Corps of Engineers and ODFW. However, there may be some usefulness to localized management efforts for specific projects.	Oregon Dept. of Fish & Wildlife suggested changes in the Oregon Legislature, which would allow local pest management companies to address destructive animal behavior on private property (skunk, raccoon, nutria, etc.). Open waterways, ditches and parklands are still experiencing problems with nutria. The Oregon Legislature has implemented language that allows local licensed operators to capture and relocate invasive pests/animal species.

Vehicles

<u>Issue</u>	<u>Recommendation / Strategy</u>	<u>Status</u>
Pool Vehicles	Develop a system to better match vehicle type to use. Have different types of vehicles available to staff for different uses (long distance, around town). Readily available pool vehicles.	Most City offices have pool vehicles and all share the use of transportation equipment, if a special need arises. Some departments have purchased hybrid replacement vehicles when their current fleet vehicles need replacement. The City's fleet now has 27 hybrid sedans and 4 Sport Utility Vehicles (SUV's), with 6 more on order.
Alternative Fuels	Implement the use of alternative fuels, lubricants, etc. in fleet vehicles. For example, converting diesel vehicles to bio-diesel, recycled oils, antifreeze, etc.	Included in Fleet Services' "Fleet Energy Management Plan" January 2002. The use alternative fuels has now been implemented. In FY05 all heavy equipment was converted to Biodiesel (B-20). Fleet is also implementing the use of PCAW46, which is a more environmentally friendly hydraulic oil.
Car Pooling Intranet Scheduler	Develop and implement an intranet-based car pooling system	Development of an intranet-based car-pooling scheduler is included in the Web Coordinators Group work plan – no target date has been set yet.
On-Site Bicycles Available for Staff	Encourage more work sites to have bicycles available for summer use. Current use of bicycles for City activities is sporadic, limited mostly to the wastewater treatment facility.	Public Works offices have several bicycles available for use by employees. The offices that have bicycles for employee use are PW Maintenance, Waste Water, Engineering and the Engineering Hotel.

Streets

<u>Issue</u>	<u>Recommendation / Strategy</u>	<u>Status</u>
Pervious Concrete	Move towards the use of pervious concrete when practicable. Pervious concrete has been used on only one project in the City, at the PW/Maintenance yard. Questions remain about durability and functionality over time.	This is still being explored. Until we are more confident of the longevity and performance of this product, we are hesitant to devote significant resources to it.

Issue	Recommendation / Strategy	Status
Double Sided Printing As a City Standard	Adopt a City standard that all new printers and copiers should be capable of double-sided printing and copying. Incorporate environmentally friendly practices, such as double sided printing into the training program for any new equipment. Develop City wide awareness program or mini-workshops for all city employees regarding environmentally friendly printing and copying practices. Include information on how staff can set their own print driver properties to default to duplex.	City Manager's Office will coordinate development of an Administrative Order. Currently City employees are encouraged to use both sides when printing. Printers that are at the end of their life spans are replaced or upgraded with printers that can duplex. Replacement desk computers are set with a default to duplex print. Signs have been placed in most copy rooms reminding people to duplex whenever possible and to conserve paper resources.
Use of 100% PCW Recycled Paper for Printing and Copying as standard	Adopt a City standard and implement an admin. Order stating that all City offices will use 100% recycled paper in printers and copiers. Offices are currently using 30% recycled paper.	Administrative Order #210507, effective on 1/1/06, initiates the use of 100% post consumer waste (PCW) recycled paper in all copiers and printers at the City. A transition period of approximately 30 days will allow previous paper supplies to be used. Once old supplies are used, all new paper orders will be filled with 100% PCW recycled paper.
Office Lighting	Encourage staff to replace incandescent light with compact fluorescent light, and optimize the amount of light used in work spaces. Coordinate with other conservation efforts.	Administrative Order (21-01-04) provides the policy direction for this. Compact fluorescent light bulbs are now available, at no cost, for all task lighting.

Recycling

Issue	Recommendation / Strategy	Status
Recycling Program At the Airport	Implement better recycling program in public areas at airport.	Solid Waste and Recycling staff will make recommendations. On hold due to other priorities at Airport. Security issues have caused problems with the placement of additional containers, but discussions are underway about options that may work in the near future.
Recycling Program Expansion & Consistency	Implement consistent recycling programs (office and food waste) in all departments and facilities.	Solid Waste and Recycling staff will make recommendations. This may require an Administrative Order, combined with contract specifications for groups that rent City facilities.

