

Examples of waterbody by waterbody (WbW) & pollutant by pollutant (PbP) approach

The purpose of this document is to illustrate how classification approach to antidegradation protection may affect dischargers under a variety of scenarios.

The scenarios include an impaired and un-impaired stream receiving the discharge (Blue River and Green River) and two discharges; one with a reissued permit but no increase in discharge and the second an increased discharge. We compare different approaches to the classifications of waters into Tiers of antidegradation protection – waterbody by waterbody (WbW) and pollutant by pollutant (PbP) – and look at requirements for Tier I antidegradation review and Tier II antidegradation analysis.

Blue River – impaired for temperature, nutrients and copper

Green River – not impaired, assessed as full support of all uses

Discharge A is a facility with a proposed reissued permit that is identical to their current permit, meaning the permit limits have not changed and so all permitted pollutant loads remain the same.

Discharge B is a facility that is proposing to increase its discharge through an increase in flow and thus all permitted pollutant loads increase equally.

For both discharges in all scenarios, the pollutants of concern are:

Temperature (T), nutrients (Nut), Copper (Cu), total suspended solids (TSS), ammonia (NH₃), and biological oxygen demand (BOD).

Scenarios

River	Classification Approach	Discharge A No Increased discharge	Discharge B Increased discharge
<p>Blue River</p> <p>Impaired for Temp, Nut & Cu</p> <p>Not impaired for TSS, NH₃ & BOD</p>	<p>WbW – Process must be established.</p> <p>Assuming Integrated Report is basis, the River is assigned a Tier I level of protection because it is impaired.</p> <p>Classification may happen in advance or at time of antidegradation review</p>	<p>Tier I Review:</p> <p>Meet criteria at end-of-pipe for T, Nut, Cu</p> <p>Meet criteria in stream for TSS/NH₃/BOD</p>	<p>Tier I Review:</p> <p>Same as Discharge A</p> <p>Same as Discharge A</p>

River	Classification Approach	Discharge A No Increased discharge	Discharge B Increased discharge
	<p>PbP – The River is given a Tier I level of protection for all pollutants</p> <p>It is also given Tier II level of protection for TSS/NH3/BOD</p> <p>Classification occurs at time of antidegradation review</p>	<p>Tier I Review</p> <p>Meet criteria at end-of-pipe for T, Nut, Cu</p> <p>Meet criteria in stream for TSS/NH3/BOD</p> <p>Tier II Analysis</p> <p>Because the discharge is not new or increased there is no degradation and therefore analysis ends with that determination</p>	<p>Tier I Review</p> <p>Same as Discharge A</p> <p>Same as Discharge A, but also ...</p> <p>Tier II Analysis</p> <p>Initiate Tier 2 analysis for TSS/NH3/BOD. First, ask if the increases are significant?</p> <p>If yes, then do AA/SEJ. If not, then Tier 2 analysis is completed.</p>
<p>Green River</p> <p>Biologically full support and meets all criteria</p>	<p>WbW – classify now.</p> <p>A process for classifying waters must be established. Could be BURP data, chemical data (like Colorado), or combination.</p> <p>In this example, because the water is full support and there aren't any criteria violations, we considered the water high quality for all pollutants.</p>	<p>Tier I Review</p> <p>Meet criteria (protective of existing uses) in stream for all six parameters of concern.</p> <p>Tier II Analysis</p> <p>Because the discharge is not new or increased there is no degradation and therefore analysis ends with that determination</p>	<p>Tier I Review</p> <p>Same as Discharge A</p> <p>& Tier II Analysis</p> <p>Initiate Tier II analysis for all 6 parameters. First, ask if the increases are significant?</p> <p>If yes, then do AA/SEJ. If no, then Tier II analysis is completed.</p>

River	Classification Approach	Discharge A No Increased discharge	Discharge B Increased discharge
	<p>WbW – classify later A process for classifying waters must be established. Could be BURP data, chemical data (like Colorado), or combination.</p> <p>If we classify WBW later we:</p> <p>1) Evaluate what level of protection is appropriate as we get permit proposals. This may require data collection depending on process.</p> <p>2) Could ask question of whether discharge is new or increased first; if not then no need to classify – i.e. classification does not matter.</p>	<p>Tier I Review Meet criteria (protective of existing uses) in stream for all six parameters of concern.</p> <p>Tier II Analysis Because the discharge is not new or increased there is no degradation and therefore analysis ends with that determination</p>	<p>Tier I Review Same as Discharge A</p> <p>Because discharge is increased need to ask classification question – is Tier II protection needed?</p> <p>We determined Tier II protection is appropriate for all parameters as we have said Green River is full support and meets all criteria.</p> <p>& Tier II Analysis Initiate Tier II analysis for all 6 parameters. First, ask if the increases are significant? If yes, then do AA/SEJ. If no, then Tier II analysis is completed.</p>
	<p>PbP All pollutants meet criteria and therefore the River is Tier II.</p>	<p>Tier I Review Meet criteria (protective of existing uses) in stream for all six parameters of concern.</p> <p>Tier II Analysis Because the discharge is not new or increased there is no degradation and therefore Tier 2 analysis ends with that determination</p>	<p>Tier I Review Same as Discharge A</p> <p>Tier II Analysis Initiate Tier II analysis for all 6 parameters. First, ask if the increases are significant? If yes, then do AA/SEJ. If no, then Tier II analysis is completed.</p>

The approach to classification only makes a difference in the antidegradation review of significantly increased discharges to Tier II waters. The scope of this difference depends on the process for classification.

Acronyms

AA	Alternatives Analysis
BURP	Beneficial Use Reconnaissance Project
SEJ	Socio-economic justification