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## **Comments on City of Saint Paul's Stormwater Permit Annual Report**

In general the plan is well-written and comprehensive. My comments are minor and only intended to suggest areas where further elaboration might be helpful.

### 1. Snow and Ice Control (pages 18 and 21)

Page 21 notes that Public Works has provided training for staff operating snowplows. More detail on the impact of such training would be of interest.

In 2011 our office (the University of Minnesota Water Resources Center) conducted an evaluation on the effectiveness of winter maintenance training with 32 snowplow drivers for Dakota County. Our evaluation found that most had significantly increased their knowledge about chloride application (and the impacts of over-application), and had almost universally adopted the recommended practices. Has anyone evaluated whether Saint Paul City staff actually adopted and maintained the recommended BMPs? Also, how many of the City staff (regular and temporary/seasonal) became certified after taking the training? In November 2011 our team conducted a survey of residents surrounding Como Lake related to the phosphorus TMDL. We found very excessive quantities of de-icing chemicals applied at Como Park parking lots, and particularly at stormdrains leading to Como Lake. We learned that application was done by Parks/Rec staff. Is there a plan to train Parks/Rec staff as well as Public Works?

In terms of performance measures, the amount of sand and salt applied may not be an accurate measure (it might imply that more is better). Other performance measures might include whether staff have become certified, improved their knowledge about chlorides, and adopted and maintained BMPs recommended during training. Other measures might include incidents of over-application, whether crews clean up spills, and periodic chloride measurements in sensitive waterbodies.

### 2. VII. Public Education Program (pages 29-33)

The performance measure for this objective is "tracking of numbers of participants, flyers, storm drains stenciled, etc." It would be more informative to assess whether participants actually improved their knowledge, shifted their attitudes, and adopted and maintained new practices related to water quality. A simple KAP (knowledge, attitudes and practices) survey could be done pre/post activity to measure changes; this could provide clear evidence that an educational activity had a positive impact on an intended audience.

### 3. VIII. Coordination with Other Government Entities

There is an error on page 36:

“The MWMO is a joint powers organization, which lies mainly in Saint Paul.”  
MWMO currently lies mainly in Minneapolis, with a small fraction in Saint Paul.

#### 4. Storm drain maintenance

There is not much detail in the plan about maintaining storm drains. During our Como Lake survey we noted that storm drain types differ considerably, but that a large number of them were in very poor condition and do not appear to be actively maintained. Those with grit chambers were completely full. Many in Saint Anthony Park are also in poor condition. More detail about the plan for storm drain maintenance and replacement would be useful.