Tier II waters are those that have an existing water quality that is significantly better than the minimum requirements, as specified in water quality standards. Federal and State regulations require special protection of these high quality waters from degradation.

Why must Maryland identify Tier II waters?

Federal antidegradation regulations (40CFR131.12) require states to develop and adopt a statewide antidegradation policy that protects all Waters of the U.S. from degradation. These regulations also require states to maintain the condition of high quality (i.e. Tier II) waters that have water quality that is better than the minimum standard necessary to meet designated uses. The Maryland antidegradation implementation procedures are found in the Code of Maryland Regulations (COMAR) 26.08.02.04-2. Maryland has designated 263 Tier II streams.

How are Tier II Streams Identified?

- Maryland Biological Stream Survey (MBSS) data is used to designate Tier II streams.
- COMAR 26.08.02.04-2 states that MBSS data must show that stream "data indicate that both fish and benthic values of the index of biological integrity are 4.00 or greater" (IBI).
- For Tier II designation, MBSS IBI scores must be greater than, or equal to 4.00, for both benthic macroinvertebrate (or 'aquatic bugs') and fish data.

What is Assimilative Capacity (AC)?

Assimilative capacity (AC) is defined in regulation as the difference between the Tier II water quality at the time the stream segment was designated as Tier II, and the water quality criterion. For Tier II waters, this is represented by the Tier II baseline IBI scores used to identify the stream as high quality, and the water quality criterion is represented by the Tier I IBI score of 3.00.

The *assimilative capacity analysis* allows MDE to evaluate recent MBSS data to determine whether Tier II water quality has either been maintained or diminished. Regulations specify that the water quality of a Tier II water is considered diminished if the AC is reduced by more than 25% from the original Tier II designation baseline. This analysis identifies the Tier II stream's *assimilative capacity threshold*, which is the lowest acceptable benthic and fish IBI scores, after considering natural variability.

When data is above the assimilative capacity threshold, the MDE determines that there is some capacity remaining. Conversely, if there is a decline in scores to a level that is at or below the AC threshold, the stream is determined to have no remaining assimilative capacity.

Currently 139, or almost 53% of all Tier II streams, have no assimilative capacity.

What is the Tier II Review?

The purpose of the Tier II review is to prevent degradation to high quality waters due to permitted activities. To protect downstream resources, the Tier II review is implemented on the watershed scale. This means that permitted activities occurring anywhere upstream of the designated stream segment may be subject to review. The review applies to:

- Water and Sewerage Plan amendment approvals,
- Nontidal Wetlands and Waterways permits and authorizations, and
- New or modified National Pollutant Discharge Elimination System (NPDES) discharge permits.

The review process identifies impacts associated with a given regulated activity, and then identifies if there are appropriate alternatives that may avoid these impacts to Tier II waters (the no-discharge alternative). If impacts cannot be avoided, then the review identifies reasonable alternatives that may minimize and mitigate impacts within the Tier II watershed. More broadly, the review identifies practices that could be considered along with existing conservation and planning activities.

Please direct questions or comments concerning Maryland's Antidegradation Program, to Angel Valdez, Antidegradation Implementation Coordinator, at angel.valdez@maryland.gov .