

ISSUE – ATTENUATION IN THE LAKE JESUP BASIN
PREPARED FOR THE LAKE JESUP BMAP TECHNICAL WORKING GROUP
JANUARY 24, 2008

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The Questions

Should assimilation be factored into the allocations, so that entities further upstream are shown to have a lesser direct impact on the lake? And should projects that achieve load reductions also be adjusted to compensate for the fact that their full benefit also does not benefit the lake?

Background

Within the Lake Jesup watershed, phosphorus enters the surface waters as a nonpoint source at many locations. When phosphorus enters a tributary at some distance from the lake, it is likely that some phosphorus is assimilated within the tributary and does not reach the lake. For the TMDL, the loads from all sources in the basin were determined using the land use in the TMDL model irrespective of their distance from the lake. Although we have some water quality monitoring data that indicates some entities do not have as high of phosphorus concentrations the land use model predicts, we do not have complete information about the assimilation estimates for the whole watershed. There are currently not enough data available to show to what degree loads from specific sources are being attenuated and to what sources the additional load that is reaching the lake from other locations should be applied.

Proposed Approach

Attenuation and Allocations: After discussion on the effects of attenuation in the Lake Jesup Basin, the Florida Department of Environmental Protection is recommending *not* to apply an attenuation factor to the individual allocations. The loads from all jurisdictions and sources in the basin will be based on the land use in the TMDL model and corrections made since that time based on the Technical Working Group's input. Correspondingly, reductions from load reduction projects (e.g. structural BMPs, etc.) will be based on the load reduction estimate from that project without an attenuation factor being applied. This approach will allow consistency among all project estimates and fairness since the same information is being applied to all the responsible entities.

Hot Spots and Project Identification: The limitation of this approach is that if most of the load reductions occur at distant locations from the lake itself, the lake may not realize the full benefit of the load reductions. To address that situation, the Department and local partners will continue to identify emerging hotspots of high phosphorus concentrations in the basin, which are most likely contributing greater nutrient loads than the TMDL model reflects. These partners will continue to implement additional monitoring focused on these emerging hotspots to determine the source(s) of the loading. Selected portions of this monitoring effort are currently underway (e.g. SJRWMD monitoring in Bear Gully). These efforts would continue through the current and next TMDL cycle to provide information on how the allocations should be revised based on a more extensive water quality dataset and identification of specific sources. In selected areas within the watershed (e.g. Bear Gully) this information is rapidly maturing to the point of providing sufficient justification for selection of

management actions to address a particular hot spot. New management actions will be selected to address known hot spots within the watershed in the current BMAP. As new information becomes available through the continued monitoring, future iterations of the BMAP will take this emerging understanding into account.