

# Vancouver Helps Protect Vancouver's Water

## Success Story of Local Environmental Protection Program

*Iloba Odum, DOE presenting Vancouver Mayor Royce Pollard with 2003 Environmental Excellence Award*



### Introduction

To form a more perfect water protection ordinance, in 2002 the city of Vancouver brought together environmental groups, businesses, industries, and regulatory agencies to create a true consensus team. Although these groups are not known for their shared values, they showed surprising patience with each other and worked through their differences to develop an ordinance that protects surface, storm, and ground waters. All members of these diverse groups supported the provisions and the City Council unanimously approved the ordinance. In 2003, a full-time inspector was hired to visit facilities and to respond to water-related complaints. The Department of Ecology provided financial assistance in the form of a Centennial Clean Water Grant. As of mid-2008, over 400 industries, businesses, and residential sites were inspected and numerous contamination threats remedied. A custom database stores inspection information, and an internet GIS application gives the community access to details of the program's progress.

### Problem

In June 1994, the U.S. Environmental Protection Agency (EPA) arrived in Vancouver to officially shut down a chrome plating operation that leaked pollutants from storage tanks on the site. Years of investigations revealed significant concentrations of hexavalent chromium in the soil and ground water beneath the facility. Vancouver's groundwater quality was also threatened by another chrome plater in the city, by dry cleaning operations, and by leaking underground storage tanks. Since 100 percent of the community's drinking and industrial process water comes from ground water, there was a great deal of community support for developing a local ordinance to help protect the aquifer. In addition to protecting the ground water, the city anticipated future requirements in its forthcoming NPDES Phase II Stormwater permit and wrote the ordinance for both surface and ground water. As such, it effectively provides a solid legal foundation for groundwater source control measures and for meeting Phase II stormwater requirements, specifically those related to illicit discharge detection, public outreach, ordinance enactment, and stormwater best management practices (BMPs).

### Project goals

The goal of environmental protection program staff is to use provisions in the ordinance to eliminate threats to the city's sole-source aquifer and prevent pollutants from entering the Columbia River, Burnt Bridge Creek, Vancouver Lake, and other water bodies in the city. The focus of inspections has been primarily toward commercial and institutional facilities that manage potentially harmful materials, although staff also responds to complaints and requests for assistance from city residents on water-related concerns.

New businesses are identified through the city's development review process and informed of the city's water protection program during the planning stages. Existing businesses that present an elevated risk to water resources are identified through field observations, GIS maps, and assessor information on property use. The program is introduced to businesses through an explanatory letter, a general guidance brochure, and a survey asking for disclosure of potentially hazardous materials managed at the facility. Inspections are performed when a facility of concern is identified. Immediately following a visit, the inspector records the site information into a database and then prepares a detailed inspection report which includes compliance issues and action items. Program staff visited about 80 percent of the facilities of concern in the city, and is on target to reach a goal of 95 percent by 2010. The remaining five percent accounts for the dynamic nature of businesses moving in and out of the city and modifying their operations.



The program's outreach coordinator determines where there is a need for technical assistance and develops brochures and best practice procedures for distribution. This was done for paint management, vehicle cleaning, mobile pressure washing, storm drain stenciling, and oil-water separator maintenance.

## Milestones and outcomes

The benefits to maintaining clean drinking water and healthy aquatic life are obvious, but not easy to quantify. In the worst case, water can become so polluted that it is necessary to find and develop another water source or install expensive equipment to clean up the current source. Since clean water requires less treatment, even minor reductions in pollution can result in significant cost benefits. The following summarizes program milestones and water protection achievements thus far.

*Inspections* - As of June 1, 2008, 251 industries were inspected to verify that they are following BMPs for material containment, handling containers, site maintenance, and other water quality protections. In addition, 180 residential and commercial sites were visited in response to complaints or referrals.

*Database Development* – As a part of the program, the city developed a database to keep track of facility information, hazardous materials managed onsite, inspection results, public outreach visits, and other pertinent information. It currently tracks information on over 700 operations and sites.

