

Priority Urban Stormwater Monitoring to Directly Inform the Pollutant Load Reduction Model (PLRM)

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Annual Accomplishments Update (October 1, 2008-September 30, 2009)[†]:

Pacific Southwest Research Station (PSW) and 2NDNATURE established an agreement and 2NDNATURE finalized contractual agreements with subcontractors. This project will build upon a current US Army Corps of Engineers (ACE) funded (also through Southern Nevada Public Land Management Act [SNPLMA]) research and data collection efforts focused on Characteristic Runoff Concentrations (CRC) and Characteristic Effluent Concentrations (CEC) in the Tahoe Basin; the draft final ACE report is due to be released by the 2NDNATURE team in late October 2009. The new project monitoring plan will be drafted following the complete analysis of the existing data collected under the ACE research efforts; it will be written with informed knowledge of remaining research questions and prioritizing data collection efforts. The detailed monitoring plan for this study will be released this winter. At this time, it is known the CEC and CRC sampling initiated using the ACE funds will be continued and slightly expanded. In an effort to continue data collection during the winter of 2010 to inform PLRM CEC's, ACE instrumentation (staff plates, passive samplers, and stage recorders) at Park 1, Park 2, Osgood, and Ski Run were left in place and will continue to be maintained and sampled through the winter of 2010. To expand the data collection for the winter of 2010, the 2NDNATURE team installed stage recorders, staff plates, and passive samplers at 2 additional dry basins (Blue Lakes and Rocky Point). Additionally, stage recorders and staff plates were installed at 1 dry basin (Coon) and in 2 wet basins (Eloise and Wildwood). In all, 6 Treatment Best Management Practices (BMPs) were outfitted with complete fine sediment sampling abilities, and 3 Treatment BMPs will be monitored for stage only. The CRC sampling protocols developed under the ACE contract will resume in late October and continue throughout 2010, to sample a subset of the road sites established in the ACE data collection efforts. The link between measured saturated hydraulic conductivity using the well accepted Constant Head Permeater (CHP) and the average annual saturated infiltration rates of centralized treatment BMPs is a key research piece needed to link the BMP Maintenance Rapid Assessment Methodology (BMP RAM) results and the Pollutant Load Reduction Model (PLRM) estimates. Stage recorders are now installed in 9 Treatment BMPs, all scheduled to be topographically surveyed in the summer of 2010. The continuous stage time series and topographic data will allow for seasonal and annual detailed water budget calculations and subsequent average annual infiltration rate estimates. The BMP RAM protocols were conducted upon installation of the stage recorders at all 9 of the Treatment BMPs. Multiple CHP infiltration measurements were administered at each Treatment BMP to confirm the confidence in CHP measurements.

[†] This document is an intermediate progress report, not a final report; consequently, any results should be considered preliminary and should not be cited. Please contact the principal investigators or the Tahoe SNPLMA Science Program Coordinator if you have questions.