Front Yard Run-Off

Urban Water Quality Research

THE ISSUES

WASTE AND POLLUTION

For most homeowners, excess water from irrigating their gardens, washing their cars, and hosing off their driveways runs from their gutters into storm drains that empty into ponds, rivers, or the ocean. This water represents a waste of a precious resource and the homeowner's money if the water is metered. Another serious problem that is often overlooked is the cargo of wasted garden fertilizers and pesticides carried with the run-off to our natural waterways endangering the wildlife dependent on those aquatic systems.

WHAT'S BEING DONE

RUN-OFF ANALYSIS

A collaborative research project is being conducted to monitor the amount of run-off where it enters the waterways from 8 similar neighborhoods of single family homes: 4 in Sacramento County, and 4 in Orange County. For the last 2 years, samples of the run-off water have been collected where it empties into a pond, river, or drainage ditch, and have been analyzed for parameters including pesticide and fertilizer content.

EDUCATIONAL OUTREACH

Neighborhood outreach events were conducted by Master Gardeners in each county with the goal of reducing and refining both water and chemical use. Educational materials were provided on topics ranging from proper pesticide use to landscape design, sprinkler and timer maintenance, and appropriate plant choices. Homeowner gardening practices were surveyed at the beginning of the study, and then again a year later.

POLLUTANT LOAD MODELING

The wet and dry season runoff data from the neighborhood sites will be used along with information obtained from the landscape research sites developed by a PRISM grant in Irvine to refine pollutant load models. Preliminary findings show that existing models that rely solely on storm runoff information may underestimate loading of nitrate-nitrogen by as much as 50%. These refined models will be helpful in determining which landscape practices and design features can have significant, measureable impacts on the size of the chemical load in the run-off water from neighborhoods that implement them. The study will be using the models for areas of Sacramento county currently designated as Low Density and Very Low Density Residential, and for the General Plan projection of those areas.

UC CE University of California Cooperative Extension

Master Gardener University of California

ANR University of California

CALFED BAY-DELTA PROGRAM

UC IPM

California Water Boards — State Water Resources Control Board — Regional Water Quality Control Boards

FOR MORE INFORMATION

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