Training

Issue	Recommendation / Strategy	Status
Environmental Awareness Trainings for All City Staff	Implement a training program for City staff on environmental issues. Implement a regular series of "green tips" to be distributed to City staff by e-mail, and coordinate with other environmental e-mail messages.	This training program has not been pursued at this time due to other priorities. Plans are to pursue this later in the spring 2006.

Capital Projects

Issue	Recommendation / Strategy	Status
Landscape Planning & Maintenance for New Buildings	Examine the way projects are planned and funded to ensure adequate time to establish/maintain vegetation. Possibilities are including maintenance costs in project specifications, or including a second-year planting budget item.	Parks and Open Space, Facilities, and Engineering staff continue to work on this.

Category III Activities

The activities listed in the tables below have been classified as level III activities. These are activities with a moderate to high potential to impact the environment. In the initial assessment, the ERT found that in many instances City staff were already implementing changes. The items in this category include:

- | | |
|---|--|
| <ul style="list-style-type: none"> • Graffiti Removal • Concrete Cutting • Pool Maintenance • Building Interior Maintenance | <ul style="list-style-type: none"> • Pressure Washing of Parking Structures • Fleet Vehicle Washing at Main Station • Fleet Vehicle Washing at Other Sites |
|---|--|

Graffiti Removal

<u>Issue</u>	<u>Recommendation / Strategy</u>	<u>Status</u>
Graffiti removal from private and public structures	Use chemically treated towelette, and paint over graffiti if necessary with flat grey or matching paint if available from resident or in storage at building.	The City continues to stay abreast of the latest removal products to minimize chemical impacts to areas surrounding our removal activities. In addition, staff uses an absorbent blanket to capture runoff from pressure washing graffiti removal activities. Control mechanisms are in place during pressure washing to prevent runoff of liquids from reaching the public storm system and downstream waterways. The City is working toward minimizing the use of non-biodegradable remover products in the program. Graffiti removal continues to be essential in controlling graffiti in Eugene.

Concrete Cutting, Grinding & Structural Construction

<u>Issue</u>	<u>Recommendation / Strategy</u>	<u>Status</u>
Concrete Cutting – capture of slurry	Get all of the concrete cutting and concrete grinding duties consolidated and assigned to one work group, which would have access to all of the required equipment and materials to perform this type of work with the least impact to our storm water system.	Recommendation is currently being implemented by Public Works Maintenance. Vacuum equipment is being used at cut sites whenever possible. During the summer months many projects, small and large, compete for good weather and staff attempts to coordinate resources and equipment to the greatest degree possible.

Small Wading Pool Maintenance

<u>Issue</u>	<u>Recommendation / Strategy</u>	<u>Status</u>
Discharge of chlorinated water to stormwater system	State regulations are scheduled to change in 2009 and will require filtration, automated chemical control and possibly discharge to the wastewater collection system.	Considering replacement of wading pools with small, zero depth interactive water play areas that comply with all state regulations.

Building Interior Maintenance

<u>Issue</u>	<u>Recommendation / Strategy</u>	<u>Status</u>
Custodial activities inside City buildings. Window cleaning, sanitizing restrooms, floor cleaning.	City is researching the <i>Green Seal</i> product accreditation and EPA approval to help determine which products to use. Consider manufacturing, packing and delivery, what is released into the air, the impacts of indoor air quality and other health challenges. Also testing a product line called Sustainable Earth.	Use of alternative cleaning products which may have reduced environmental impacts, such as those with the "Green Seal" and EPA accreditation are being used by all Facilities staff. PW Wastewater is using Green Seal products in several locations, but has begun using other products that are deemed even more environmentally friendly than Green Seal products. The Airport also does a portion of its cleaning instead of Facilities and uses primarily Green Seal Products.

Pressure Washing of Parking Structures

<u>Issue</u>	<u>Recommendation / Strategy</u>	<u>Status</u>
Impact to storm drain system from water run off.	Implement the use of drain socks and capture water to reduce environmental impact.	Heated water is no longer used. Water is mopped up to prevent stormwater impacts. No degreasers are used in graffiti removal. Drain socks have been installed to capture sediments and contaminants. Currently sampling a bio-degradable, environmentally-friendly product called Sustainable Earth.

