



ADMINISTRATIVE REPORT

Report Date: February 6, 2017
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Meeting Date: May 2, 2017

TO: Vancouver City Council
FROM: General Manager of Real Estate and Facilities Management
SUBJECT: Update on Protecting Vancouver's Recreational Water Quality

RECOMMENDATION

- A. THAT Council direct the General Manager of Real Estate and Facilities Management to further consult with marina and boat operators on approaches to improve water quality protection.
- B. THAT Council direct the General Manager of Real Estate and Facilities Management to conduct a pilot project in summer 2017 for mobile sewage pump-out services in False Creek and report back on the success and findings of the pilot project.
- C. THAT Council direct the General Manager of Real Estate and Facilities Management to retain a service provider to support audit operations.
- D. THAT Council support proposed amendments to the Vancouver Building By-Law (VBBL) to strengthen requirements for the provision and use of sanitary pump-out facilities at marinas, and direct the Director of Legal Services to bring forward for enactment the amendments generally as set out in Appendix "A".
- E. THAT Council support proposed amendments to the Health By-Law to reinstate previous requirements related to water quality protection, and direct the Director of Legal Services to bring forward for enactment the amendments generally as set out in Appendix "B".
- F. THAT Council support proposed enhancements for the enforcement of sewage management regulations.

REPORT SUMMARY

The purpose of this report is to provide Council with an update on recent and upcoming initiatives related to recreational water quality protection in marine waters, with a focus on False Creek, and to seek support for proposed activities and by-law amendments to strengthen water quality protection.

COUNCIL AUTHORITY/PREVIOUS DECISIONS

In May 2015, Council passed a motion to “Direct staff to address the Park Board objective (to work with interested government agencies and departments, non-government organizations and individuals to achieve a goal of zero beach closures), in staff’s ongoing work on the Integrated Stormwater Management Plan”.

CITY MANAGER’S/GENERAL MANAGER’S COMMENTS

The General Manager of Real Estate and Facilities Management supports the aforementioned recommendations as the proposed activities and by-law amendments will help to strengthen the City’s recreational water quality protection.

REPORT

Background/Context

Clean Water and Access to Nature are key components of Vancouver’s Greenest City Action Plan. Closures of English Bay swimming beaches are rare in Vancouver but do occasionally occur in summer, often tied to warm, dry weather and increased boating activity. False Creek water quality has been an ongoing issue since the surrounding land was industrialized, filled, and subsequently re-developed into its present state. False Creek is not a designated swimming area, but is an important area for water-based recreation, including paddling and rowing.

The current measure of water quality is E.coli testing, and Metro Vancouver performs weekly testing from April to September, and before the Polar Bear Swim. Vancouver Coastal Health uses the Metro Vancouver data to provide weekly updates on beach water quality in swimming beaches in Metro Vancouver. The Health Canada guideline for E. coli is no more than 200 E. coli/100mL (30-day mean) for primary recreational use (e.g. swimming), and 1,000 E. coli/100mL (30-day mean) for secondary recreational use (e.g. canoeing, kayaking, rowing). When levels exceed these guidelines, swimming closures are implemented and/or paddlers in False Creek are advised to take extra precautions, such as hand washing and showering after their activities.

As a result of unusually high E. coli concentrations measured in False Creek in August 2014 and from April to mid-July 2015, the City created a multi-agency working group, the False Creek Water Quality Working Group (FCWQWG), comprised of

representatives from Environmental Protection, Engineering, Park Board, Vancouver Coastal Health, Metro Vancouver, Transport Canada, Port of Vancouver, and BC Ministry of Environment to assess short and long-term issues and opportunities to improve False Creek water quality. In addition to the creation of the FCWQWG, the Engineering Department investigated and remedied a number of sewer infrastructure operational restrictions that lead to False Creek East, including an improperly operating siphon under Terminal Street at Western Avenue which increased the risk of overflows to the Terminal drain under high sanitary sewer flow conditions. Concurrently, the Vancouver Park Board implemented a “pump, don’t dump” public awareness campaign in the summer of 2015 to draw attention to the issue of illegal dumping by boats in False Creek, and to improve use of pump-out facilities. As part of this campaign, municipal marinas (Burrard and Heather) provided free pump outs to all boaters in False Creek.

