

October 2008 Water Quality Coordinating Committee

Item XX. Statewide Low Impact Development Education Project

State and Regional Water Board Members:

This paper is a summary of the Low Impact Development (LID) education project being developed by the California Stormwater Quality Association (CASQA), the California Water and Land Use Partnership (CAWalup), the UC Davis Center for Water and Land Use, Coastal Commission staff, and Water Board staff. This project will provide comprehensive LID education to people working directly with development in California, including:

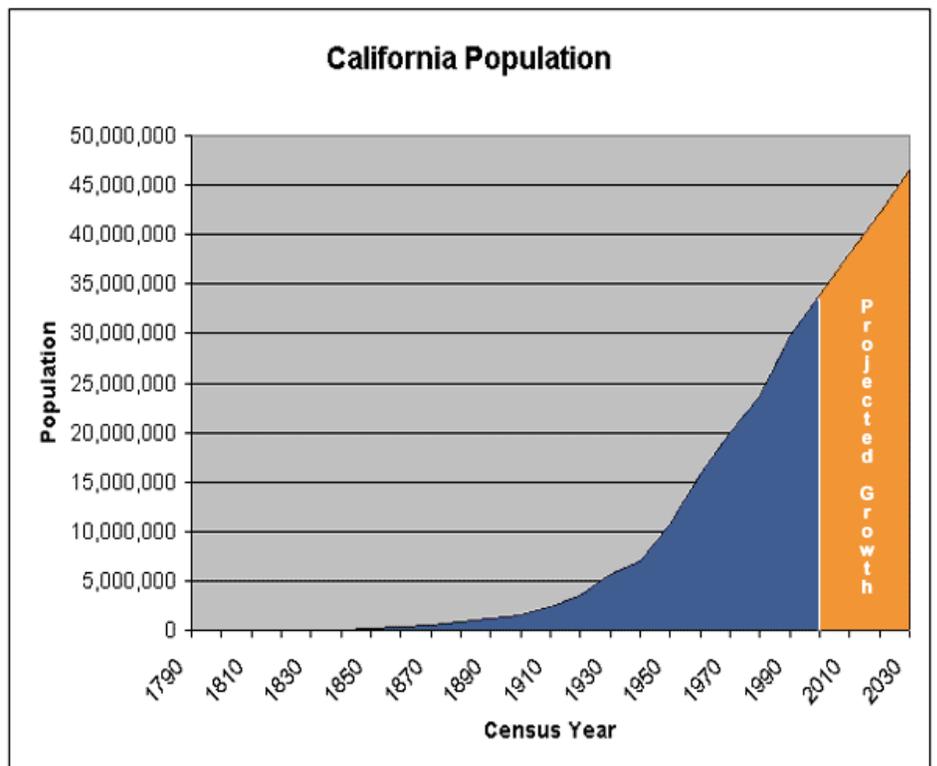
- county supervisors and city councils
- county and city planners, engineers, attorneys, and maintenance staff
- Water Board members and staff
- Coastal Commission members and staff
- other agency staff
- consultants

The project proponents estimate they will provide LID education to 15,000 people over the next several years. This project needs our support.

Need for the Project

The Pew Oceans Commission report, *Coastal Sprawl: The Effects of Urban Design on Aquatic Ecosystems in the United States*, describes how watersheds break down and stop functioning due to pollutant loading, impervious surfaces, and habitat consumption due to urban sprawl (see the report here: http://www.pewtrusts.org/our_work_report_detail.aspx?id=30037).

The report also documents the increasing migratory



population shift to coastal areas in the United States. The population of California is expected to increase from about 36 million people today to about 47 million in 2030. The question is not whether massive development will occur, but whether it will be managed such that watersheds and their component functions are protected for future generations. Our current approach to development is not sustainable-- we are literally destroying watersheds and their functions.