Fleet Vehicle Washing at Main Wash Station

<u>Issue</u>	<u>Recommendation / Strategy</u>	<u>Status</u>
Impact of waste water, petroleum and chemicals to the environment.	Implement a system to capture water and chemicals to cleanse before returning to the sanitary system.	A device (Aqua Shield) has been installed to reduce discharge of contaminants and sediments to stormwater system. It is serviced and cleaned on a quarterly basis.

Fleet Vehicle Washing at Other Sites

<u>Issue</u>	<u>Recommendation / Strategy</u>	<u>Status</u>
Impact of waste water, petroleum and chemicals to the environment.	Implement a system to capture water and chemicals to cleanse before returning to the sanitary system.	Vehicle washing is no longer performed at other locations. Wash tickets are now issued for all City offices to come to the PWM yard to wash vehicles.

Category IV and V Activities

The Environmental Review Team coordinated an in-depth analysis of City activities which received a high rating in the CH2M Hill review for potential to negatively affect the environment, or received high rating for potential to negatively impact salmon or their habitats. The candidate activities for the analysis were those listed in the table below, with scores of -IV or -V in the two categories: Overall Environmental Class and ESA Relevance Category directly related to Salmon habitat impacts.

Activities in the classification IV & V review include:

<ul style="list-style-type: none"> • Fire Fighting • Reprographics & Copying • Computers, Printers & Peripherals • Parking Area Construction & Operation • Street Flushing 	<ul style="list-style-type: none"> • Mowing of Banks for Open Channel & Ditch Maintenance • Tree & Brush Removal in Waterways • Unpaved Road Use & Maintenance to Access Levees & Ditches • Culvert Maintenance • City-wide Purchasing & Procurement Decisions
---	---

Fire Fighting

<u>Issue</u>	<u>Recommendation / Strategy</u>	<u>Status</u>
Potential runoff of chemicals, petroleum, contaminants into stormwater system	Since early notification of the spill response team is key to reducing the environmental impact from fire fighting, it is recommended that ways to reduce the response time be investigated and implemented.	Public Works Maintenance Division operates an environmental spill response team, with a specially equipped vehicle. The dispatch protocol for this team has recently been modified. Timely response to a large fire is critical to mitigating the environmental impacts resulting from the fire fighting. Coordination with a group paging system used by Fire is being considered.

Reprographics & Copying

<u>Issue</u>	<u>Recommendation / Strategy</u>	<u>Status</u>
Environmental impacts from this activity are due to the consumption of paper involved in copying activities and associated power use.	Implement Digital Output Project Plan, which utilizes more efficient equipment use such as duplex copying, more efficient methods of information sharing and encouraged use of digital technologies where applicable.	The Digital Output Project Plan has evolved into a full-fledged Document Strategy for the City. This is due to the conclusions in the All Associates Group Report to the City dated October 2003. The Document Strategy is projected to be completed by January 2006. It will encompass the entire impact of document creation, storage, archiving and retrieval for the City. The Digital Output Project Plan is a key recommendation for "customer education program to lower costs, maximize technology, gain efficiencies, and lower environmental impact of document output." City staff receive training on use of copier equipment, duplex copying, etc.

Computers, Printers & Peripherals

<u>Issue</u>	<u>Recommendation / Strategy</u>	<u>Status</u>
Paper use and power consumption	Implementation of Administrative Order No. 21-01-04, which encourages use of better technology such as flat screen monitors.	Administrative Order implemented throughout the City organization. Continue to evaluate new equipment, such as flat screen monitors for environmental benefits, and include in City inventory when cost effective.

