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**REPORT TO SAANICH PENINSULA WASTEWATER COMMISSION  
MEETING OF THURSDAY, 17 SEPTEMBER 2009**

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**SUBJECT**      **REGIONAL SOURCE CONTROL PROGRAM ANNUAL REPORT 2008**

**PURPOSE**

To present a summary of the activities and accomplishments of the Regional Source Control program in 2008.

**BACKGROUND**

On 27 May 2009, the Core Area Liquid Waste Management Committee received staff report ESP# 09-45, Regional Source Control Program Annual Report 2008 (copy attached), and requested that it be forwarded to the Saanich Peninsula Wastewater Commission for information and comment.

The executive summary of the main report entitled *Capital Regional District Source Control Program Annual Report 2008* is provided as Appendix A. A full copy of the report is available upon request from the Environmental Services department.

**RECOMMENDATION**

That the attached staff report on the Regional Source Control Program Annual Report 2008 be received for information and comment.

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Glenn Harris, PhD, RPBio  
Senior Manager, Scientific Programs

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Dan Telford, PEng  
Senior Manager, Engineering Services

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Attachment: 1



**REPORT TO CORE AREA LIQUID WASTE MANAGEMENT COMMITTEE  
MEETING OF WEDNESDAY 27 MAY 2009**

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**SUBJECT**      **REGIONAL SOURCE CONTROL PROGRAM – ANNUAL REPORT 2008**

**PURPOSE**

To present the 2008 activities and accomplishments of the Regional Source Control program (RSCP) and obtain approval for implementation of the new Codes of Practice (COP) inspection frequency plan in 2009.

**BACKGROUND**

The purpose of the RSCP is to reduce the amount of contaminants that industries, businesses, institutions and households discharge into the district's sanitary sewer systems in order to protect sewage collection and treatment facilities, biosolids quality, public health and safety, and the receiving environment. A source control program is a key component of effective wastewater treatment and will form an integral part of the core area wastewater treatment strategy.

This staff report presents *Capital Regional District Regional Source Control Program Annual Report 2008*, dated April 2009. A summary of program activities and accomplishments in 2008 is provided in the report's executive summary (Appendix A). A full copy of the report is available on request from the Environmental Services department. This report does not include an overall assessment of the effectiveness of the program. The Core Area Liquid Waste Management Plan (LWMP) commits to reviewing the effectiveness of the program every five years. The next independent five-year review of the program is scheduled for completion by November 2009.

**Inspection Frequency Review**

In past years, RSCP staff used a primary business inspection frequency of 20% per year to ensure inspections of each sector would be completed within a five-year cycle.

At the presentation of the 2007 RSCP Annual Report, the Core Area Liquid Waste Management Committee directed staff to review COP inspection frequencies to focus efforts on sectors discharging priority contaminants and to make recommendations for change in the 2008 Annual Report.

The review was included as part of an internal program review in 2008 and a trial approach for changing inspection frequencies was tested in the latter six months of the year. This approach included classification of each of the 11 COP sectors as high, medium or low priority for potential for discharge of priority contaminants to sewer.

A new COP inspection frequency plan (Appendix B) based on the results of the 2008 trial period is recommended for implementation in 2009. The increased inspection frequency is expected to further improve compliance levels and awareness of best management practices within priority sectors and, consequently, reduce the amounts of some priority contaminants discharged to sanitary sewer.

### **ALTERNATIVES**

1. That the new Codes of Practice inspection frequency plan be approved for implementation in 2009.
2. That use of the current Codes of Practice inspection frequency plan be continued.

### **FINANCIAL IMPLICATIONS**

Program funding is included in the annual RSCP budget.

### **SUMMARY**

The accomplishments outlined in the 2008 RSCP Annual Report highlight the effectiveness of the RSCP's approach to source control. Significant reduction in a range of contaminants, including metals and organic compounds, is reported in a recent study of wastewater and biosolids trends in the core area and on the Saanich Peninsula over the past 18 years. The observed decreasing trend in contaminant loads is likely a result of the ongoing consistent application of source control regulations, inspections and promotion of best management practices through outreach initiatives over the past 14 years.

The increased compliance levels attained by businesses operating under COP and permits in 2008 are directly linked to the high levels of consistent inspection, education and follow-up provided by RSCP staff. In addition, the efforts expended by business, industry and institutions in the region play a large part in the program's success.

An internal review of the RSCP was undertaken in 2008. This review forms the basis for a revised RSCP work plan for the period 2009-2010. A key component of this plan is the recommended change in emphasis toward more frequent inspection of businesses that discharge priority contaminants.

### **RECOMMENDATIONS**

That the Core Area Liquid Waste Management Committee recommend to the Board that:

1. the report, *Capital Regional District Regional Source Control Program Annual Report 2008*, dated April 2009, be received for information;
2. the new Codes of Practice inspection frequency plan be approved for implementation in 2009;
3. a copy of this report be forwarded to the Environment Committee, the Saanich Peninsula Wastewater Commission, the Ganges Sewer Local Service Committee, the Highland Water and Sewer Local Services Committee, the Magic Lake Estates Water and Sewer Local Services Committee and the Port Renfrew Utility Services Committee for information and comment; and
4. a copy of the report be sent to the Ministry of Environment to comply with Core Area Liquid Waste Management Plan reporting requirements.