In addition to watershed degradation, and inland waters degradation (i.e. fresh water stream and river water quality and habitat impairment), there is also a direct link between land uses and the marine environment. Land uses and management practices directly affect marine ecosystems and the newly established, and soon-to-be established Marine Protected Areas. Ryan Broddrick, former Director of the Department of Fish and Game, sent a letter of support for Region Three's LID efforts, saying that LID implementation and performance monitoring is exactly what we need to do now to address our large-scale priorities. Mr. Broddrick emphasized the need for DFG and the Water Boards to work together to protect watersheds and Marine Protected Areas by comprehensively addressing land management issues. This LID education project is an opportunity for agencies and nonprofit organizations to work together, and is the foundation for successfully implementing LID principles statewide.

Some Regions are more developed than others. In Region Three, our major emphasis is on new development, with a minor emphasis on redevelopment. In other Regions, this emphasis may be reversed. This LID education project will address both areas, on multiple scales (from site-specific project design to long-term, watershed-scale planning).

In addition to watershed degradation and direct impacts on marine ecosystems, urban sprawl also contributes significantly to global warming by increasing energy consumption and our carbon footprint. As noted above, LID principles include long-term, large-scale planning to protect healthy watersheds. This planning is the comprehensive community level design, including infrastructure like transportation, water supply, and water treatment, to protect watershed functions like groundwater recharge, base flow in stream and rivers, aquatic habitat and associated buffer areas, and water quality. If California were a country, it would rank 12th in the world in greenhouse gas emissions (GHG). We use 19% of our total electricity consumption to treat water and pump it around the state. That GHG source is significant on a global scale. By maintaining our watersheds' groundwater recharge, we can make our watersheds more sustainable in terms of local water supply, which reduces our carbon footprint. LID and greener designs also minimize our carbon footprint with more energy efficient communities and buildings.

Current Status

This proposed education project is currently defined as three phases. The first phase is focused on LID economics education via a few workshops in different locations around the State, and will cost approximately \$50K. We are proposing that this cost be covered via the Training Academy's existing budget. UC Davis submitted a proposal to the Training Academy to implement this phase over the next few months. The project proponents will use existing education materials and delivery mechanisms as much as possible, and not reinvent the wheel. The Training Academy has an existing contract with UC Davis, and hopefully, we can use that contract to implement this phase. LID economics is one of the most common and important issues we deal with in our discussions with municipalities and consultants, and at Board meetings. Many other issues, like hydrology and hydromodification, hydromodification standards, direct and indirect measures (water quality and quantity versus effective impervious area), modeling, LID techniques/design issues, and watershed scale community design, will be included in Phases 2 and 3.

The second phase will be the full development of the many education modules for different audiences (maximizing the use of existing material) and starting to do the education sessions around the State over the 12 months or so after phase 1. Phase 2 will cost about \$100K. We propose that this cost be covered with funds from the State Water Board's Cleanup and Abatement Account, and be administered through the existing Training Academy contract with UC Davis.

The third phase is providing the education to all those who are directly involved in development throughout the state, which the project proponents estimate to be 12,000 to 15,000 people, over the course of several years. This project defines the many different groups that will be educated and the different education needs for each group. Phase 3 will cost about \$2M, depending on the number of classes necessary to reach the intended audience. For this phase, the project proponents are pursuing funding from multiple sources, including the State Water Board, Regional Boards, the Ocean Protection Council, Coastal Commission, and private organizations such as the Packard Foundation. We recommend that the State Board provide \$1M as partial funding from the Cleanup and Abatement Account to implement Phase 3. At Region Three, staff will consider this project as a high priority for funding from Supplemental Environmental Projects and settlement agreements (for work done in Region 3). For funds that we direct to the Cleanup and Abatement Account, we will request that some or all of those funds be directed to this project until the project is fully funded. We encourage other regional boards to contribute as well.

This project should provide consistent education throughout California, but also address regional issues with practical examples.

Recommendation

We recommend that the Water Boards support this statewide LID education project with funding and staff input into the education modules that will be developed. Funding would be ramped up over time as the phases progress, so we have plenty of opportunity to evaluate progress and effectiveness. This is an opportunity for agencies and non-profits to work together on the common goal of implementing sustainable development throughout California. The feedback we have received from municipalities and consultants over the past few years tells us this type of comprehensive education is very much needed to make sustainable development a reality. The first step is to support Phase 1, the LID economics workshops. The UC Davis proposal to implement Phase 1 through the Training Academy is attached for reference.