

CONSUMPTIVE USE AND IN-LAKE RESTORATION IN THE LAKE JESUP BMAP

DEP Watershed Planning and Coordination Section April 2008

QUESTION #1

Should consumptive use projects that remove water from surface waters qualify for pollutant reduction credits in a Basin Management Action Plan (BMAP)?

Background: Consumptive use of surface waters can affect the calculations involved in Total Maximum Daily Load (TMDL) development by changing the basic assumptions about the waterbody (e.g. lake volume, residence time, etc.) used in TMDL model development. In addition, removal of water for consumptive use could affect in-lake pollutant concentrations and loads. This has the potential to require revision of the TMDL and alter allocation scenarios in the BMAP process.

Decision: Consumptive use projects will not be considered for pollutant removal credit in the Lake Jesup BMAP.

Explanation:

- In most cases, projects to reduce pollutant loads to meet a TMDL are those intended to reduce external loads to waterbodies, not internal loadings.
 - Consumptive use water withdrawals may or may not affect the basic assumptions used in the development of a TMDL. Prior to any consideration of pollutant load reduction credits associated with water withdrawal, the TMDL would need to be revisited to determine if the water withdrawals changed the TMDL and its associated allocations.
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QUESTION #2

Should in-lake restoration projects qualify for pollutant reduction credits in a BMAP?

Background: In-lake restoration projects (e.g. whole alum treatment, algae scrubbers, dredging, etc.) can significantly affect TMDL calculations and estimates of the balance between internal versus external sources of pollutants. In-lake projects also could play a significant role in the BMAP allocations (e.g. potential allocation for internal processes) and project selection.

Decision: In-lake projects will be eligible for BMAP credit if the following two conditions are met: 1) in-lake processes as a pollutant source are identified as part of the load allocation (nonpoint source allocation) and 2) pollutant load reductions from the specific project of concern can be estimated with confidence.

Explanation:

- If loads from in-lake components are not estimated in a TMDL, providing credit for in-lake restoration projects would not be consistent with the TMDL and its allocations.
- If studies demonstrate significant internal recycling (or loading), then the TMDL would need to be revisited and revised to include this pollutant source within the allocations. As part of the evolution of the BMAP, in-lake projects can be provided an allocation and such projects could be included in the BMAP and receive load reduction credit.
- Example: The St. Johns River Water Management District is currently operating a Pay-for-Performance project for phosphorus removal in Lake Jesup. However, this is a pilot project with proprietary technology with limited data on nutrient removal. As such, the benefits of this project cannot be estimated with confidence, and the project does not

qualify for load reduction credit. However, if the load reduction benefits of this technology can be proven and made available to the general public in the near future, this project would be eligible for credit in the second iteration of the BMAP. Similarly, efforts are underway to understand the effect of nitrogen fixation and sediment flux in Lake Jesup. Due to insufficient available information, these effects were considered inconsequential in the development of the TMDL. As such, the BMAP Working Group agreed that sediment and other in-lake removals should be placed on the back burner in favor of focusing on external reductions in the BMAP. The effect of in-lake processes will be revisited as data becomes available. This information may lead to revising and readoption of the TMDL to account for these processes which were not considered in the original TMDL. A readopted TMDL and associated allocations could then prompt revision and readoption of the BMAP.