

**Snowmelt Runoff from Snow Disposal Sites and Streets in Anchorage, Alaska
– a Potential Threat to Surface Water Quality**

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Urban snow accumulates contaminants over the winter season. Street snow and snow disposal sites possess contaminants that originate from such sources as roadway deposits, airborne fallout, and roadway applications. Contaminants are quickly released during snowmelt periods and have the potential to impact the water quality of receiving surface water bodies. The concentrations of constituents in the “first flush” discharges are typically higher than rainfall runoff. Investigation of three snow disposal sites and the Gambell Street/Ingra Street outfall in Anchorage revealed high levels for tested constituents in the snowmelt runoff. Snowmelt discharge samples were analyzed for turbidity, total suspended solids, chloride, zinc, lead, copper, chromium, and magnesium. Two snow cores at each disposal site were analyzed for sediment and chloride content plus water equivalency. Regression analysis models show that total suspended solids may be used as a predictor for metal concentrations found at snow disposal sites. Further investigation into the contributions of these snowmelt contaminants from roadway snow and snow disposal sites is needed in order to find the best management practices for this unique water quality concern.