Parking Area Construction & Operation

<u>Issue</u>	<u>Recommendation / Strategy</u>	<u>Status</u>
<p>The impervious surfaces in parking lots contribute to a number of stormwater system and receiving water impacts, such as increased "flashiness" of flows, and pollutants loads. This activity also includes the impacts of construction, including natural resource consumption (asphalt).</p>	<p>Better and more frequent inspection by City inspectors during construction. Design of new parking areas should ensure that features can be cleaned with existing City equipment. Operation and maintenance of pollution control features is critical. Ensure regular and adequate sweeping in community centers and pools. An inventory is needed for parking area catch basins, separators, etc. Ensure appropriate plant/tree selection for landscaping around parking areas to avoid problems such as leaves plugging stormwater system.</p> <ul style="list-style-type: none"> • Conduct an inventory of catch basins, separators, and other pollution control structures in City-owned parking lots. Include these structures in the City's routine maintenance program. • Evaluate parking lot sweeping frequency, and increase if necessary. • Ensure that environmental issues are included in the design of new surface parking lots. 	<p>Status:</p> <ul style="list-style-type: none"> • Parking lot catch basin inventory has not been done, however, the City currently maintains City-owned parking structures. • Native plants and regionally appropriate plants/trees are utilized in landscaping. • Environmental issues are reviewed in parking lot construction – surface lots are discouraged. • Sweeping frequency of parking lots seems adequate and is restricted by budget.

Street Flushing

<u>Issue</u>	<u>Recommendation / Strategy</u>	<u>Status</u>
<p>Street Flushing is used to clean mud and other coarse aggregate and debris from paved streets and rights-of way. The potential negative environmental impacts from this activity are largely due to the impact associated with flushing contaminants and debris from paved streets into the catch basin and piped storm system and the use of water as the means of accomplishing this activity. The vast majority of water used is captured in the catch basin system with limited amounts finding its way into the piped portion of the system.</p>	<p>Reduction of the existing flushing schedules could be made without substantial impact to the overall sweeping program. However, total elimination of this program may lead to increased costs and negative public response related to overall street sanitation activities due to the need for additional sweeping passes and the negative public perception of mud/dust accumulation on paved streets. Currently Public Works Maintenance is attempting to reduce frequency on both arterial and residential streets and is assessing the effect to the street sweeping program. Without any flushing activity on residential streets during the summer months there has been an increase in air born particulate generated from vehicular traffic.</p>	<p>The City no longer performs this function.</p>

Mowing of Banks for Open Channel & Ditch Maintenance

<u>Issue</u>	<u>Recommendation / Strategy</u>	<u>Status</u>
<p>Mowing of channel banks to reduce vegetation so as to maintain flow conveyance to prevent flooding (as directed by Corps of Engineers). Impacts to the structure and function of riparian habitat from this activity are significant as shrubs and trees are not permitted to grow in areas routinely mowed. Reduction in forested riparian habitat along open channels affects wildlife through removal of food, shelter, and travel corridors. Direct impacts to breeding or nesting wildlife may occur if brush removal occurs from May to late July. Direct impacts to reptiles, amphibians, small mammals, and invertebrates may occur incidentally. Water temperatures may be increased if the activities prevent trees/shrubs from shading the watercourse. Removal of woody plants with larger root systems can increase the chances of slumping along sloped channel banks. Clearing channel banks of large woody vegetation also increases the rate of water flow through the channel, which increases the peak discharge and decreases the duration of discharge from a system, both of which may contribute to downstream flooding. Flail mowers are unable to collect trimmings, which may wash into the channel, increasing nutrient loading in the watercourse and diminishing water quality.</p>	<ul style="list-style-type: none"> •Reduce mow area. Wider vegetated buffers between the mow zone and the water line could be left. Increasing the vegetated buffer may require more intensive hand labor to manage exotic species and maintain adequate conveyance. •Less frequent mowing. The lower bank mowing may not be required annually to retain conveyance capacity. Either a less frequent mowing schedule could be developed or routine monitoring could be used to identify areas that would benefit from mowing. •Careful consideration should be given both to removing and leaving trees. Trees provide valuable habitat and improve water quality through shading. However, trees that are in danger of falling over and undermining channel structural integrity should not be permitted in and along large channels. •Equipment used in these activities could be fitted with special filtering equipment to reduce air pollution impacts, could be fueled with bio-diesel products, and could be retrofitted with commercially available non-petroleum based hydraulic fluids. 	<p>Parks and Open Space Natural Resource Maintenance crews have revised mowing practices in order to leave as wide a vegetated buffer strip as possible from the top of channel banks to adjacent property, streets, sidewalks and jogging paths. Crews have also adjusted mowing schedule in order to delay mowing in areas with noted T&E species or areas where bird nesting activities would be disturbed by early mowing. However, City crews are subject to Municipal Code Nuisance Vegetation requirements the same as the general public, so staff must maintain a sensitive balance between addressing environmental concerns versus nuisance code concerns related to vision obstruction, fire hazards, and Right-of-Way and pedestrian access conflicts. Trees along waterways most often do not present Nuisance Vegetation Codes issues. Natural Resource Maintenance crews are letting them grow unless they are in a position that restricts maintenance access to a channel reach or are posing a public safety hazard or an operational threat to the waterway.</p>

