

ACCENTUATING THE POSITIVE: FOSTERING STEWARDSHIP IN URBAN WATERSHEDS

By

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Presented through the participation
and support of:

- Armand Ruby Consulting
- ADH Environmental
- Coastal Watershed Council
- EcoLayers
- Santa Cruz County volunteers

Public Education/Outreach – a common requirement

- All municipal NPDES permits contain requirements for public education/outreach as part of overall effort to reduce the discharge of urban runoff pollutants to the maximum extent practicable (MEP)

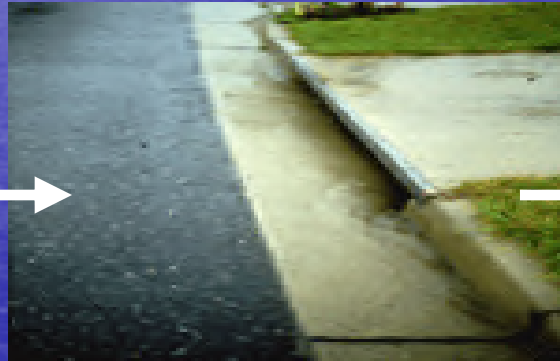
Current Approach

- Most efforts to improve urban runoff quality through public education/ outreach focus on "*preventing the negative*"

“Don't pour used motor oil
down the storm drain”



“Don't overuse pesticides –
and don't wash out buckets or
sprayers in the storm drain”



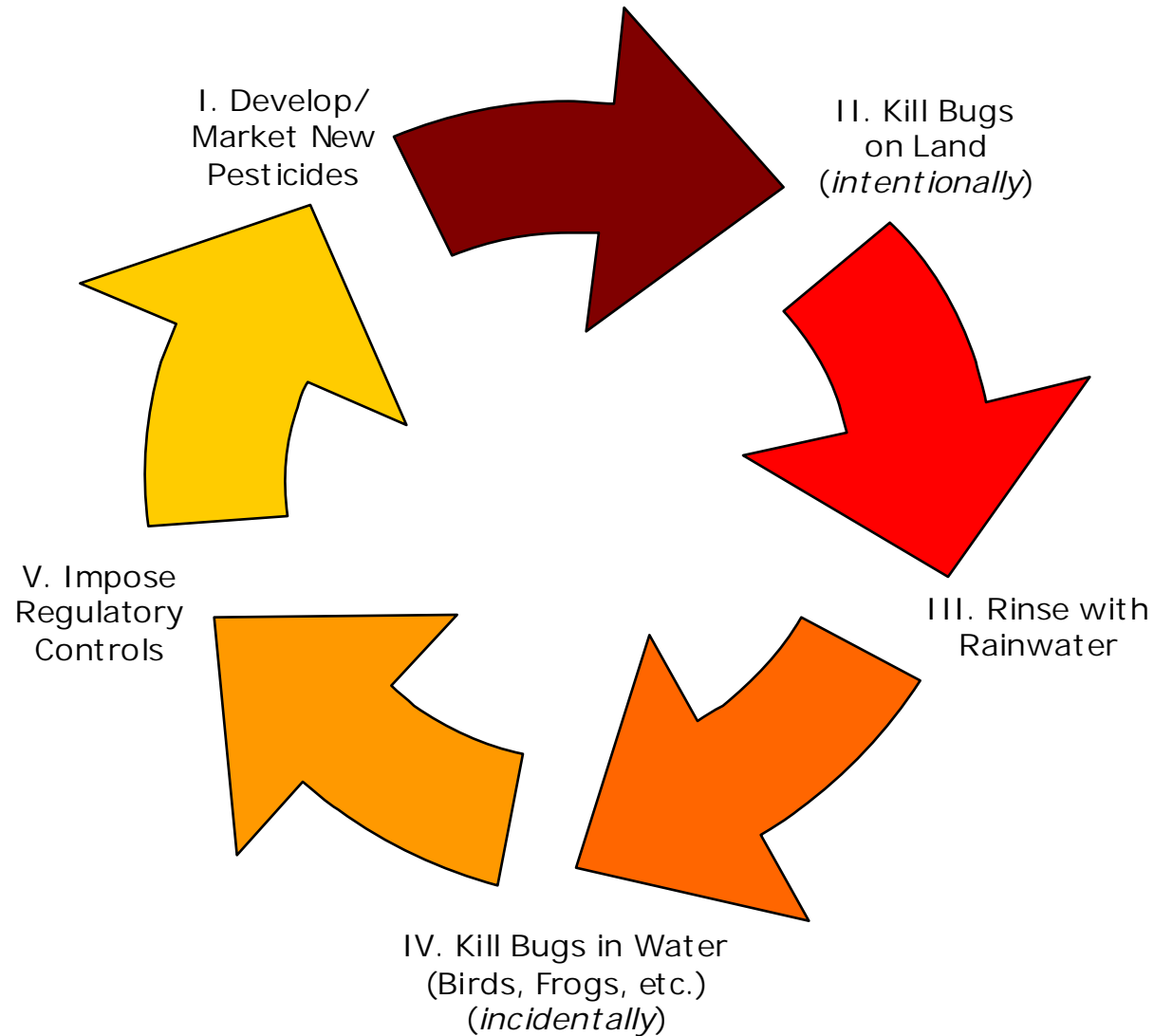
“Don't litter”



The issues are real...