Ongoing work on water quality in False Creek suggests there are multiple sources of sewer contamination, including stormwater discharge from land-based sources, and discharge of untreated waste from boats.

In 2016, the FCWQWG engaged a Greenest City Scholar to compile existing data from 1993 through 2016, collect additional relevant data and information, and examine the data in an effort to understand patterns of water quality and environmental health in False Creek. The assessment did not identify long-term spatial and temporal patterns of contamination, nor correlations between contamination and a variety of environmental variables such as temperature and precipitation. The information gleaned from this study and other information assessed by the FCWQWG suggests that a primary contributor to E. coli contamination in False Creek is sewage dumping from marinas and recreational vessels (e.g. liveaboards not connected to the sewer system, fishing boats, pleasure crafts).

Assessment of boating activity in False Creek based on May 2014 air photos counted 1,339 boats with a mean boat length of 10.9 m (36 ft). False Creek had a total of approximately 14,600 m of boats in 2014. Ninety-eight percent (98%) of boats (1,319 boats) were moored at marinas, and two percent (2%) of boats (21 boats) were in open moorage.

In addition to E. coli contamination, frequent fuel oil releases occur in False Creek, the frequency of which came to light after the *MV Marathassa* oil spill in April 2015, after which the Canadian Coast Guard and Emergency Management BC began to report all fuel releases in Vancouver’s waters to the City.

Strategic Analysis

With a better understanding of the sources of E. coli contamination in False Creek, the FCWQWG seeks to redirect water quality improvement efforts toward Engineering controls, adjustments to cultural behaviour, and enforcement.

To address cultural behaviour, staff distributed a boater survey in March 2017 seeking input from boaters on how to improve local pump-out facilities. The survey was developed by City representatives on the FCWQWG and the results indicated that pump-out facilities are inadequate, either in number, convenience, or accessibility.

Based on the findings of the survey, staff will release a communications campaign in the spring, aimed to increase boater and marina operator awareness of the applicable regulations, pump-out facilities locations, as well as the environmental and human health implications of improper sewage management.

Building upon the feedback received to date, staff propose to further consult with marina and boat operators to better understand the opportunities to improve sewage management. Staff also propose the City conduct a pilot program in summer 2017 to provide mobile sewage pump-out services in False Creek, and report back on the project's success and findings.

The VBBL currently requires newly-constructed marinas to provide an easily accessible pump-out connection for visiting vessels and non-liveaboard vessels, but existing marinas are exempt from this requirement. However, much of the feedback received to date suggests that public pump-out facilities are inadequate, either in number, convenience, or accessibility. Staff propose to amend the VBBL to require all marinas provide easily accessible pump-out facilities or services, and provide a transition period of three months from the date the by-law comes into force to those currently without such a facility or service. At the end of the transition period, marinas without the prescribed facilities/services would be unable to renew their business licenses. The estimated costs range from \$8,000 (mobile cart) to \$23,000 (pump-out station).

The VBBL also requires that each moorage space for liveaboard vessels be provided with a sanitary sewer connection. Information provided to the FCWQWG indicates there are many more permanent liveaboards (moored and in marinas) than permitted, and that marinas do little or nothing to enforce this issue, suggesting there are numerous, permanently or frequently-inhabited liveaboard vessels not connected to the sanitary sewer. Liveaboard vessels appear to be increasing at marinas in False Creek because of housing affordability, but there is not yet sufficient data to substantiate this assessment.

The Health By-Law formerly contained a section for Marinas, which included requirements for management of sewage, oil discharge, and garbage management. Staff propose to reinstate these requirements as all such releases affect water quality. Additionally, staff propose to strengthen requirements for marina owners to ensure that sewage is properly managed in their facilities.

