

REPORT

Detroit Raw Water User Survey to assess the *Added Costs to Agriculture or Industry BUI*

BACKGROUND

The Detroit River Canadian Area of Concern (AOC) refers to the Canadian side of the Detroit River proper. Its watershed is not part of the AOC itself but has been identified as a source of impairment to the AOC (Green et al. 2010). The 1987 Great Lakes Water Quality Agreement (GLWQA) lists 14 beneficial uses impairments that need to be addressed before and AOC can be delisted. *Added Costs to Agriculture or Industry* is one of the 14 potential Beneficial Use Impairments (BUI) identified by the GLWQA. This BUI relates to the quality of raw (untreated) water drawn directly from the Detroit River for agriculture or industrial purposes (i.e., intended for commercial or industrial applications and non-contact food processing) (IJC 1991).

The Detroit River RAP Stage 1 Report noted that this BUI should be designated as ‘not impaired’; however, this conclusion was based on limited information (MDNR/MOE 1991). The RAP Stage 2 Report recommends conducting a formal survey of Detroit River Canadian raw water users to obtain appropriate information about added costs to using raw Detroit River water (Green et al. 2010). In May 2010, the Detroit River Canadian Cleanup (DRCC) developed a survey which was delivered to six local organizations that were known users of raw Detroit River water (none were agricultural). The organizations contacted were:

- Hiram Walker & Sons Ltd.
- Brighton Beach Power L.P.
- Ford/NEMAK
- West Windsor Power
- University of Windsor
- Canada Salt Company

The surveys were distributed via email to managers or environmental representatives of each organization starting the week of May 24th. Each email was followed-up by a phone call in the week(s) following their distribution. Surveys were completed over the phone. Answers were not associated to any particular person or organization.

The 2010 delisting criterion states that *Added Costs to Agriculture and Industry BUI* is no longer impaired “when there are no significant additional costs required to use raw Detroit River water for agricultural or industrial purposes”.

The letter of request to participate and survey are attached in Appendix A and B, respectively.

RESULTS

In total, five of the six organizations that were contacted participated in the survey; one organization did not participate in the survey because that person “was instructed not to participate at this moment”. Of the five participating organizations, four confirmed their use of raw (untreated) Detroit River water for

their operations. One of the five organizations surveyed does not use raw Detroit River water. The following details on usage, rationale, and costs were provided by the survey participants.

Usage

Four organizations confirmed they use raw Detroit River water for the following purposes:

- As heating / cooling within the building and for aquatic facilities
- Just for open basin cooling. Raw Detroit River water is blended with City water (the percentage varies). Water is circulated through heat exchangers
- Cooling
- Cooling water (non-contact) used to condense steam

Rationale for its usage rather than municipal source

The four organizations that use raw Detroit River water responded that they use raw Detroit River water instead of municipal water because:

- Convenience—intake is located nearby.
- Cost savings—less expensive and “does the job”
- Conservation—waste of treated City water just for cooling; volume of water (1,762,560,000 L per day) used for cooling is too high for the City’s system

Cost

Participants explained that their organizations experience some added costs (not above normal operating procedure) due to ice, silt (turbidity), or intake screen debris. Specifically, organizations incurred some costs to maintain heat exchangers due to turbidity and to dispose of the intake screen debris.

CONCLUSIONS

Survey participants noted that raw (untreated) Detroit River water was used for cooling purposes, drinking water source, and for aquatic facilities. Reasons for utilizing raw Detroit River water included convenience, cost savings, and conservation.

Some costs were incurred due to ice, silt or intake screen debris. However, these are standard costs that are associated with the operation of a private water intake line, and are not considered “added costs” resulting from conditions specific to the Detroit River AOC. Furthermore, the savings accrued by using raw Detroit River water outweigh any costs incurred.

RECOMMENDATION

Based on this updated information, it is recommended that the DRCC consider re-designating *Added Costs to Agriculture and Industry* as **not impaired**. The same survey should be conducted again in 2015 to monitor any possible changes.

REFERENCES

- Green N., Cargnelli L., Briggs T., Drouin R., Child M., Esjberg J., Valiante M., Henderson T., McGregor D., and D. Munro, eds. 2010. Detroit River Canadian Remedial Action Plan: Stage 2 Report. Detroit River Canadian Cleanup, Publication No. 1. Essex, Ontario, Canada.
- IJC. 1991. List/Delist Criteria for Great Lakes Areas of Concern. <http://www.ijc.org/rel/focus/listdelist/> (accessed June 7, 2010).
- MDNR/MOE. 1991. Stage 1 Remedial Action Plan for the Detroit River Area of Concern.

APPENDIX A

Request to Participate – sent via email

Dear [Name],

I am writing to you on behalf of the Detroit River Canadian Cleanup (DRCC), a community-based partnership between government, industry, academics as well as environmental and community organizations that work collectively in helping to improve the health of the Detroit River. Our key goal is to implement the Canadian Remedial Action Plan in order to restore the beneficial uses and to remove the River from the list of Great Lakes Areas of Concern.

In working towards this goal the DRCC requires information about the quality of raw Detroit River water to re-assess the status of the Detroit River's beneficial uses. Your company has been identified as a possible user of raw Detroit River water; as such, we invite you to participate in a short interview regarding the water quality as you have observed it. The purpose of this short interview is to obtain some basic information on your water use and your views related to the water quality.

The interview is voluntary and you will not be required to answer any questions that you don't feel able to address. None of your responses will be linked with your name, or your company's name in the subsequent evaluation report.

The interview will take approximately 5 minutes to complete, conducted by phone. A copy of the interview is attached for your information and preparation. I will be in touch next week to schedule an interview time. If you prefer, you would be welcome to complete the interview questions in hard copy and send them in to the DRCC by mail or email to the addresses below.

Thank you for your consideration. I look forward to speaking with you.

Regards,

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APPENDIX B

Detroit River Raw Water User Survey

The Detroit River Canadian Cleanup (DRCC) requires information about the quality of raw Detroit River water to re-assess the status of the Detroit River's beneficial uses. Please take the time to complete the survey below. For more information, please visit www.detroitriver.ca.

1. Does your organization use raw (untreated) Detroit River water for its operations?

- Yes No (skip to Question 5)

2. How does your organization use raw Detroit River water in its operations? Please provide details.

3. Why does your organization use raw Detroit River water rather than the municipal source?

4. Has your organization experienced any added costs (above what you would consider normal operating procedure) due to the quality of Detroit River water?

- Yes No

If 'Yes', please outline the nature of your added costs: (details)

5. In the last two (2) years, have you noticed any objectionable deposits, unnatural colour, turbidity, odour, scum, or floating material in the Detroit River?

- Yes No (skip to Question 7)

If 'Yes', please describe what you noticed:

Where? Upper (Lake St. Clair to Fighting Island)
 Lower (south of Fighting Island to Lake Erie)

6. If 'Yes', how often have you noticed objectionable deposits?

- Less than once/year 1-3 times/year 4-6 times/year
 7-10 times/year More than 10 times/year Always/Constantly

7. Please rate the overall appearance of Detroit River water.

- Excellent Good Fair Poor

8. Please provide any additional comments:
