



The Central Coast Low Impact Development Initiative

2015-2016
Annual Report

A LIDI Year in Perspective

California communities are anticipating both continued drought as well as incidents of extreme rain events as part of our climate forecast. This “when it rains, it pours” weather pattern means we need to be savvy in dealing with both extended periods of drought and infrequent high intensity storm events. As a decentralized approach to stormwater management, LID emphasizes management of rainwater and associated runoff close to the source as an effective way to improve water quality, enhance water supply, and provide community benefits. In 2015-2016, LIDI worked with municipalities and other stormwater management stakeholders to identify urban stormwater quality management priorities, evaluate opportunities for stormwater capture and use, and pursue grant funding for water quality retrofit projects. Since the 2013 adoption of the Regional Board’s post-construction requirements, municipalities have gained experience with LID implementation with a more thorough understanding of design and construction principles (and challenges!). Throughout the year, LIDI provided education and training support to regional stakeholders to support successful LID implementation. We hope you enjoy this 2015-2016 LIDI Annual Report. Please feel free to contact LID Program Manager, Dominic Roques, with any questions (droques@waterboards.ca.gov).

Post Construction Stormwater Quality Requirements (PCRs)

LIDI continued lending support to Central Coast municipalities in implementing the PCRs for new and redevelopment projects. The PCRs are intended to protect and improve receiving water quality and the associated watershed processes that are integral to overall

watershed health. LID site design and structural measures are emphasized in the PCRs as LID mimics the pre-urban condition through processes such as stormwater infiltration and the physical, chemical and biological treatment of urban pollutants. LID projects differ from conventional stormwater management and often require unique design specifications, materials and construction practices. In 2015-2016, LIDI improved LID design specifications and developed guidance for LID construction. LIDI bioretention standards are currently being reviewed by the California Stormwater Quality Association (CASQA) for inclusion in CASQA’s state-wide guidance for bioretention design.



A LID bioretention facility constructed to meet post-construction stormwater control requirements. Photo courtesy of the City of Santa Cruz.

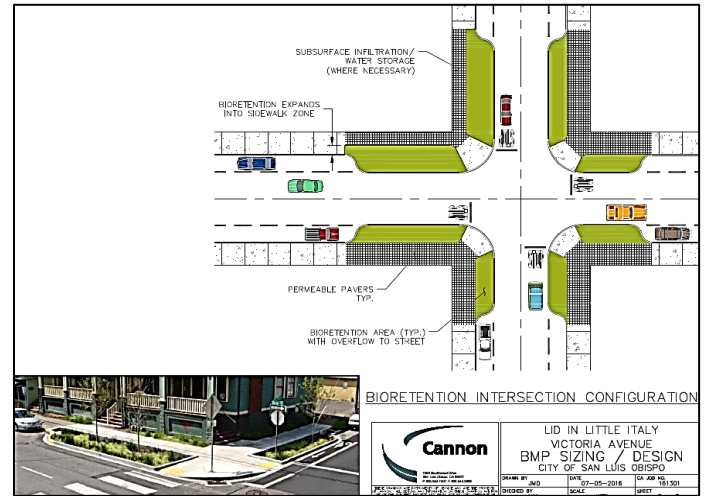
Stormwater Capture and Use



In 2015, the State Water Resources Control Board developed the Strategy to Optimize Resource Management of Stormwater (STORMS) to support further progress toward improvements in receiving water conditions affected by urban runoff. STORMS includes a Stormwater Capture and Use objective intended to explore the policy, legal and technical considerations of “valuing stormwater as a resource” to support a breadth of environmental, water supply, flood control and community objectives. Through an agreement with the Central Coast Water Board, LIDI began conducting research for the Sacramento State University Office of Water Programs’ Stormwater Capture and Use White Paper. The White Paper will describe capture and use objectives, present case studies, assess barriers, and identify actions that promise to increase stormwater capture and use. More information on the State Board’s STORMS program and projects can be found at:

http://www.waterboards.ca.gov/water_issues/programs/stormwater/storms/

Within the Central Coast Region, LIDI began promoting principles and projects that support stormwater capture and use objectives. In 2016, LIDI helped the City of San Luis Obispo initiate development of a Stormwater Resource Plan, which will evaluate, identify and prioritize implementation actions that support receiving water quality, riparian health, groundwater recharge and watershed processes. The SRP will help the City and serve as a model for other stakeholders to prioritize the location and types of actions that are most cost-effective to meet water resource goals while providing ancillary community benefits. Additionally, LIDI provided Proposition 1 grant writing assistance to the City for a downtown stormwater retrofit project. Over the years, LIDI has provided successful grant writing assistance to several Central Coast communities. In 2015-2016 LIDI provided technical assistance in the implementation of the City of Gonzales’ “Gonzales Old Town LID” (GOT LID) project, which is a green street Proposition 84 grant funded project that LIDI helped the City to secure. Demonstration projects continue to be an effective strategy to promote LID and green infrastructure principles in the urban environment.



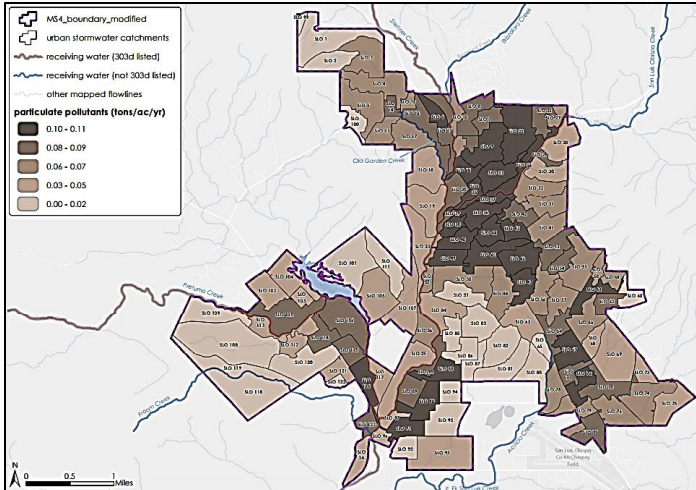
LIDI worked with the City of San Luis Obispo and Cannon Engineering to develop a Proposition 1 grant proposal to integrate LID and stormwater capture at road intersections. Intersections have a high potential for supporting green infrastructure, stormwater capture, and improved public mobility and safety.

Urban Stormwater Program Priorities and Performance Assessment: TELR and BMP RAM

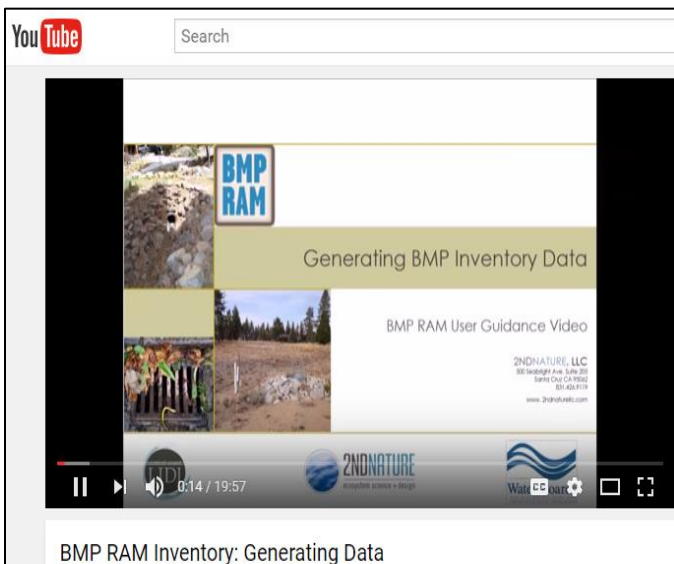
Fundamental to municipalities’ efforts to improve urban runoff quality is their ability to prioritize actions and assess performance of their stormwater management programs. In 2015-2016 LIDI continued to work collaboratively with municipalities to develop options that will help municipalities identify program priorities and support assessment of program performance. Specifically, two tools were developed as a resource for municipalities: the Tool for Estimating Load Reductions (TELR) and the Best Management Practice Rapid Assessment Methodology (BMP RAM). TELR and BMP RAM were developed with input from a stakeholder project team, including Water Board staff and several Central Coast municipalities. The tools became available for use in November 2016. TELR and BMP RAM provide municipalities options for meeting regulatory requirements for program performance effectiveness assessment.

Outreach and Education

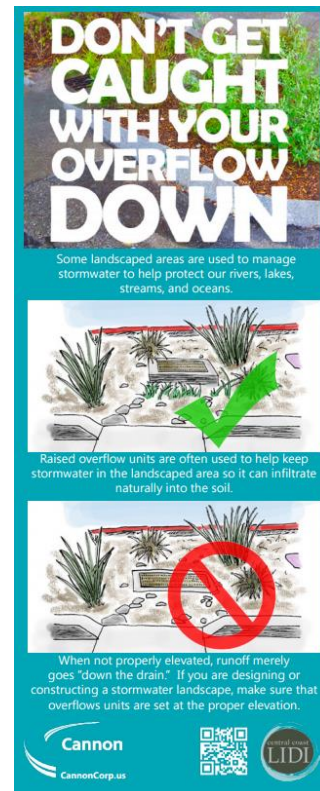
Throughout 2015-2016 LIDI continued to support LID practitioners through active outreach and on-line resources. In addition to regional municipalities, LIDI worked with Resource Conservation Districts, CASQA, State and Regional Water Boards, the Monterey Regional Stormwater Management Program, consultants and the Sacramento State University Office of Water Programs. LIDI also collaborated with the Landscape Architecture and Civil Engineering Departments at California Polytechnic University, San Luis Obispo to mentor students in LID principles, design, and construction considerations. Technical resources on the LIDI website include engineering design details, guidance on proper construction practices and use of proper materials (e.g., soils, plants, and structures), soil infiltration testing methods, training videos, engineering details, vendor lists and green street designs. The site is utilized by both Central Coast and state-wide LID practitioners.



An example of TELR output shows the relative nature of municipal stormwater runoff pollutant loading by catchment. The darker catchments represent higher loading and therefore areas where stormwater program actions should be prioritized. This spatial analysis and depiction supports communication of program needs and priorities to stakeholders including elected officials, regulators, environmental groups and the public.



Public investment in structural Best Management Practices (BMPs) easily exceeds hundreds of millions of dollars. The long-term performance of these BMPs to provide water quality benefit depends on adequate operations and maintenance. BMP RAM is a tool that allows municipalities to inventory, track and evaluate structural BMPs to estimate performance and determine maintenance requirements. This approach provides a more accurate depiction of investment return related to reduction of stormwater runoff and pollutants to receiving waters. Training videos, such as the YouTube video shown above, were created to support users of BMP RAM.



The flyer shown in this image is an example of LIDI outreach materials. This flyer describes proper placement and height of the overflow structure, which is crucial for stormwater capture and infiltration in bioretention facilities. Unfortunately, the overflow structure is often designed and/or constructed incorrectly to the point of rendering the facility completely ineffective. The flyer provides links to LIDI website resources to support successful LID projects. LIDI distributed the flyer to regional stormwater managers.

Fiscal Year 2015 – 2016 – Finances

The Central Coast Water Board created the LID Fund in 2008, allocating \$2 million dollars to an endowment and \$250,000 to an Operating Fund. At the end of September 2016, after more than eight years of supporting the Central Coast LID Initiative, the LID Fund balance was \$876,010.

The fund, which is managed by the Bay Foundation of Morro Bay, has received over \$1.7 million in income and gains on investments since inception, including \$1,375,859 in returns on investments and \$272,000 in Supplemental Environmental Project funds from Central Coast Water Board enforcement cases that resulted in Administrative Civil Liabilities.

Since creating the LID Fund, Central Coast Water Board staff has approved allocations from the Fund totaling approximately \$3,127,634 to contractors to support implementation of LID throughout the Central Coast, and to the Bay Foundation for administrative expenses.

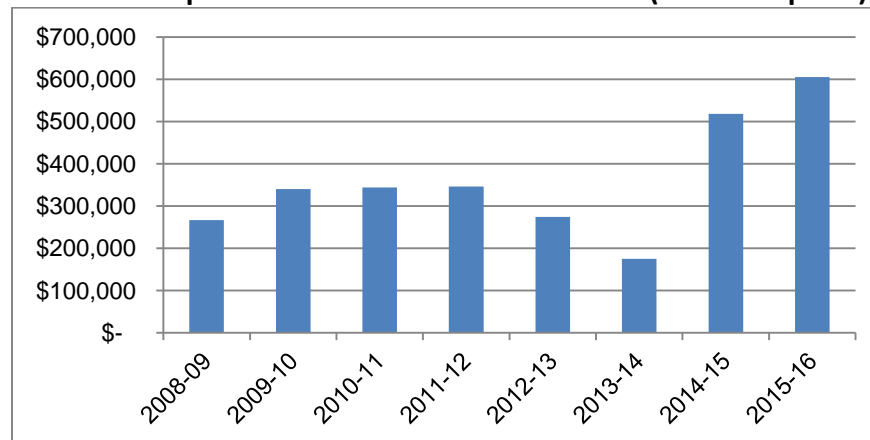
Central Coast LID Fund Since Inception (2008) through September 2016

Starting Balance in June 2008		\$2,250,000
Returns on Investment Portfolio (2008-2016)	\$1,375,859	
Supplemental Environmental Projects funds (2010-2011)	\$272,000	
Transfer of leftover LID project funds (2008)	\$101,775	
Reimbursements to LIDI for Services Provided (2012)	\$4,010	
Total Income		\$1,753,644
Total Expenditures		\$3,127,634
Total Available Funds (Fund Balance)		\$876,010

All figures rounded.

In Fiscal Year 2015-2016 (based on Federal Fiscal Year, October 1, 2015 - September 30, 2016), LID Fund expenditures on contracted services increased to the largest amount since inception to approximately \$600,000 (see graph below). This reflects the cost of the project to assist municipalities with spatially explicit, quantitative approaches to assessing the effectiveness of their stormwater programs. This work, contracted with 2NDNature, LLC will conclude in FY 2016-2017.

LID Fund Expenditures on Contracted Services (since inception)



In contrast to preceding years when the majority of expenditures supported the Central Coast LID Initiative’s UC Davis Project Director and part-time LID Specialists and assistants, FY 2015-2016 ended with funds allocated among the UC Davis Project Director contract, the 2NDNature, LLC contract, and a collection of smaller contracts to complete the Annual Work Plan. Remaining costs included Fund Administration (see pie chart).

