Letter of Intent to
Submit an NPDES Effectiveness Study Proposal

All fields must be completed

1. Proposed Study Title: Effectiveness of stormwater BMPs to remove sediment bound pollutants

2. Short Description of Proposed Study:

   Sediment bound pollutants (metals, phosphorus, PCBs, PBDEs, Pesticides) will be characterized as a function of particle size from a range of impervious surface types in Puget Sound. The data will be combined with measured inlet and outlet sediment data collected from BMP and LID structures to determine how effective these technologies are at removing the sediment sizes that actually carry pollutants.

2. What specific Stormwater Management Program condition(s) or other permit condition(s) in the NPDES W. WA. Phase I and/or Phase II Municipal Stormwater Permit does your study address?

   Phase I Permit: Structural Stormwater Controls including LID; Controlling Runoff from New Development, Redevelopment, and Construction Sites; Source Control Program for Existing Development

   Phase II Permit: Controlling Runoff from New Development, Redevelopment, and Construction

3. How will this study inform, assess effectiveness and/or support implementation of the specified NPDES permit conditions (e.g., project goal) and future permit conditions?

   Results from this project will inform permittees on which BMPs are the most efficient at removing different sediment bound pollutants. The permittees could then better select the type of structural stormwater controls--including those used in existing developments, retrofits, and new construction --that are most effective at capturing the sediment bound pollutants expected in their subbasins.

4. What are the anticipated measurable outcomes or deliverables of this proposed study?

   The measurable outcome will be calculated reductions of sediment bound pollutants as a function of particle size for a given type of BMP. These reductions will be combined with meta data for each project (location, age of structure, size, etc.) in order to provide managers with a plan for implementation of future BMPs.

5. How does this study advance regional understanding for stormwater management?

   Currently there are few data on sediment bound pollutants as a function of particle size in Puget Sound streams. Previous studies in other regions have found that very small sediment particles carry nearly all the pollutants and many types of BMPs may not capture these small particles. The results from this project will help address two important data gaps. First, it will characterize what size fractions of sediment contain what types of pollutants, and if that differs for different types impervious surfaces (commercial parking lots vs. highways vs industrial areas.) Second, it will inform how well existing BMPs filter out, or capture, various sediment size fractions. Combined, the results will provide stormwater managers in Puget Sound with an important tool for maximizing the benefit of existing and future stormwater treatment technologies. Lastly, the data collected as part of this project can be combined with recently collected small stream sediment chemistry and nearshore marine sediment chemistry from other RSMP programs to get a better idea of how sediment bound pollutants are transported in the region.

6. Applicant(s) Contact Information:

   Name: Rich Sheibley
   Organization: USGS

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7. Permittees you are coordinating with (Provide contact information):

   We are searching for coordinating groups for this project. Namely we need to determine where existing BMP and LID projects are in order to collect inlet/outlet samples. Sites already being monitored would be ideal, but not a necessity.

8. Select Stormwater Work Group study category (select all that apply):

☐ Source Control	☐ Retrofits	☐ Education & Outreach
☑ LID	☐ O&M	☑ Other: BMP performance

Submit LOI to Brandi Lubliner (WA Department of Ecology) via email at Brandi.Lubliner@ecy.wa.gov