Enforcement of sewage management practices is lacking. Staff propose the City retain a service provider who could conduct an audit of boats to identify those discharging sewage waste improperly, and enforce the regulations, through escalation from education and warnings by the VPD Marine Unit and City's Environmental Protection Officers to commencing prosecutions.

Implications/Related Issues/Risk (if applicable)

Financial

The costs for the pilot pump-out service program and audit support services are estimated to be \$75,000. The financial resources required will be funded from existing budgets.

Human Resources/Labour Relations

Inspections of marinas to enforce compliance with the current regulations can be managed by the VPD Marine Unit and the City's Environmental Protection Officers.

Environmental

The planned and proposed initiatives detailed in this report are intended to reduce waste discharges into Vancouver waters, improving the overall environmental health of recreational waters such as False Creek and their users/occupants.

Legal

The *Vancouver Charter* authorizes Council to adopt by-laws regarding health and construction.

Other

The affordable housing crisis in Vancouver appears to have resulted in more residents living on vessels, full-time. The proposed actions are intended to facilitate proper sewage management from boats; they should not be perceived as a tightening of requirements for liveaboards.

CONCLUSION

Recreational water quality in Vancouver is an important environmental and human health issue. The City and FCWQWG have conducted extensive investigations into the sources of E. coli contamination in Vancouver's recreational waters, particularly False Creek, and have determined that a main cause of contamination is improper sewage disposal from marinas and recreational vessels. Infrastructure improvements have already been made, and staff propose further steps to improve water quality, including: consulting further with marina and boat operators; piloting a City-funded, mobile sewage pump-out service; auditing boats; amending by-laws to strengthen requirements of marina operators and boaters to properly manage their waste; and enhancing enforcement of the regulations.

Since the *MV Marathassa* oil spill in 2015, staff have been highly engaged in the development of provincial and regional oil spill preparedness and response plans, as

well as one specific to the City. These plans will reduce the number of small on-water oil spills in Vancouver, and improve spill response.

Planned and proposed initiatives will heighten public awareness of water quality issues and hopefully change cultural behaviour around waste management, as well as provide the City with the authority to enforce behaviour that threatens recreational water quality in False Creek and other Vancouver waters.

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BY-LAW NO. _____

**A By-law to amend Building By-law No. 10908
regarding marinas**

THE COUNCIL OF THE CITY OF VANCOUVER, in public meeting, enacts as follows:

1. This by-law amends the indicated provisions of Building By-law 10908.
2. Council strikes Sentence 11.2.1.11. and replaces it as follows:

“11.2.1.11. Specific Upgrade Requirements for Float Homes and Marinas

 - 1) Except as permitted by Sentences (2), (3) and (4), where a marina is altered, all new work shall comply with Subsection 12.2.2. and the marina shall be upgraded to an acceptable level as determined by the upgrade mechanism model in Division B Appendix A.
 - 2) If a marina existing as January 1, 2018 does not comply with Sentence 12.2.2.3.(3), the owner shall apply for all permits necessary to bring the marina into compliance with that Sentence within 3 months, and bring the marina into compliance with that Sentence forthwith.
 - 3) Except as required by Sentence (4), Sentences 12.2.2.2.(1), 12.2.2.6.(1), 12.2.2.6.(2), 12.2.2.7.(1) , and 12.2.2.8.(1) need not apply to a marina.
 - 4) Where the total value of the alteration to a marina exceeds 50 per cent of the value of the marina as determined at the application stage for the alteration, then the marina shall comply with Sentences 12.2.2.2.(1), 12.2.2.6.(1), 12.2.2.6.(2), 12.2.2.7.(1) , and 12.2.2.8.(1).
 - 5) Where a float home is altered, all new work shall comply with Subsection 12.2.2 of Division B and this By-law, and the float home shall be upgraded to an acceptable level as determined by the upgrade mechanism model in Division B Appendix A.
 - 6) A marina shall have an occupancy classification as specified in Sentences 12.2.2.1.(5) and (6).”
3. Council strikes Sentence 12.2.2.3 (3), and replaces it as follows:

“3) Every owner or operator of a marina shall provide an easily accessible pump-out connection for visiting vessels and non *liveaboard vessels*.”
4. A decision by a court that any part of this By-law is illegal, void, or unenforceable severs that part from this By-law, and is not to affect the balance of this By-law.
5. This By-law is to come into force and take effect on January 1, 2018.

