

Kohler "no runoff into Lake Michigan" claim

Quentin Carpenter

Well, there is the truth and the "whole truth." What Jay (Schiefelbein) is saying is mostly true in a very narrow sense. Because the ridge systems are aligned parallel to the lake, very little of the area drains directly to the lake, especially because the ridges have high infiltration rates due to the sand. That said, Lake Michigan gets very little direct runoff from any of its shoreline but rather from the creeks and rivers that run into it. Its other sources of water are rainfall and groundwater, deep and shallow. As infiltration rates are high in this area, much of the PPT quickly goes down and over toward the lake (it is the lowest spot nearby); some shows up in the swales associated with the ridges, and, when the lake is high, some shows up in the interdunal wetlands near the lake.

Some of the western areas may flow to the Black River (but they may not - no hydro study!). Deep groundwater discharge to the lake is mostly a question associated with the irrigation well, and you have some testimony on that already. In the USACE critique, I provided evidence that infiltration from the ridges feeds the swale wetlands. Thus, anything they do to alter the infiltration will affect these wetlands, and anything they add to the infiltrated water will end up in the wetlands.

In both critiques, I made the point that having high infiltration rates is a two-edged sword: fast infiltration means low treatment time for pollutants. While the consultants can certainly design to minimize some pollution by silt etc, solutes are a bigger problems here. The consultants are continually trying to "have their cake and eat it too;" and they are continually forgetting the law of conservation of mass. They are importing huge quantities of material and bringing in contaminants of many sorts directly and indirectly (vehicles, people). This material must either stay right there or must leave to the air or to the water. Not much will become airborne, and not much can be stored long-term in these soils. The proximate aquatic sink for any crud that gets in the shallow sub-surface flow is the wetlands, and the next sink is Lake Michigan. I don't think the Lake cares whether, the crud comes in via direct runoff, shallow sub-surface flow or via the Black River, the degradation will be the same.

The consultants have also ignored the fact that, contrary to this winter, we generally have frozen ground for several months per year, and the frozen ground mostly thaws from the surface down. Rain events and snowmelt events while the ground is frozen mean that crud gets transported overland, especially where slopes are steep. Even if the course is dormant during the winter, there will be plenty of residual crud from the previous season to move downhill.

The consultants here, while very competent, seem to have adopted the strategy of continually focusing on details and ignoring the larger picture. I think that is because they know that the sum of the negative effects will be overwhelming to the system.

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