

## CRD Sewage Treatment FAQs

### #1: Sewage is pollution

-Victoria pumps 129 million litres of screened sewage per day into the Strait  
(<http://www.georgiastrait.org/files/SETACCRDFinalReport.pdf>)

On the Island, only Tofino and Greater Victoria (the seven core municipalities: Victoria, Oak Bay, Saanich, Langford, Esquimalt, Colwood, and View Royal) have sewer systems but no sewage treatment. There are two other cities in BC without sewage treatment: Masset and Prince Rupert.

The net currents at the sewage outfalls are East into Georgia Strait, not West out to the open Pacific

There is a 60 sq km closure to shellfish harvest because of contamination

The discharge from the sewage outfalls includes the untreated leachate from our 50+yr old landfill

The discharges of sewage have been found to be toxic to fish

On the seabed near the outfalls, 17 compounds exceed contaminated site regulation

The pathogen plumes from the outfalls hit the surface mainly in the winter but also in the summer

### #2: Chemicals in Sewage - it's not just about the "poop"!

A study prepared for Environment Canada in 2002 by 2WE Associates Consulting, LTD, lists 5 pages of chemicals, pesticides, herbicides, metals, organophosphates, halogenated compounds, phthalates, PCBs, phenolics, ketones, PAHs and more found in Victoria's sewage.; a summary is found in the Wilson report (<http://www.victoriasewagealliance.org/EC%20Wilson%20Report.pdf>)

"Persistent organic pollutants (POP's) in any quantity (< parts per trillion) are sent up the food web. Toxic resistant polychaetes (marine worms) that eat the effluent at Victoria outfalls are food for small fish, that feed larger fish that feed the likes of Orcas & seals." (Jim McIsaac)

The animal community near the outfall is dominated by pollution tolerant species (2006 SETAC presentation to CRD, p.19)

The chemicals in our sewage are dispersed by our current disposal method, but they do not disappear. These chemicals will accumulate over time in our marine sediments and oceans.

Around the outfalls, not one but seventeen substances exceed the contaminated site regulation (2006 Macdonald Environmental Sciences Ltd (MESL) report) Some of these substances include: lead, mercury, cadmium, chromium, manganese, copper, phthalate esters, pentachlorophenols (mostly pesticides including the deadly nerve poison lindane), PCB's and polycyclic aromatic hydrocarbons (PAHs). Fourteen of these chemicals exceed the limits known to cause harm in the environment. Five toxins,

manganese, mercury, copper, aluminums and phenols, exceed the guideline limits by over 1000%. Phthalates, toxic derivatives of the plastics industry, are found in concentrations more than 100,000 times higher than recommended safe levels for the protection of aquatic life.

MESL Report is found here: [http://www.env.gov.bc.ca/main/prgs/docs/sq\\_crd\\_outfalls.pdf](http://www.env.gov.bc.ca/main/prgs/docs/sq_crd_outfalls.pdf)

Also see : <http://www.georgiastrait.org/?q=node/322>

### **#3: Sewage treatment will reduce chemical contaminants getting into our ocean:**

According to Ministry of Environment: "Treatment's not only more effective in reducing contaminants, it is effective immediately upon implementation and will remove a wide array of contaminants not targeted under source control" (Ministry of Environment, 2002, taken from VSA FAQ page)

The CRD spent over \$600,000 on a study by independent scientists (known as the SETAC report) which concluded "Relying on the dilution and natural dispersion processes of the Strait of Juan de Fuca is not a long-term answer to wastewater disposal, especially considering the growth predicted for the CRD and adjacent communities that also contribute contaminant loads to the Strait and to Puget Sound." (SETAC, 2006, p.16). See the full final SETAC report here:

[http://www.wastewatermadeclear.ca/media/documents/SETACCRDFinalReportv2\\_000.pdf](http://www.wastewatermadeclear.ca/media/documents/SETACCRDFinalReportv2_000.pdf)

Dilution is not the solution to the pollution.

"Conventional secondary wastewater treatment, designed to remove solids and biodegradable organic material from wastewater, removes from 50 to 90 percent of many compounds known to be or suspected of being EDCs." EDC's are endocrine disrupting chemicals. EDCs are natural or synthetic chemicals that interfere with or mimic the hormones responsible for growth and development of an organism.

