

Wetlands Study Council Stormwater and Wetlands

Background

Effective stormwater management is an increasing challenge for municipalities. Increased storm intensity and increased urbanization have resulted in increased flooding, damage to infrastructure and overloading of sanitary and storm sewer systems. At the same time, municipalities are subject to stormwater quality requirements under the Clean Water Act. Addressing both stormwater quantity and quality is not just an engineering challenge it also requires integrated watershed planning involving all water resources including wetlands.

Water quantity and quality issues arising from stormwater can be addressed in part through wetlands. Indeed these are among the acknowledged wetland functional values in NR 103.03(1):

- Storm and flood water storage and retention and the moderation of water level fluctuation extremes
- Filtration or storage of sediments, nutrients or toxic substances that would otherwise adversely impact the quality of other waters of the state;

Yet, often stormwater is viewed simply as a threat to wetlands. For example, in a recent DNR presentation, DNR noted, “Before issuing permit approval, Stormwater staff must ensure wetlands will not be adversely impacted by a project.”

When the Wetland Study Council was established, one of its charges was to review, “Storm water management ponds and their potential to serve a role in wetland mitigation.” That charge is somewhat limited in scope, but it reflects the underlying desire to look at ways in which there can be integrated watershed planning.

Suggested Issues for Discussion

There are a variety of ways in which stormwater management and wetlands could be viewed in a more integrated fashion. The following are some examples or scenarios for further discussion.

Scenario #1. Use of wetlands to improve flood storage. One of the acknowledged wetland functional values is flood storage. The use of existing wetlands, or creation or re-establishment of wetlands along stream banks and in headwater areas could help mitigate large storm events and reduce sediment loads.

Scenario #2. Use of wetlands to manage stormwater from development. There are circumstances in which development has occurred near existing wetlands. Expansion of sites can be constrained if there is not sufficient room for stormwater management ponds and the new development. Using a wetland as a stormwater management tool can have adverse impacts on the wetland, but it could have fewer watershed impacts than engineered stormwater management solutions and it could provide greater site flexibility. To the extent there are adverse wetland impacts how can those be mitigated to allow for more flexible stormwater management.

Scenario #3. Use of stormwater management ponds as wetland enhancement. For engineering reasons, stormwater ponds are typically located in low lying areas, and those areas can have some wetlands in and around the proposed area. Placement of a stormwater pond in such areas can have regional as well as local impacts on reducing flooding and sediment. But they can also be designed in a way with to allow wetlands to be created around the shelf and near shore of the pond.

Scenario #4. Maintenance of stormwater ponds that are in or have wetland characteristics. Stormwater ponds, if not located in areas that are wetlands, often develop wetland characteristics. Maintenance of stormwater ponds is essential to effective functioning and can trigger wetland permits. Recent exemptions and general permits have largely resolved issues associated with wetland permitting in such cases, but a review would be prudent.

Allowing wetlands to be part of integrated watershed management can allow for more effective stormwater management and enhance wetland functional values in our urban areas. Identifying those areas and ways to implement such changes should be evaluated.