Tree & Brush Removal

<u>Issue</u>	<u>Recommendation / Strategy</u>	<u>Status</u>
<p>Tree and brush removal in channels to maintain flow conveyance to prevent flooding. Involves use of equipment (heavy and light), fuel use, and disturbance of riparian zones.</p>	<ul style="list-style-type: none"> •Minimizing use of the Gradall and maximizing hand labor would reduce impacts to habitat and water quality. Vegetation could be more selectively and precisely removed and material could be removed from the watercourse using hand labor. However, the Gradall may be useful for some spot vegetation removal projects where hand labor would be dangerous or significantly less efficient. •Careful consideration should be given both to removing and leaving trees. Trees provide valuable habitat and improve water quality through shading. However, trees that are in danger of falling over and undermining channel structural integrity should not be permitted in and along large channels. •Timing in-channel tree and brush removal after late July will reduce the potential for direct impacts to nesting birds. •Equipment used in these activities could be fitted with special filtering equipment to reduce air pollution impacts, could be fueled with bio-diesel products, and could be retrofitted with commercially available non-petroleum based hydraulic fluids. 	<p>POS Natural Resource Maintenance crews have significantly revised vegetation maintenance practices on the slopes and bottom of waterways within City jurisdiction. A selective vegetation removal practice unofficially dubbed "Green Piping" is now employed wherever possible. The practice entails the use of manual labor to remove only the branches and trunks of woody vegetation that obstructs the central flow corridor of a waterway. This results in an unobstructed tunnel with vegetation rising vertically on the banks and arching over the channel to provide shade and habitat. Where the channel is too wide to allow a complete canopy, crews allow vegetation (mainly Willows) to grow on the slopes, but remove any horizontal growing branches that may create obstruction in the flow corridor or that are growing in the bottom of the channel itself.</p> <p>In addition to revised maintenance practices, City staff and the Stream Team Environmental Volunteer Program carry out numerous projects in the Spring and Fall to plant additional Willows along the banks of Amazon Creek and other waterways in order to provide shade, habitat, and help stabilize the channel banks.</p>

Unpaved Road Use & Maintenance to Access Levees & Ditches

<u>Issue</u>	<u>Recommendation / Strategy</u>	<u>Status</u>
<p>Maintaining unpaved access along channels significantly reduces the potential of these areas to serve as forested riparian habitat. Reduction in forested riparian habitat along open channels affects wildlife habitat through removal of food, shelter and travel corridors. Water temperatures may be increased if these activities prevent trees/shrubs from shading the watercourse. Another impact is the reduction of prairie habitat caused by frequent mowing. Since these routes are dominated by grasses, they could potentially serve as prairie communities. However, frequent mowing, especially in late spring/early summer reduces this potential significantly. Direct impacts to ground nesting birds may occur if brush removal occurs from May to late July. Direct impacts to reptiles, amphibians, small mammals, and invertebrates may occur incidentally. Equipment used in this activity consumes significant quantities of fuel and contribute to air pollution, and also produce noise that may be disturbing to humans and wildlife. Due to the proximity of equipment to the watercourse, there is an increased risk that hydraulic and fuel line breaks could result in petrochemicals entering the watercourse and contaminating water. The addition of gravel and grading of road, erosion during rain events are concerns as is runoff from roads along open channels. Maintaining unpaved access consists primarily of three annual mowing passes and infrequent minor gravel applications to problem areas. Grass and other vegetation is well established along these routes, reducing erosion and runoff impacts. Little to no grading occurs as most of these access routes are well-established.</p>	<p>Access roads are critical to maintaining our open waterway system adequately to protect the community from flooding. While not maintaining them is not a viable option, one potential improvement to current practices would be reducing the frequency of access road mowing. However, this action must also be considered in light of concerns regarding fire prevention and the City's nuisance vegetation code. The most likely location to experiment with reduced mowing frequency would be near natural areas such as the lower Amazon channel north of Royal Ave. where substantial prairie already exists and few structures would be at risk if a fire occurred. Equipment used in these activities could be fitted with special filtering equipment to reduce air pollution impacts, fueled with bio-diesel products, and retrofitted with commercially available non-petroleum based hydraulic fluids.</p>	<p>Parks and Open Space Natural Resource Maintenance crews are responsible for maintaining usable access along major flood control channels under sponsorship agreements with both the Army Corps of Engineers and with the Natural Resource Conservation Service. However, NR crews attempt to minimize the frequency of mowing along established access roads as well as limit the frequency and amount of gravel surface material applied to these access ways so as to cause the least environmental impact possible while still allowing vehicle access as required.</p> <p>Where the City has acquired ownership or drainage maintenance easements on channels through new developments, the City most often does not construct a hard surface road, but instead creates a wide buffer zone between the natural riparian area (if any) and the abutting neighbors' property line in order to provide and access the corridor for maintenance purposes as well as to prevent nuisance vegetation from encroaching onto the adjacent private property. These buffers are usually mowed as late as possible in order to cause minimal impact to nesting activities. However, as with other mowing, the City must maintain a balance between environmental concerns and conflicts with the City's Nuisance Vegetation Code requirements.</p>