- and the behaviors and attitudes of the public are important factors

CURRENT REGULATORY SCHEME: APPLY-RINSE-REPEAT



Accentuating the Positive

- There is a largely-untapped resource available to improve urban runoff quality through public education/outreach - by encouraging people to be good stewards

Accentuating the Positive – A New Approach

- This approach represents a 180° shift in thinking in two key ways:
 - the focus is on facilitating *positive* behaviors and actions that can be undertaken voluntarily by individual citizens
 - the communication flow is two ways – with equal emphasis on getting feedback and information from public participants

Good Progress/Examples from the Pesticides/IPM Sector

- Green Gardener Program
 - <http://www.greengardener.org/> (Santa Barbara)
 - <http://www.green-gardener.org/> (Monterey Bay)
- Our Water/Our World
 - <http://www.ourwaterourworld.org/>
- Bay-Friendly Landscaping and Gardening
 - <http://www.bayfriendlycoalition.com/index.shtml>

Coastal Watershed Council – Stewardship Initiative

- CWC's Mission: *to preserve and protect coastal watersheds through monitoring, education, and stewardship*
- Foster stewardship by individual citizens by promoting measures to:
 - Reduce Runoff Quantity, and/or
 - Improve Runoff Quality

Coastal Watershed Council – Stewardship Initiative

- Step 1: create Stewardship ToolKit – on-line resource for citizens

http://www.coastal-watershed.org/CWC_Library/Reduce_Impact/Impact.htm

- Step 2: create on-line data portal for public entry of stewardship sites using EcoLayers software (www.EcoLayers.com)
- Step 3: publicize ToolKit and data portal; foster neighbor-to-neighbor education/outreach
- Step 4: summarize information for MS4s

CWC's Stewardship ToolKit

Watershed Stewardship Toolkit:

The Coastal Watershed Council's Stewardship ToolKit is designed to help individual homeowners/renters and business owners learn about steps they can take to reduce runoff impacts from their properties, and improve the hydrologic functioning of their local watersheds. The ToolKit is organized into these main categories (Click to view):

[I. Stormwater Runoff Reduction](#)

[II. Stormwater Runoff Quality Improvement](#)

[III. Stormwater Runoff Quantity and Quality Improvement](#)

[IV. Integrated Stormwater Management Case Studies](#)

[V. Large-Scale Stormwater Management](#)

CWC's Stewardship ToolKit

For each alternative measure, the format of the ToolKit is organized as follows:

- Basic description and image of measure
- Associated stormwater management benefits
- General installation procedure
- Considerations re: selection/siting
- Resources for further information

CWC's Stewardship ToolKit – Rain Gardens example

◇ Rain Gardens

Rain gardens serve as colorful stormwater detention areas, which help to reduce the quantity of runoff during peak flow events and treat infiltrating water.

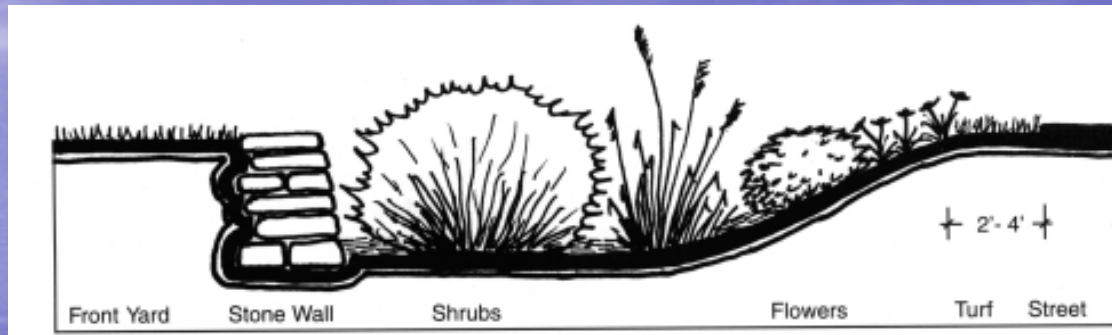


CWC's Stewardship ToolKit – Rain Gardens example, cont'd

➤ Benefits:

- Reduces the volume of runoff from a single-family property where space is limited but runoff management is desired
- Provides some water treatment by removing suspended solids, metals, and nutrients
- Provides an aesthetic amenity to a property
- Supports groundwater recharge
- Flowering plants and grasses appeal to beneficial insects such as bees and butterflies
- An effective and less costly means to stormwater management compared to some of the more sophisticated devices

CWC's Stewardship ToolKit – Rain Gardens example, cont'd



Installation/ characteristics:

- Determine the size and shape of the garden based on the surface area of impervious surface draining to the garden (for gardens within 30 feet of a building, most runoff will be coming from downspouts; each downspout contributes about 25% of a buildings runoff; calculate the draining surface area by finding the length and width of the bottom of the house to approximate the roof area and then multiply this number by 25% to find the volume of runoff coming from one downspout)
- The slope of the lawn or ground on which the garden is to be built should be between 3-10%
- For clay soils which drain slowly, the area of the garden should be 60% of the draining surface area (surface area of the roof)

