

Factsheet - Re-designation of the Degradation of Benthos Beneficial Use Impairment



SUMMARY

- Benthos communities have been negatively affected by pollution and sediment contamination in the Detroit River for decades.
- This contributed to the benthos communities in the Detroit River being considered “impaired”.
- However, recent research indicates that in the Detroit River, sediment contamination has decreased, bioaccumulation potential is minimal, and benthic community composition in most sites is similar to reference sites, indicating improved conditions for benthos within the river.
- Based on this research, it is recommended that the status of the Degradation of Benthos beneficial use impairment be changed from “impaired” to “not impaired”.



the river benthos community. Pollutants such as mercury and polychlorinated biphenyls (PCBs) have accumulated in the sediment and modified the quantity and quality of benthic communities over time.

WHAT ARE BENTHOS?

Benthos are a group of organisms made up of aquatic worms, insects, and other invertebrates, which inhabit the bottom of lakes and rivers. Many benthos feed on algae, detritus (organic litter) or other benthos, and are a key source of food for fish, frogs, and other wildlife. Since benthos live in or near the sediment at the bottom of lakes and rivers, they respond to changes in sediment quality. Bioaccumulation is the gradual build up of contaminants in organisms.



Benthos

WHEN WILL THE BENTHOS COMMUNITIES BE CONSIDERED NOT IMPAIRED?

The DRCC established two restoration goals for this BUI and when met, the benthos community within the Detroit River would be considered no longer impaired.

These criteria are:

- 1) *“When the benthic community composition is temporally and spatially identified as non-impaired based on an objective and quantitative community*

BACKGROUND

The Detroit River and its watersheds have been used intensively for international shipping, industrial and agricultural development, recreation, and drinking water for decades. This has led to environmental degradation and as a result, the Detroit River was listed as an Area of Concern (AOC) in 1987. The Detroit River Remedial Action Plan (RAP) was established to develop and implement actions to clean up the river. Under the RAP, 14 Beneficial Use Impairments (BUIs) were created to measure progress towards the cleanup. A Beneficial Use Impairment (BUI) is a condition that interferes with the ability of humans to use the aquatic environment and for the aquatic environment to support aquatic life. These 14 BUIs must be considered not impaired before the Detroit River can be removed from the list of AOCs. The degradation of benthos BUI was deemed ‘impaired’ under the RAP.

WHAT WAS THE PROBLEM?

Historically, pollution discharges from the heavily urbanized and industrialized shorelines of the river have contributed to the significant ecological degradation of