Culvert Maintenance

<u>Issue</u>	<u>Recommendation / Strategy</u>	<u>Status</u>
<p>Maintenance of culverts occurs on an “as needed” basis. The types of equipment and methods employed depend on the blockage type. Accumulated sediment and debris inside a culvert are cleared using a jet rod attachment on the Vactor truck. Wash water, sediment, and small debris are then vacuumed up at the downstream end. Accumulated material blocking a culvert outside the inlet may be removed using the Gradall with a bucket attachment. Prior to beginning in-channel work, silt fencing is placed in the waterway around the project area to minimize sediment migration. Material is removed using the Gradall bucket and placed in a truck to be shipped to a proper disposal site. In addition to these clearing practices, routine inspections and trash/debris removal are conducted by hand on all major channels. Similarly, mapped “hot spots”, which are sites where blockages have historically occurred more frequently, are inspected and cleared by hand after all major storm events. Finally, most major culverts have been fitted with trash racks to facilitate collection and removal of debris. Trash racks are designed to allow continued flow even with a significant accumulation of debris against them.</p>	<p>Install, widen and improve culverts as necessary. Rock may be added to slow flow and minimize erosion, spread grass and use erosion control techniques.</p> <ul style="list-style-type: none"> •In addition to installation of structural erosion control Best Management Practices, the Vactor truck could be used in tandem with the Gradall to more effectively remove suspended sediment from the water column. However, depending on the flow rates in the channel, this practice could be relatively ineffective. Alternatively, the Vactor truck may be used as the primary sediment excavating equipment, reducing the intensity of soil disturbance. However, both of these techniques involving the Vactor truck are experimental and depend on soil and flow conditions. •Removal of sediment accumulations where habitat features have formed should be timed so as to minimize the likelihood of disturbing nesting birds and other wildlife. This typically means after late July. •Equipment used in these activities could be fitted with special filtering equipment to reduce air pollution impacts, could be fueled with bio-diesel products, and could be retrofitted with commercially available non-petroleum based hydraulic fluids. 	<p>Continue evaluation and implementation of outlined strategies.</p>

