

# ENVIRONMENTAL FOOTPRINT COMPARISON TOOL

A tool for understanding environmental decisions related to the pulp and paper industry



## EFFECTS OF DECREASED RELEASE OF BOD/COD & TSS ON DISCHARGE TO WATER

### Dissolved Oxygen and Turbidity

The capacity of a wastewater discharge to diminish receiving stream dissolved oxygen is measured by its BOD. Receiving stream turbidity is a consequence of suspended matter discharges, commonly measured as TSS. Sediments, another cause of impairment, are also the result of TSS discharges and can be a legacy of historical industrial effluent discharges. However, current residual TSS discharges associated with industrial discharges that are subject to technology-based effluent limitations are largely unsettleable and tend to remain dispersed in the water column. Therefore, discussion here is focused on turbidity as a probable cause of impairment.

Assessment of a sampling of water bodies in the U.S. presented in EPA's National Summary of State Information reported in January 2012 indicates that low dissolved oxygen persists among the leading causes of remaining water quality impairments, ranking fourth (out of roughly three dozen impairment categories) for all three waterbody types. Turbidity is less of an issue except, perhaps, for lake situations. Estuaries emerge as being most vulnerable to low dissolved oxygen impacts. Table B5 identifies the proportion of surveyed waterbodies that are impaired either by oxygen depletion (low dissolved oxygen) or by turbidity.

**Table B5. Relative Ranking of Sources of Water Body Impairment**  
(Source: USEPA at [http://iaspub.epa.gov/waters10/attains\\_nation\\_cy.control](http://iaspub.epa.gov/waters10/attains_nation_cy.control))

Waterbody	Low Dissolved Oxygen		Turbidity	
	Proportion of Surveyed Waterbodies Impaired	Rank Among Impairment Causes	Proportion of Surveyed Waterbodies Impaired	Rank Among Impairment Causes
Rivers	8.0%	4	2.6%	15
Lakes	6.6%	4	5.5%	6
Estuaries	11.5%	4	0.8%	14