

# Degradation of Aesthetics Beneficial Use Impairment Re-Designation Fact Sheet



## Degradation of Aesthetics Beneficial Use Impairment (BUI)

### WHAT IS AESTHETIC CONDITION?

This term refers to the visible condition of water that may indicate human caused pollution. In 2010, the DRCC established that Degradation of Aesthetics will be *considered not impaired when the waters are devoid of substances at levels that produce persistent objectionable deposits, colours, turbidity, and/or odour.* Table 1 provides a description of each aesthetic indicator, it's potential source, and how it may relate to potential pollution problems.



Detroit River water colour along shoreline (blue/green)

**TABLE 1** Visible Conditions of Water and Potential Sources of Pollution.

Indicator	What can it mean?
<b>Colour</b>	<ul style="list-style-type: none"> <li>• Brown or blue-green is the baseline and desired water colour</li> <li>• Brown or grey water can indicate turbidity or suspended sediment. Turbidity can occur due to wind/wave/rain action which is natural and stormwater runoff which is human caused</li> <li>• Black can indicate oil pollution</li> <li>• Red can indicate blood in the water</li> <li>• Green can indicate algae blooms</li> </ul>
<b>Clarity</b>	<ul style="list-style-type: none"> <li>• Poor water clarity can indicate turbidity in the water or suspended sediment. Turbidity can occur due to wind/wave/rain action which is natural and stormwater runoff which is human caused.</li> </ul>
<b>Odour</b>	<ul style="list-style-type: none"> <li>• Earthy fishy smells are natural and not of concern unless there is a visible source such as a large fish kill or algal bloom. Decaying vegetation or insects (example mayflies) can give off this odour</li> <li>• Hydrocarbons such as gasoline odours can indicate human caused pollution but the source may be from the air rather than the water</li> <li>• Musty or sewage smells can indicate pollution due to combined sewer overflows or untreated sewage entering the water body</li> </ul>
<b>Foam</b>	<ul style="list-style-type: none"> <li>• Natural foam is brown, tan or sometimes white with an earthy or fishy smell. It indicates decaying plant material or fine sediments in the water and is not a pollution concern</li> <li>• Unnatural foam is white, remains in the water longer than normal and may have a perfume or soap smell. It can indicate a local pollution source</li> </ul>



<b>Debris</b>	<ul style="list-style-type: none"> <li>• Unnatural debris includes garbage sewage, oil or scum that can indicate human caused pollution</li> <li>• Natural debris includes dead insects, leaves and sticks that pose no risk to the environment</li> </ul>
<b>Vegetation</b>	<ul style="list-style-type: none"> <li>• Absence of vegetation can mean that there is a human caused pollution source killing it or that turbidity is impeding plant growth</li> <li>• Presence of vegetation, like algae, can indicate nutrients in the water from runoff or other local pollution source</li> </ul>

## WHAT WAS DONE?

In 2010, both an angler survey was sent out and participants at an Earth Day event were asked to provide feedback on the aesthetics (Table 1) of the Detroit River. The results were compiled and analyzed by the DRCC. Also, a visual survey at 11 sites along the entire Canadian shoreline was conducted from July 2011 to October 2011 and March 2012 to July 2013. Researchers looked for foam, debris and vegetation, and recorded water clarity, colour and odour as well. Last the DRCC collected turbidity values of the Detroit River from the Windsor Utilities Commission (WUC) from the drinking water intake between 2011 and 2012. Weather information was also used in some analysis for comparison purposes.

As well, the underground Combined Sewer Overflow (CSO) Retention Basin (RTB) on Riverside Drive installed in Windsor in 2014, captured 476 million litres (ML or megalitres) of combined stormwater and sewer overflows that would have previously discharged directly into the Detroit River without any treatment. This project has significant benefits to reducing pollution into the water system.

## RESULTS

The results of this assessment indicate that there was no significant, persistent degradation of aesthetics on the Canadian side of the Detroit River AOC, except for turbidity, which was not linked to local runoff issues.

- Detroit River is a blue-green colour in the main channel and grey-brown in nearshore zone. No colours suggested pollution.
- Turbidity was noted but not linked to local runoff issues
- Foam present but results indicate it is from a natural source (decaying vegetation)
- No sewage waste noted
- No odours indicated water pollution
- Debris was mostly natural; trash was very rare

## WHAT CAN YOU DO?

- Always dispose solid and liquid hazardous and non-hazardous waste properly. Visit the Windsor Essex Solid Waste Authority's website [www.ewswa.org](http://www.ewswa.org) for information regarding waste disposal in the Essex region.
- This includes not pouring anything down the storm drain.
- If you see illegal dumping or a spill in and along the water channel, report it using any of the following ways:
  - 1-800-265-7672 (area code 519 only)
  - Public Information Centre: 1-800-565-4923
  - Spills Action Centre: 1-800-268-6060
  - Pollution Hotline: 1-866-663-8477
  - Watch *What happens to our wastewater?* [www.detroitriver.ca/media](http://www.detroitriver.ca/media).
- Avoid water activities such as washing your vehicle in areas where the wastewater will flow into the storm sewer. Washing on a lawn or gravel surface allows wastewater to be absorbed by soil below
- Keep the storm sewers clean and void of litter and debris during heavy rain events. Rainwater is the only liquid that should go down the storm sewers!

## REFERENCES

Detroit River Canadian Cleanup (DRCC). 2013. Re-designation Report: An Assessment of 'Beach Closings' (BUI #11) in the Detroit River Canadian Area of Concern. Windsor, Ontario, Canada.

For more Information, Contact:  
 Detroit River Canadian Cleanup  
 311-360 Fairview Avenue West  
 Essex, Ontario N8M 1Y6  
[postmaster@detroitriver.ca](mailto:postmaster@detroitriver.ca)  
 Tel: 519-982-3722  
 Fax: 519-776-8688

Report also available at [www.detroitriver.ca](http://www.detroitriver.ca)

### **Who is the Detroit River Canadian Cleanup?**

The Detroit River Canadian Cleanup implements the Remedial Action Plan on behalf of a community-based partnership working together to protect, restore and enhance the Detroit River ecosystem. The federal, provincial and municipal government, local industries, scientific researchers, local environmental organizations and many dedicated citizens are key partners and play an important role in the cleanup process. The DRCC's member organizations provide leadership in identifying partnerships and funding opportunities to support and implement clean up goals.

### **Restoring our River Together!**

When the Windsor-Detroit area underwent rapid industrialization at the turn of the 20th century, the Detroit River became notoriously polluted. Issues facing the Detroit River are combined sewer overflows, urbanization and land use or degradation of habitat and toxic contaminants such as mercury, polychlorinated biphenyl (PCB), polycyclic aromatic hydrocarbons (PAHs) and metals in the water and sediment. These environmental issues have been identified as being related to, or the cause of, the impairment of several beneficial uses.

A beneficial use is defined as the ability of living organisms (including humans) to use the Great Lakes without adverse consequences. A Beneficial Use Impairment (BUI) is a condition that interferes with the enjoyment of a water use. The Canada-United States Great Lakes Water Quality Agreement (GLWQA) identifies 14 Beneficial Use Impairments (BUIs) that must be restored in order to remove the water body as an Area of Concern (AOC). An AOC is a location where environmental quality is degraded compared to other areas in the Great Lakes Basin.