City Wide Purchasing & Decisions and Procurement

Issue	Recommendation / Strategy	Status
<p>City wide purchasing for goods (including vehicles, paper, equipment, materials) and services (including recycling and solid waste, contractors). Includes paper use and web site development (such as development of RFP's and request for bids).</p> <p>Potential Environmental Effects: "Environmentally preferable" or "green" purchasing practices have become more common in the last few years. These practices include a consideration of the environmental impacts of products or services in the selection criteria. These environmental effects can include the environmental impacts created during manufacture of a product, the impacts created while using the product, and the impact and options for ultimate product disposal or recycling.</p>	<p>Develop and implement changes to City procedures that will ensure that environmental issues are routinely considered in the purchase and procurement of materials and services.</p> <p>Numerous guidance documents for environmentally preferable purchasing strategies have been published, including many that are web accessible.</p> <ul style="list-style-type: none"> • Environmentally Preferable Purchasing Guide, published by the Solid Waste Management Coordinating Board, http://www.swmcb.org/EPPG/1_1.htm • The Environmental Protection Agency has published guidance on Environmentally Preferable Purchasing at http://www.epa.gov/oppt/epp/index.htm. This web site contains a "tool suite" with numerous tools for implementing environmentally preferable purchasing practices, including a database of environmental information on products and services. • EPA has also published "Profile of Local Government Operations" which includes a section on purchasing practices. http://www.epa.gov/Compliance/resources/publications/assistance/sectors/notebooks/government.html • The Pacific Northwest Pollution Prevention Resource Center (PPRC) has compiled information to assist purchasers in their efforts to establish or maintain an environmental purchasing program. Included is information that can assist in identifying "green" products, setting up an environmental purchasing program, general and specific resources that are available to purchasers, guides for locating green products, and examples of procurement programs that can be used as a guide for purchasers building or improving their own programs. http://www.pprc.org/pprc/pubs/topics/envpurch.html • The National Association of Counties web site contains numerous links to purchasing resources. http://www.naco.org/links/env_pur.cfm • The City of Santa Monica web site contains information about the city's programs and policies that promote the purchase of more sustainable goods and services, including examples of policies and ordinances, and bid specifications. http://www.ci.santa-monica.ca.us/environment/policy/purchasing/ King County also presents similar information: http://www.metrokc.gov/procure/green/ The City of Seattle's purchasing program is described at http://www.ci.seattle.wa.us/environment/purchasing.htm 	<p>New administrative rules have been adopted and are being implemented which include environmental policies for procurement of materials and services.</p>

ESA Recommendations

In addition to the results of the Review, CH2M HILL offers other observations and recommendations as follows:

1. During interview sessions and information gathering, we found City staff persons to be very observant and interested in potential environmental effects and protection measures associated with City activities.
2. The City has several excellent resources and programs that are currently providing positive environmental protection or benefits. These resources and programs provide a solid foundation for environmental management of City activities. Examples of these resources and programs include, among others:
 - Wetland areas restoration projects
 - Stream and bank improvement projects
 - Stormwater management program
 - Wastewater management program
 - Recycling and conservation activities
 - Commitment to Sustainability
 - Environmental education classes and materials
 - Energy use efficiency evaluations
 - Integrated Pest Management (IPM) Program
 - Urban forestry program
 - Environmental education classes and materials
3. The City could improve consistency of implementation and coordination of programs and activities aimed at environmental protection (such as listed above). For example:
 - Implement consistent IPM program standards by all City staff involved in landscaping activities.
 - Implement consistent recycling across City departments and facilities.
 - Implement consistent staff training and education on environmental policies and procedures in all City departments and facilities.
 - Develop and implement environmental sustainability practices with “on-the-ground” procedures and actions related to environmental performance and evaluation.
4. Our interviews suggested that there is some uncertainty over the effectiveness of activities aimed at environmental protection (such as, maintenance operations and activities, environmental programs and activities). For most such activities, there are no apparent criteria or measures being used to assess environmental performance. The City should consider developing such criteria or measures to gauge and manage environmental performance for these activities.
5. This Review provides a comprehensive screening-level assessment of City activities for their potential to affect the natural environment. The Review is intended as a first step to help provide focus on possible follow-up analysis and actions the City should consider to manage activities that may affect the environment. No individual activity has been examined in detail. Therefore, the City should perhaps conduct a focused, detailed analysis of selected activities and programs to

confirm and more explicitly determine possible effects on the natural environment, and to determine possible management needs and actions directed at controlling or reducing effects. Emphasis should be directed at those activities and factors that this Review highlights as having the highest-rated potential effects.

Review

After close examination and exhaustive conversations, some of the activities were found to already have process monitors or control mechanisms in place, such as at the wastewater treatment plant. Four activities were removed from the list because they have existing review and oversight mechanisms in place. Those activities are:

- **Stormwater outfalls discharge**
- **Wastewater treatment and effluent discharge**
- **Lagoon operation and storage of bio-solids**
- **Wastewater overflow events during extreme wet weather**

Other activities were identified as items that were not good candidates for change or were sidelined for a future date when implementation seemed more appropriate.