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Glenn Harris, PhD, RPBio.  
Senior Manager, Scientific Programs

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Larisa Hutcheson, PEng  
Acting General Manager, Environmental Services  
Concurrence

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Kelly Daniels  
CAO Concurrence

**COMMENTS**

TS:cam  
Attachments: 2

**CAPITAL REGIONAL DISTRICT  
REGIONAL SOURCE CONTROL PROGRAM ANNUAL REPORT 2008**

**EXECUTIVE SUMMARY**

The purpose of the Capital Regional District (CRD) Regional Source Control program (RSCP) is to protect sewage collection and treatment facilities, biosolids quality, public health and safety, and the receiving environment by reducing the amount of contaminants that industries, businesses, institutions and households discharge into the district's sanitary sewer systems.

The CRD Sewer Use Bylaw, adopted in 1994, is the main regulatory instrument for the RSCP. The program works to ensure that the bylaw and its associated policies and procedures are applied consistently across the separate collection areas for all CRD sewage facilities. Implementation of a region-wide program began in 1995 with regulation of larger industries under a permit system, followed by adoption of the first regulatory codes of practice (COP) for commercial sectors in 1999. COP were developed, adopted and implemented by the end of 2005, to regulate discharges from approximately 2,200 businesses within 11 sectors.

A recent update of both core area and Saanich Peninsula influent and effluent trends over the past 18 years highlights the important role that the source control program plays in achieving wastewater contaminant reductions throughout the region. Preliminary results of statistical analysis show continued decreases in priority metals and organic compounds in the main sewage collection areas. Metals levels in biosolids produced at the Saanich Peninsula Wastewater Treatment Plant (SPWWTP) also show significant decreases.

The observed significant decreasing trends in contaminants are a result of the ongoing consistent application of source control regulations, inspections and promotion of best management practices through program outreach initiatives.

The 2008 annual report demonstrates that the RSCP has further increased business compliance. Sectors operating under COP reached record high levels for installation and use of proper waste treatment measures. Compliance levels at permitted industrial facilities and facilities operating under authorizations also maintained their highest points since the program began. Overall inspection levels for COP and permits are the highest recorded.

A new RSCP residential outreach initiative under the "Clean Water Begins at Home" series was launched in 2008. The medications reduction campaign is aimed at reducing the amounts of expired or unused pharmaceuticals disposed into local sewers and solid waste streams. Results from follow-up surveys indicate that the campaign was a success.

A comprehensive internal review of the RSCP was undertaken and resulted in a plan to refocus efforts on reduction of priority contaminants and increasing program efficiency. This plan forms the basis for a revised RSCP work plan for the period 2009-2010. One of the main components is the re-emphasis of inspections and monitoring on dischargers of priority contaminants.

The 2008 annual report presents background information, a summary of program activities and accomplishments over the period January to December 2008 and a brief account of initiatives planned for 2009. The main activities and accomplishments of the program in 2008 are outlined below.

## **Industrial, Commercial and Institutional Liquid Waste Regulation**

- 100% use of proper waste treatment measures was reached in seven code sectors (treatment works installed or offsite waste management used): photographic imaging, dental, laboratory, dry cleaning, carpet cleaning, fermentation and recreation. Record high levels were attained in the food services (89%) and automotive repair (98%) sectors.
- The highest increase over 2007 data was recorded in the food services sector (a 12% increase in use of proper waste treatment).
- High levels of proper waste treatment (81 to 93%) were also maintained within the remaining two code sectors (the vehicle wash and printing sectors respectively).
- The overall primary inspection level for COP operations reached a record high of 33.5%.
- Waste discharge permit compliance levels were maintained at 97%, and authorization compliance levels were maintained at 100%.
- The level of waste discharge permit inspection was higher than reported in 2007—in some cases exceeding the target of two inspections per permit per year.

## **Monitoring**

- The average number of scheduled permit audit sampling events completed in 2008 was higher than that carried out in 2007.
- All RSCP monitoring was reviewed. The 2009-2010 work plan refocuses on monitoring of priority sectors and contaminants, and establishes new monitoring targets.

## **Enforcement**

- Seven tickets were issued under the CRD Ticket Information Authorization (TIA) Bylaw as a result of nine COP sector investigations by Bylaw Enforcement staff—all within the food services sector.
- Charges were laid under the Sewer Use Bylaw against one food service business in 2008, resulting in a successful prosecution. Two cases, carried over from 2007 were successfully prosecuted in 2008.