*GIS Site Atlas* - A GIS application is available to the public on the city's website. Layers can be selected to overlay a base map, allowing the user to easily view water protection zones, inspected industries, and contaminated sites within city boundaries. This useful tool can search on an address, zoom to a specific location, and show an aerial photograph of a site or facility. Along with helping to keep Vancouver citizens informed, sharing this information allows the water protection group and other regulatory agencies to quickly check which facilities have been inspected and investigate compliance.

Some measurable facility changes the program has overseen include:

*Secondary Containment* – Program staff worked with ten industries to install new (or improve existing) secondary containment around tanks and containers so that spills will not flow into the storm system, onto the ground, or to a nearby water body.

*Floor Drains* – Floor drains and oil-water separators, especially those installed prior to 1980, represent an on-going concern for the city. Inspections revealed that indoor floor drains in 17 facilities (primarily auto shops) were either illicitly draining to local streams via a storm line or connected to an infiltration drain (a drywell). In all cases these drains were plugged with cement or reconnected to sanitary sewer. It is estimated that up to ten percent of facilities storing hazardous materials have a floor drain. This represents a huge pollution risk that can be effectively addressed and remedied only by a local inspection program.

*Fleet Vehicle Wash water* – Fleet washing is a concern if the wash and rinse waters drain to a river, stream, storm system, or to the ground. After visiting and working with sites that wash vehicles, the number of vehicle washings discharging directly to surface or infiltration drains was reduced from 689 per week to 45, with treatment specified on the remaining vehicle washing. Based on program direction, six facilities made connections to sanitary sewer.

## Project highlights

The city's ordinance was written to provide clear regulatory authority on what have historically been "gaps" in the state's water protection laws. One example is loading areas. On sites where hazardous materials are loaded or unloaded, existing regulations can make it difficult for the Ecology inspector to mandate needed protections, but the city's ordinance was written to allow enforcement in loading areas. Similarly, above-ground storage tanks (ASTs) containing hazardous materials are difficult to regulate unless they contain a petroleum product or are

Water Protection team - Richard, Doug and Rhonda - with examples of drain stencils



actively leaking (resulting in a hazardous waste). The city ordinance has a specific provision to require secondary containment on any AST that presents a threat.

*Facility before and after inspection*



During a joint city-Ecology inspection of a facility near the Columbia River, several barrels of unknown materials were discovered poorly stacked and crowded into the parking area (see picture). Following the inspection, both the city and state sent letters requiring the business to clean up the lot. The barrels were removed and either relocated with appropriate labeling or properly disposed of. One unusual outcome of this joint inspection was a letter from the facility manager saying: *“We’re actively making progress on getting this mess straightened up out here. I’ve been hoping to do this for a long time, I just haven’t had the authority to do it. And I’m grateful to you guys for your participation.”* Although it seems odd to be thanked for enforcing regulations, in many cases facility operators know about problematic site conditions but have not been able to convince managers to remedy the situations. In those cases, a facility manager might actually appreciate compliance requirements.

Another business was found to be using an unlined in-ground sump as a hazardous waste collection facility in violation of both state hazardous waste regulations and the city’s water protection ordinance. Through a joint enforcement effort, the facility was brought into compliance with both sets of standards and no longer presents an on-

going threat to the city’s ground water.

One last interesting case for the city inspector was in a facility’s Material Safety Data Sheet for a bug killer called “Bee Bopper.” In case of a spill, the instructions said to neutralize the chemical and soak it up with an absorbent, which was fine, but when disposing of the pesticide as a waste it advised: *“BURY IN A PLACE WHICH WILL NOT REACH POTABLE OR FISH-BEARING WATER.”* The city inspector made sure that instead of following this guidance, the facility disposes hazardous materials properly.

## Partners

The initial ordinance development team included representatives from city, county, and state regulatory agencies, Vancouver businesses and industries, environmental groups, and the city’s fire planning and law departments. The following lists team members, affiliations, email addresses, and phone numbers.