- **Fire vehicle washing** was removed from this priority list because this activity has been discussed at length in a separate ERT process, and a strategy to retrofit fire stations with equipment to allow vehicle washing without impacting the stormwater system has been implemented.
- **Use of fleet vehicles** was considered in the January 2002 Fleet Energy Management Plan.

Several activities were assigned for review to the Green Buildings Team:

- **Maintenance of HVAC systems**
- **Maintenance of swimming pool facilities**
- **Use of office furniture, supplies, and equipment, and Office space use**
- **Review of the activities related to Culvert installation and Street/roadway construction and operation have been postponed**

The Environmental Review Team established work teams of staff "experts" to review the remaining selected activities, and make recommendations for modifications to City practices to reduce the potential for negative environmental impact. These teams have, in most cases, completed their reviews.

The remaining items in the list below are items that were either postponed, didn't get fully implemented or did not get implemented at all.

Future Work Items

- **Recycling containers** for the general public at the airport still need to be implemented. Security concerns have been an issue for this facility. In addition, other City office locations (primarily kitchen areas) still need to have recycling implemented.
- **Bicycles** at work sites. Bicycles are available at only a few City locations such as PWM, PWW, PWE & the PW Hotel. Other locations should consider implementing bicycles for staff use.
- **Saw Cutting vacuum equipment** is available at most big jobs, but many smaller jobs scheduled for warm weather still need to have appropriate equipment at the site. Better coordination and more equipment are needed to accomplish this task.
- **Pervious Concrete Use** needs more testing. Over time we may become more confident about its use and longevity.
- **Environmental Awareness Training** needs to be implemented city-wide.
- **Wading Pool Standards** need to be implemented to comply with state requirements that will be in place in 2007.
- **Digital Output Project Plan training** (at the line staff level) still needs to happen at some locations. Equipment in outer buildings and offices needs to duplex capable and/or upgraded in some cases.
- **Inventory of Catch Basins** in parking facilities still needs to be done.
- **Tree/Brush Removal, unpaved road use & maintenance to access levees & ditches and culvert maintenance practices** have significant impacts to habitat, the environment in general and the ecosystems within those areas. Management of these program areas where human activity directly impact species is critical to habitat stability. We've improved our practices to some degree, but we need to take a very close look at how to better balance our actions with the impact to the environment.

Conclusion

The work done by CH2M Hill and the ERT reminded us that in many cases our practices have been well thought out and balance impact with results. It also helped us realize that there are still improvements to be made, and we've begun a process to identify and adjust some practices.

Aside from identifying potentially harmful activities, we also learned that we could change our practices to stretch our resources, make use of new technologies, and convert to new, better and different ways of thinking, while reducing our impact to the environment. These realizations have allowed us to be more objective and have, in many cases, resulted in better business practices.

Through the processes outlined by the ERT, many City activities were changed. The majority of those changes have resulted in reduced environmental impact. However, there are still many areas where change still needs to take place.

The activities that still need attention are:

- Recycling containers need to be placed at the airport & other City office locations (primarily lunch & break rooms)
- Bicycles at work sites needs to be more fully implemented
- Saw cutting vacuum equipment needs to be used at all job sites
- Increase pervious concrete use
- More environmental awareness training needs to take place at the line staff level
- Update wading pool standards
- Digital Output Project Plan training needs to take place at the line staff level
- Inventory of catch basins in parking facilities still needs to happen
- Tree/brush removal in waterways, unpaved road use & maintenance to access levees & ditches and culvert maintenance practices need to be reviewed in more depth

The knowledge we've gained from our process analysis and changed practices has been incredibly valuable. Because of this work, our buildings are 'greener', our impact to wildlife has been reduced, our diesel vehicles now use bio-diesel and our fleet has more hybrid technology in use. The waste that once entered the drainage systems from vehicle washing, street flushing and the regular maintenance of City facilities is now greatly reduced. Our staff has a heightened awareness of resource use, including paper and power consumption, heating and cooling buildings, and what it takes to produce daily service delivery items.

The items listed above are just a few of the benefits that we're now measuring, but the raised awareness and lessons learned in this process have been extremely beneficial. These lessons will help our agency participate in on-going, constructive, creative, flexible and careful implementation of practices and policies over time. As our city grows and we accommodate the needs of a larger community, we will continue to adjust processes as necessary, making sure not to compromise service delivery, but to carefully balance our actions against the impact to the environment.