<http://www.kingcounty.gov/environment/wtd/Education/EmergingIssues/EDC.aspx>

"The combination of ozonation and sand filtration with activated sludge treatment gave efficient removal (>80%) of all the target compounds except carbamazepine and diethyltoluamide. Among all the steps in the plant, ozonation contributed substantially to overall removal of naproxen, ketoprofen, triclosan, crotamiton, sulfapyridine, macrolide antibiotics, and estrone."

<http://www.sciencedirect.com/science/article/pii/S0043135407004010>

If you are interested in a more comprehensive report, you can look up an EPA study titled "Treating Contaminants of Emerging Concern". There you will find a list of chemicals, and the rate of removal.

The CRD proposed system includes the Ostara (Canadian company!) designed nutrient removal processes that remove phosphorus and ammonia, two big sources of pollution.

#### **#4: CRD Sewage Treatment Plan:**

“Analysis has shown that the best triple bottom line—economic, social and environmental—solution to sludge treatment is digestion which will reduce volume by approximately 50%, and in the process, create enough biogas to heat 1,000 homes” (CRD Fact Sheet #4)

“We’ve explored the proven technologies to address the by-products of liquid waste treatment. Analysis shows that the solution is using the recovered resources to replace fossil fuels such as natural gas and coal. The overall result will be an annual negative carbon footprint“(CRD Fact sheet #5; especially since effluent won’t be decomposing in the ocean and releasing methane)

CRD’s treatment system will reduce the amount of organics in the ocean from 40,000kg/day to 4000kg/day

Plan includes:

- 1) Biosolids processing facility
  - Struvite (phosphorus)
  - Biogas
- 2) Digested dried biosolids
  - Used as a fuel substitute
- 3) Heat recovery opportunities
  - Heating and biosolids drying

#### **#6: Geography**

FRAME: It’s time for Victoria to be a good neighbour!

All other communities, which SHARE the Strait of Juan de Fuca have sewage treatment!

“ Surrounding Victoria, virtually every community has sewage treatment facilities, EXCEPT Victoria!

Even small communities like Salt Spring Island, Sooke, Friday Harbour, discharging into the same waters as Victoria, have sewage treatment.” (Tyler Ahlgren)

Port Angeles has a population of 19,154 (2011 census), yet they have a secondary treatment plant

#### **#7: ARESST misinformation**

ARESST points to the American cities of San Diego and Honolulu, suggesting they have "exemptions" that allow them to discharge untreated sewage as Victoria does. THIS IS NOT TRUE. In fact, Honolulu has no such "exemption", and San Diego has near secondary level treatment processes similar to those proposed for Victoria. ARREST simply wants an exemption so Victoria can continue to pollute.

And the annual costs to residents in those cities? San Diego residents pay between \$216 and \$705  
<http://www.sdcounty.ca.gov/dpw/faqs/faqs.html#How%20much%20does%20it%20cost%20to%20connect%20a%20single%20family%20dwelling%20to%20the%20sewer%20system>

Honolulu residents pay between \$500 and \$750.

[http://www1.honolulu.gov/env/wwm/faq/sewer\\_service\\_charges.htm](http://www1.honolulu.gov/env/wwm/faq/sewer_service_charges.htm)

### **#8: Cost**

The estimated property tax burden for homeowners is to range from \$100 to \$500 a year. (July 16/12 The Province:

<http://www.theprovince.com/news/local/Three+governments+announce+deal+Greater+Victoria+sewage+plant/6941399/story.html> )

According to the U.S. National Association of Clean Water Agencies (NACWA), index for 2009, nationally, the average annual cost for wastewater services for a single family home was \$346.

<http://www.nacwa.org/images/stories/public/2010-08-03regindexrd.pdf>

### **#9: CRD residents support Treatment**

71% of residents support sewage treatment according to a 2004 poll done by the CRD (Capital Regional District) [http://www.victoriasewagealliance.org/index\\_files/NEWSVictoriasSewage.htm](http://www.victoriasewagealliance.org/index_files/NEWSVictoriasSewage.htm)

### **#10: CRD has consulted the community:**

The "sewage issues" already have undergone years of public consultations, numerous meetings, and many opportunities for the public to comment on the CRD project as it was developed. The same people who opposed treatment BEFORE the 2006 Federal mandate, continue with their same message, today: keep dumping 129 million litres of untreated wastes into the public waters.

