

ACTIVITY-BASED TRACKING AND REPORTING

TMDL Management System Project

Tracking and reporting accomplishments of TMDL implementation allows TMDL Program Managers to assess progress and communicate important information to stakeholders. Furthermore, public reporting enables transparency and provides accountability of expenditures of public money on water quality improvements.

WHAT ARE THE DIFFERENT APPROACHES FOR TRACKING & REPORTING?

TMDL Program Managers are using two different approaches to TMDL tracking and reporting: 1) **Quantitative Load Reduction Tracking** and 2) **Activity-Based Tracking**. The Quantitative Load Reduction Tracking approach uses tools and protocols to estimate load reductions and is used by TMDL Program Managers to track fine sediment particle (FSP) and nutrient load reductions in the Urban Uplands source category. The Activity-Based Tracking approach uses TMDL Performances Measures (TMDL PMs) to quantify the extent of implementation of load reduction activities in the three non-urban source categories: Forested Uplands, Stream Channel Erosion and Atmospheric Deposition.

Quantitative Load Reduction Tracking Approach

The Quantitative Load Reduction approach is used to track implementation efforts related to the Urban Uplands source category. Urban Jurisdictions demonstrate load reductions per the terms of their National Pollutant Discharge Elimination System (NPDES) permit requirements in California, and Interlocal Agreement (ILA) commitments in Nevada by implementing pollutant controls throughout the year including advanced roadway operations and maintenance practices, stormwater treatment infrastructure to treat runoff from public rights-of-way, and/or best management practices retrofits on public and private parcels. Urban Jurisdictions use a continuous simulation model developed as part of the *Lake Clarity Crediting Program* to estimate the pollutant load reduction potential associated with these actions and use established condition assessment protocols to verify ongoing effectiveness of controls. They then report estimated load reductions, condition assessment findings and associated Lake Clarity Credit declarations to TMDL Program Managers in an *Annual Stormwater Report*. The [Lake Clarity Crediting Program Handbook](#) provides the operational protocols for the Pollutant Load Reduction Tracking approach.

Activity-Based Tracking Approach

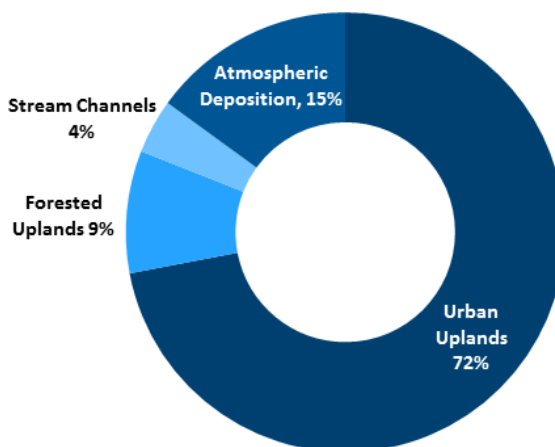
The Activity-Based Tracking approach is used by local, state and federal natural resource management agencies operating in the non-urban source categories. These TMDL implementation partners (TMDL Implementers) perform numerous multi-objective land management activities throughout the year, including actions to reduce stormwater runoff and improve surface water quality. Such actions include, but are not limited to, forest road maintenance and runoff treatment projects, facility retrofits to infiltrate runoff from trailheads, campgrounds, and other developed sites, and land and stream channel restoration and enhancement activities. TMDL Implementers track the extent of each activity by quantifying the miles, acres, linear feet and number of facilities on or for which activities that impact water quality were undertaken. These metrics are reported to TMDL Program Managers, who aggregate the data into a set of six TMDL PMs which provide a high-level picture of activities implemented to reduce pollutant loading from the non-urban source categories. The image to the right summarizes the TMDL PMs used to track activities in the non-urban source categories.



Summary of TMDL PMs

WHY USE AN ACTIVITY-BASED APPROACH FOR NON-URBAN SOURCE CATEGORIES?

Lake Tahoe TMDL research has identified FSP as the greatest contributor to lake clarity decline and Urban Uplands stormwater runoff as the primary source of FSP pollution. Urban stormwater runoff contributes 72 percent of the total FSP load entering Lake Tahoe, compared to only 28 percent originating from the non-urban source categories. Prior to the development of the Lake Tahoe TMDL, storm water management practices emphasized general sediment and nutrient controls. Such practices are not always effective at reducing the FSP identified as the primary pollutant of concern. Thus the TMDL Program Managers developed tools to incentivize changes in urban storm water management practices and motivate actions to reduce FSP loading to Lake Tahoe.



Fine sediment particle (FSP) percent contribution per source category

“...track and report load reduction actions with respect to the forest uplands, atmospheric deposition, and stream channel erosion source categories.”

– Lake Tahoe TMDL Implementation Plan

In contrast, TMDL Implementers operating in the non-urban source categories have pre-existing multi-objective restoration and resource management plans and policies that include a range of activities to address water quality issues among other land management priorities such as public safety, habitat enhancement and recreational access. The TMDL analysis indicated that continued implementation of these activities will effectively enable attainment of established non-urban source category load reduction targets. Consistent tracking and reporting of load reduction activities for the forest uplands, atmospheric deposition, and stream channel erosion source categories is important to ensure adequate progress is being made with respect to the non-urban sources. However, numeric load estimation modeling adds complexity and administrative costs to implementation tracking. Given the relative magnitude of the pollutant load contribution as well as the additional cost and complexity associated with the Quantitative Load Reduction Tracking approach, TMDL Agencies deemed the activity-based approach appropriate for tracking and reporting on implementation associated with non-urban source categories.



For more information please visit the Lake Tahoe TMDL Online Interface
<http://www.enviroaccounting.com/tahoetmdl>