



BETTER GARDENING PRACTICES TO IMPROVE WATER QUALITY

Orange County Project Overview

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Project Funding

- Proposition 50
 - CALFED Drinking Water Quality Program
- Administered by the State Water Resources Control Board (SWRCB)
- \$2.9 million
- March 2006 – March 2009



Project Goal

- Determine the effectiveness of residential landscape BMP outreach to single family residential homeowners with a focus on:
 - Quality and quantity of urban runoff from single family residential homes during both irrigation and storm events.
 - Detection of a change in behavior through the adoption of BMPs.



Project Design

- Identified 4 single family residential home drainsheds in both Orange and Sacramento Counties.
 - Age (5- 20 years)
 - Lot size (4,000-10,000 square feet)
 - Accessible outfall for water quality sampling
- After collection of baseline water quality data, 2 of the 4 locations in each county will be assigned as treatment areas and the other 2 left as controls.
 - Partial sampling initiated in October 2006 in Orange County

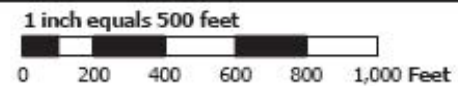
Orange County Single Family Residential Drainshed Locations

- Aliso Viejo
- Laguna Niguel (2)
- San Juan Capistrano



Evaluating Best Management Practices (BMPs)
 Effectiveness to Reduce Volumes of Runoff and
 Improve the Quality of Runoff from Urban Environments

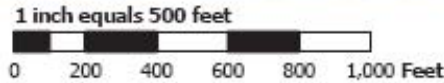
Aliso Viejo Study Site #4A
 January 10, 2007

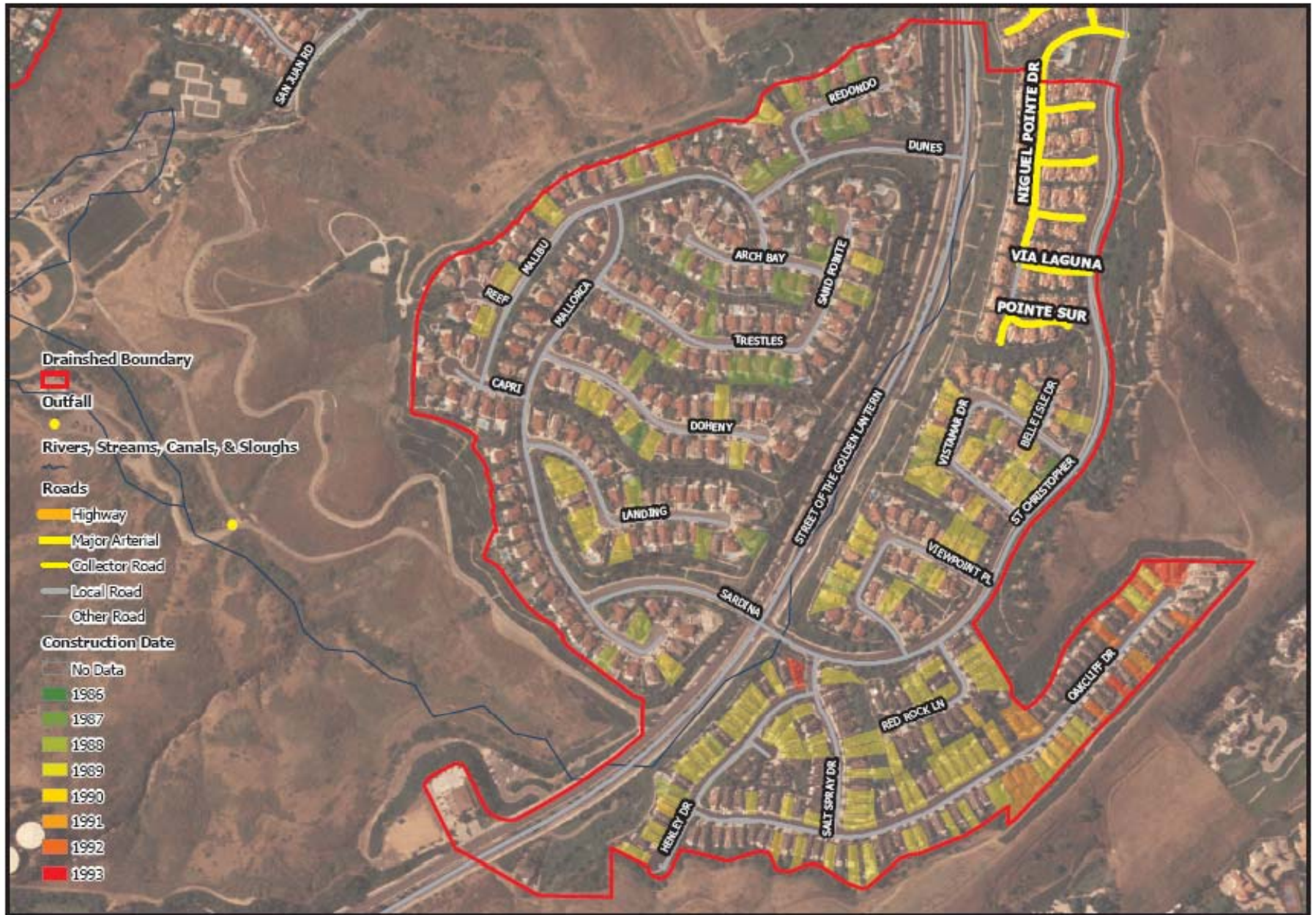




Evaluating Best Management Practices (BMPs)
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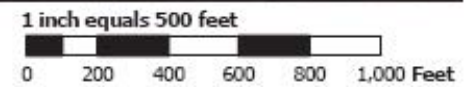
Laguna Niguel Study Site #8
 October 17, 2006





Evaluating Best Management Practices (BMPs)
 Effectiveness to Reduce Volumes of Runoff and
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Laguna Niguel Study Site #9
 October 17, 2006





Evaluating Best Management Practices (BMPs)
Effectiveness to Reduce Volumes of Runoff and
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San Juan Capistrano Study Site #2
January 10, 2007

1 inch equals 500 feet
0 200 400 600 800 1,000 Feet



Water Quality Monitoring

- Nitrogen, phosphorus – fertilizers
- Synthetic pyrethroids, fipronil, OPs – pesticides
- Turbidity, Dissolved and Suspended Solids – sediment
- Pathogen indicators – domesticated animals and wildlife.



Outreach

- Residential Landscape BMP Certified Volunteer
 - Toolkit for each certified MG volunteer.
- Assist in the planning of outreach activities to treatment areas.
- Actual delivery by certified MGs will begin in late fall 2007 with main outreach delivered in spring 2008.



Certification Curriculum

- Project Overview
 - Watersheds and Water Quality Monitoring
- Nutrients, Pesticides, and Pathogens in Urban Environments
- IPM
 - Least toxic pesticides
- Low Impact Landscape Design
 - Hardscaping
 - Plant Choice
- Fertilizer Management
 - Selection and proper application of fertilizers
- Irrigation Management
 - Maintenance, scheduling and improving application efficiency
- Outreach Materials



Opportunities

- Survey
 - mailing, delivery, results, etc...
- Neighborhood Workshops
 - planning, advertising, delivery of materials
 - hands-on demonstrations
- Intense outreach within treatment sites
 - Homeowners expressing interest (approx. 10) will receive assistance from a team of Master Gardeners