## **Contaminants Management**

- A consultant was retained to prepare an inventory of priority contaminant discharges to the core area and Saanich Peninsula sewage collection systems. The main objective is to develop a mass balance of priority contaminant discharges to the sanitary sewer, research likely sources and develop recommendations for reduction measures.
- Other contaminants management initiatives undertaken by RSCP staff included investigations into Polynuclear Aromatic Hydrocarbon (PAH) sources, formaldehyde sources and Ganges Mixed Liquor metals sources.
- The fermentation sector, street waste disposal facilities and waste and recycling facilities were investigated regarding options for changes in regulatory approaches.

## **Contaminant Reductions**

- Preliminary findings of a report updating effluent trends for Clover and Macaulay Points over the period 1990 to 2008 include: significant reducing trends in loads of metals, cyanide, organic compounds and oil and grease discharged to the environment at both outfalls. This statistical study shows continued reductions in priority metals loads (chromium, mercury, cadmium, lead, nickel, silver and zinc) ranging up to 26% decrease per year and significant reductions in loads of organic compounds, including 1,4-dichlorobenzene, tetrachloroethene (Perc), toluene and xylene ranging up to 18% decrease per year.

- The preliminary findings updating wastewater trends at SPWWTP from 2000 to 2008 include: significant reducing trends in loads of metals, cyanide and some organic compounds in influent and effluent. The greatest reductions in priority metals loads were observed for chromium VI, mercury, lead and silver (ranging from 5 to 31% per year).
- Trends for metals levels in biosolids produced at SPWWTP show significant decreases ranging up to 30% per year for such priority metals as chromium, mercury, cadmium, zinc and copper.
- Many of the decreasing trends reported in this study had not been previously observed and may now be becoming apparent due to the increased statistical power of the trend analyses and the ongoing consistent application of source control regulations, inspections and promotion of best management practices through outreach.
- Biosolids quality at SPWWTP continues to meet Class A criteria. Mercury concentrations in biosolids were maintained at a very low level, likely as a result of the continued implementation of the dental COP since 2001.
- Five-year contaminant reduction targets have been met or exceeded for all COP sectors, based on inspections to date and progress on proper waste treatment within these sectors.
- All waste discharge permit holders have achieved, or are progressing toward achieving, their contaminant reduction targets.

### **Significant Incident Response**

- There were no significant incidents reported at CRD sewage treatment plants, in CRD trunk sewers or municipal sewers in 2008. This is the first zero-event year since significant incident reporting began in 2000.

### **Outreach**

- The “Medications Return Campaign”, a new initiative under the “Clean Water Begins at Home” residential outreach component, was launched in 2008 with goals of promoting awareness of the existing provincial medication return program and reducing the disposal of expired or unused pharmaceuticals into local sewers and solid waste streams.
- A follow-up survey showed that an estimated 745 kg of medications were collected and 57% of participating pharmacies registered an increase in the amount of medication returns.
- A revised food services guidebook and associated information poster were completed for distribution to businesses.
- A revision of the dental operations guidebook was initiated and an “information postcard” developed.
- A brochure containing information on the RSCP and other CRD programs was developed for distribution to business sectors and municipal staff in 2009. This “one-window” approach is aimed at increasing awareness of CRD programs and facilitating the flow of accurate and up-to-date information.
- RSCP residential and business web pages were updated.

### **Data Management**

- Development of a combined business database, in cooperation with CRD Water Services, continued in 2008. The completion and implementation of this enhanced, more secure and updated business database is scheduled for 2009.

### **Program Planning and Development**

- A comprehensive internal review of the RSCP was undertaken in 2008 leading to a common plan to refocus the efforts of the program in the following three areas: reduction of priority contaminants; increasing program efficiency and building source control awareness and support. This plan forms the basis for a revised RSCP work plan for the period 2009-2010.

- The program continues to meet the commitments outlined in the Core Area and Saanich Peninsula LWMP.

#### **Next Steps – 2009**

The main areas of program development in 2009 involve implementation of items identified in the five-year plan and the revised work plan for 2009-2010. These include:

- Completion of the priority contaminant inventory in June 2009 to allow the preparation of a contaminants management plan (CMP) by September 2009.
- Implementation of new inspection plans for permits and codes of practice, and new monitoring plans focusing on businesses discharging priority contaminants to sewer.
- Continuation of implementation of the residential and business outreach plans, with an emphasis on priority contaminant reduction following the CMP.
- Completion of an independent (external) five-year review of the program for the period 2004-2008



APPENDIX B

2009 INSPECTION PLAN FOR RSCP CODES OF PRACTICE

BUSINESS SECTOR	SECTOR PRIORITY (Dischargers)	Annual Inspection Cycle	2-Year Inspection Cycle	3-Year Inspection Cycle	5-Year Inspection Cycle
Dental	High		X		
Photo Imaging	High	X			
Printing	High	X			
Auto Repair	High	X			
Laboratories (Large)	High	X			
Vehicle Wash	Medium			X	
Food Services	Medium			X	
Laboratories (Medium)	Medium			X	
Fermentation	Low				X
Carpet Cleaning	Low				X
Dry Cleaning	Low				X
Recreation Facilities	Low				X
Laboratories (Veterinarians)	Low				X