### **#11: Victoria's Sewage Discharge Contravenes National Regulations**

"The current effluent discharge in the capital region is approximately 10 times the allowable amounts under federal regulations. (CRD Fact Sheet #2);

<http://www.wastewatertomadeclar.ca/inthecrd/facts.htm>"

Canada now has new regulations that mandate secondary treatment across the country. These regulations took nearly 10 years to develop and involved extensive scientific discussion and consultation. They are science based regulation based on the fact that sewage is pollution

<http://www.ec.gc.ca/default.asp?lang=En&n=714D9AAE-1&news=601AD687-480E-4EB9-8FDD-6027B021634A>

## #12: 2006 Scientific Review Panel Findings

The CRD spent over \$600,000 when they hired the Society for Environmental Toxicology and Chemistry (SETAC) to do an independent study to determine if our current system was satisfactory. SETAC (2006) concluded "that reliance on the dilution and natural dispersion processes of the Strait of Juan de Fuca is not a long-term answer" (p.30). In other words, dilution is not the solution to the pollution.

## #13: Other science

### Common household substances are toxic:

"Take ibuprofen (its many trade names include Advil and Motrin), for example, the third most consumed drug in the world. Wastewater treatment plants remove 60 to 90 percent of it, but that's not enough, warns a Cornell researcher. "Given the volume that is consumed, a lot still goes out to the environment," says Anthony G. Hay, Cornell associate professor of microbiology and director of Cornell's Institute for Comparative and Environmental Toxicology. He studies how ibuprofen and other chemicals present in sewage sludge are degraded by microorganisms. "Even low concentrations of ibuprofen have been found to affect the way fish spawn, so we don't want it accumulating in the environment," says Hay. "Understanding the biological fate is very important for being able to predict the potential for toxicity of compounds. In the case of ibuprofen, we were able to show that it can be degraded to nontoxic intermediates." Since legislation prohibits dumping sewage sludge in the ocean, most of it in this country is applied to soil for its nutrients and to improve the physical properties of the soil, which is often cheaper than landfill or incineration." (from: <http://phys.org/news120927003.html>)

### Climate change

Sewage treatment plus proper resource recovery will capture methane and other biogas and use it to make energy, where sewage releases methane into the atmosphere when it decomposes in the ocean.

### Mr. Floatie's message:

Mr. Floatie never spread misinformation, just laughter. All he wants is a home. That is Mr. Floatie's message. It's true there are no floaties. Mr. Floatie represents the fecal matter and also complains about the chemicals in our sewage. It's why his voice is so high

### QUESTIONS for opponents of sewage treatment:

QUESTION: What "better" treatment facilities do opponents offer than that developed after 6 years of deliberations by the CRD CALWMC?

### Other information:

"Net current at depth at the outfalls is EAST into Haro/Georgia Strait. (See CRD 1999 Current Meter summary) The west side of San Juan Island is major Orca habitat; look at a map to see the connection. When current is west, effluent is sent into and held in a back eddy at Parry Bay, the Macaulay Point

reference site! (See Seaconsults 1991 report) 5). The sewage plume does hit surface and in summer with fecal coliform counts over 1300(see CRD 2002 M&C report, June). This puts kite surfers and water goers in the middle of pathogens. Pathogens in general survive longer in cold water. (MELP, 2002) 6). The average temp of the world's oceans is 3.5C; the average surface temp of the oceans is 10C. The average temp at Victoria outfalls is 10C, not unique or especially cold for the world's oceans." (Jim Mclsaac)

In 2006, the BC government ordered the CRD to treat its sewage.

[http://www2.news.gov.bc.ca/news\\_releases\\_2005-2009/2006ENV0064-000976.htm](http://www2.news.gov.bc.ca/news_releases_2005-2009/2006ENV0064-000976.htm)

As one Times Colonist reader put it: "If there is zero effect on the ocean then surely we have a miracle because then we could in fact dump any amount we want off Victoria's special waterfront with no pollution. So let's pipe all the effluent from all of the other cities in Canada and the U.S. and dump it in this special place.

### **If you are curious...**

If you look at a recent article about ARESST, you can see by the votes in the comments section for pro-treatment, that ¾ of the people voting on the comments favour treatment.

<http://www.cbc.ca/news/canada/british-columbia/story/2012/07/22/bc-victoria-sewage-fight.html>