Name	Affiliation	Email	Phone
Richard Hoiland	COV Engineering	<a href="mailto:richard.hoiland@ci.vancouver.wa.us">richard.hoiland@ci.vancouver.wa.us</a>	360-487-7130
Dee Williams	DOE Haz. Waste	<a href="mailto:dewi461@ecy.wa.gov">dewi461@ecy.wa.gov</a>	360-407-6348
Brian Carlson	COV Public Works.	<a href="mailto:brian.carlson@ci.vancouver.wa.us">brian.carlson@ci.vancouver.wa.us</a>	360-487-7130
Marian Lahav	COV Planning	<a href="mailto:marian.lahav@ci.vancouver.wa.us">marian.lahav@ci.vancouver.wa.us</a>	360-696-8005
Cary Armstrong	Clark County WQ	<a href="mailto:cary.armstrong@co.clark.wa.us">cary.armstrong@co.clark.wa.us</a>	360-397-6118
Jim Jakubiak	Columbia Business Ctr.	<a href="mailto:jjakubiak@schn.com">jjakubiak@schn.com</a>	503-286-6976
Patty Boyden	Port of Vancouver	<a href="mailto:pboyden@portvanusa.com">pboyden@portvanusa.com</a>	360-992-1103
Dan Monaghan	COV Fire Dept.	(retired)	
Jeff Dresser	Bridgewater Consulting	<a href="mailto:jdresser@bridgeh2o.com">jdresser@bridgeh2o.com</a>	
Wayne Bates	Emergency Response	<a href="mailto:wbates2@yahoo.com">wbates2@yahoo.com</a>	
John Karpinski	Natural Res. Council		
Brent Boger	COV Law Dept.	<a href="mailto:brent.boger@ci.vancouver.wa.us">brent.boger@ci.vancouver.wa.us</a>	360-696-8251

Current staff of the water protection group includes Richard Hoiland – Coordinator (contact info above), Douglas Wise – Engineering Specialist/Inspector, [douglas.wise@ci.vancouver.wa.us](mailto:douglas.wise@ci.vancouver.wa.us), 360-487-7130, and Rhonda Morgan – Engineering Tech/Outreach, [rhonda.morgan@ci.vancouver.wa.us](mailto:rhonda.morgan@ci.vancouver.wa.us), 360-487-7130.

The manager of the surface water management group is Annette Griffy. Loretta Callahan handles communications for the city's public works. In addition to city staff, there is also participation in the program from Vancouver's Local Interagency Network Coalition (LINC), which is comprised of representatives from city, county, and state environmental regulatory agencies.

The city's program worked closely with several regulatory groups from the Department of Ecology. Dee Williams, of the Southwest Regional Office, was a co-facilitator on the ordinance development team and frequently joins the water protection inspector on site visits. Laurie Morgan, of Ecology's Water Quality Program Hydrology section, helped the team incorporate Growth Management Act requirements into the ordinance and participated in defining the Critical Aquifer Recharge Area encompassing the entire city.

The city received a grant providing funds to initiate the program. The Ecology grant staff of Cindy James, Tammy Riddell, and Laurie Webster provided helpful support on funding issues. Margit Bantowsky provided additional Ecology assistance in paint management, Curt Piesch in spill response, and many others from Ecology's Southwest Regional and Water Quality sections.

## Funding

The Department of Ecology awarded a two-year, \$429,000 Centennial Clean Water Grant to the city. The grant provided funds to initiate the program. The city used these funds to purchase computer equipment, create an Access database, develop education materials, and cover salaries for program staff. After these initial outlays, the costs to maintain the program were greatly reduced. With the grant funding period over, the city's water and surface water utility revenues provide sufficient funds to cover staff salaries, equipment costs, and outreach expenses.

## For more information

Story Author's Name: Richard Hoiland  
Title: Civil Engineer, Coordinator of Water Resources Protection Program  
Location: Vancouver, WA  
Phone number: 360-487-7130  
Email address: [richard.hoiland@ci.vancouver.wa.us](mailto:richard.hoiland@ci.vancouver.wa.us)

Ecology Story Sponsor: Laurie Morgan  
Location: Water Quality Program  
WA Department of Ecology  
Phone number: 360-407-6483  
Email address: [lmor461@ecy.wa.gov](mailto:lmor461@ecy.wa.gov)

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