BY-LAW NO.

A By-law to amend Health By-law No. 9535
regarding marinas

THE COUNCIL OF THE CITY OF VANCOUVER, in public meeting, enacts as follows:

1. This by-law amends the indicated provisions of the Health By-law No. 9535.
2. Council adds a new section 3, as follows:

**"SECTION 3
MARINAS**

Definitions

3.1 In this section:

"discharge" means any spilling, leaking, pumping, pouring, emitting, emptying, throwing or dumping;

"food waste" means coffee grounds, coffee filters, tea bags, tea leaves, eggs, eggshells, dairy products, bread, baked goods, pasta, batter, dough, meat, poultry, fish, shellfish, bones, fat, shells, fruit, vegetables, grains, nuts, seeds, peelings, shells, oils, butter, sauces combined with foods, whether raw, cooked or processed, but excludes grease, diapers, animal carcasses and liquid oils not combined with food;

"garbage" means solid waste that is not food waste or recyclable material;

"marina" means any installation operated under public or private ownership, which provides moorage space for watercraft;

"marine toilet" means any toilet on or within a watercraft;

"oil" means oil of any kind or in any form and, without limiting the generality of the foregoing, includes petroleum, fuel oil, sludge, oil refuse and oil mixed with wastes, but does not include dredged spoil;

"potable water" means water which meets the Guidelines for Canadian Drinking Water Quality;

"pump-out facility" means a device or method designed for the removal of sewage from a holding tank connected to a marine toilet or from a self-contained marine toilet, and includes a portable pumping system;

"recyclable material" means solid waste that has been designated as recyclable by the City Engineer;_and

"watercraft" means any boat, hull barge or houseboat which is afloat, whether self-propelled or not, and includes pleasure and commercial craft.

Marina Regulations

3.2 Every owner or operator of a marina shall supervise the operation of the marina and maintain the operation in conformance with this By-law.

3.3 Potable water supplied to watercraft moored in a marina must be conveyed in such a manner as to maintain the quality and safety of the water.

3.4 No person, including a registered owner of a watercraft, shall cause, permit or allow the discharge of oil from any watercraft.

3.5 No owner or operator of a marina shall cause, permit or allow the discharge of oil from any watercraft moored at a marina.

3.6 No person, including a registered owner of a watercraft, shall cause, permit or allow the discharge of sewage from watercraft other than into a sanitary sewer or pump-out facility.

3.7 No owner or operator of a marina shall, cause permit or allow the discharge of sewage from watercraft in a marina other than into an approved sanitary sewer or pump out facility.

3.8 Every owner or operator of a marina shall post and maintain at least four (4) notices in conspicuous locations prohibiting the discharge of sewage or oil from watercraft.

3.9 No person shall cause, permit or allow the discharge or removal of any garbage, food waste or recyclable material from any watercraft other than into a garbage, food waste or recycling container.

3.10 No owner or operator of a marina shall cause, permit or allow the discharge or removal of garbage, food waste or recyclable material from any watercraft moored at a marina other than into a garbage, food waste or recycling container.

3.11 Every marina owner shall:

- (a) post and maintain notices in conspicuous locations within the marina stating the location of garbage, food waste and recycling containers and that garbage, food waste and recyclable material shall be disposed of only at the garbage, food waste and recycling container area;
- (b) provide an adequate number of covered containers for the collection of garbage, food waste and recycling, located conveniently where they can be readily seen and used;
- (c) make provisions for the regular servicing and emptying of garbage, food waste and recycling containers so as to prevent overflowing garbage, overflowing food waste, overflowing recyclable material, foul odors, insects and other pests;