Stewardship Data Portal

- Developed using EcoLayers software
- Allows two-way communication between the public and agencies
- Provides means for citizens to inspire and inform each other
- Allows agency to compile information on citizen runoff-reduction and pollutant-reduction efforts

CWC's Homepage

ABOUT CWC OUR PROGRAMS VOLUNTEER EVENTS SUPPORT CWC CONTACT LIBRARY

Coastal Watershed Council *Working to preserve and protect watersheds through community stewardship, education, and monitoring*

PROGRAMS	EVENTS	VOLUNTEER
 <p>New! Watershed Stewardship → Protecting watersheds through actions at home! Click here for our new Watershed Stewardship Toolkit</p>  <p>New! CWC Data Portal → Now you can access all of CWC's data on the watersheds of the central coast, plus add your own!</p>  <p>Snapshot Day → An annual event that monitors water quality in the Monterey Bay National Marine Sanctuary.</p>  <p>Urban Watch → Find out what's coming out of storm drains in the Monterey Bay area.</p>	 <p>Events Calendar → View current and upcoming Coastal Watershed events on our calendar.</p>  <p>Upcoming Events → Find out details about what is happening with the Coastal Watershed Council.</p> <div style="border: 1px solid black; padding: 5px; text-align: center;"><p>Seeking Volunteers for the First Flush Program Fall 2009 - Currently Recruiting!</p><p>Sign up Here!</p></div> <p>Join us on:</p> <div style="background-color: #336699; color: white; padding: 10px; text-align: center; font-weight: bold; font-size: 1.2em;">facebook</div>	 <p>Tales From the Field → Find out what it's like to volunteer and help preserve and protect our local watersheds.</p>  <p>How You Can Help → Various ways you can positively affect the health of our local streams and watershed.</p>  <p>Volunteer Options → Want to get your feet wet or help out around the office? Internship and volunteer opportunities.</p>  <p>Support CWC → Help support our volunteers, programs, and organization by making a donation now!</p> 

CWC's Water Quality Data Portal

The screenshot displays the CWC Data Portal interface. At the top left is the Coastal Watershed Council logo. The main title is "CWC Data Portal". On the top right, contact information for Coastal Watershed Council is provided: PO Box 1459, Santa Cruz, CA 95061, (831) 464-9200, and the website www.coastal-watershed.org. Below the title is a navigation bar with links for "Instructions", "About", "Learn More", and "Terms of Use Street View". A blue banner below the navigation bar says "Click [+] to see Interactive Map and Sites of Interest". The main content is a map of the coastal watershed area, showing various creeks and rivers. Numerous colored pins (purple, yellow, and red) are placed on the map to indicate water quality data points. The map includes a scale bar (0 to 2 miles / 0 to 5 kilometers) and a "Print map" button. At the bottom, there is a search bar labeled "Add Stewardship Sites" with a "Go!" button and a note: "Enter Place of Personal Interest (river, creek, garden, street address, etc.). Then press the Enter key or click the 'Go!' button."

Coastal Watershed Council

CWC Data Portal

Coastal Watershed Council
PO Box 1459, Santa Cruz, CA 95061
(831) 464-9200
www.coastal-watershed.org

[Instructions](#) | [About](#) | [Learn More](#) | [Terms of Use](#) [Street View](#)

Click [+] to see Interactive Map and Sites of Interest

Map data ©2009 Google - [Terms of Use](#)

Print map

Go!

Enter Place of Personal Interest (river, creek, garden, street address, etc.). Then press the Enter key or click the "Go!" button.

CWC's Stewardship Data Portal – Data Entry Form

Coastal Watershed Council
CWC Data Portal
Coastal Watershed Council
PO Box 1459, Santa Cruz, CA 95061
(831) 464-9200
www.coastal-watershed.org

Instructions | About | Learn More | Terms of Use | Street View

Click (+) to see Interactive Map and Sites of Interest

Select County: Santa Cruz

Select Watershed: Soquel/Arans, Waddell

Select Programs: Snap Shot Day, Urban Watch


Stewardship Sites: All, Stormwater Runoff Quantity Reduction, Stormwater Runoff Quality Improvement, Runoff Quantity Reduction and Quality Improvement, Integrated Stormwater Management

To create your site, click the link below to complete a short form about this site.
[Click to open form](#)
To Create Site - Complete form and click Save.
Lat: 37.000907571138754 Long: -122.03922271728516

Name: _____
Street Address: _____
City: _____
Zip Code: _____
Telephone Number: _____
Email Address: _____
Device/Measure Category: _____
Specific Device/Measure: _____
Description: _____
Dimensions: _____
Run Off: Roof, Driveway/Sidewalk, Lawn/Garden, Other/Describe
Comments: _____
Photo1: _____ Browse...
Photo2: _____ Browse...
Save Cancel

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CWC Stewardship Portal - example site



CWC Data Portal

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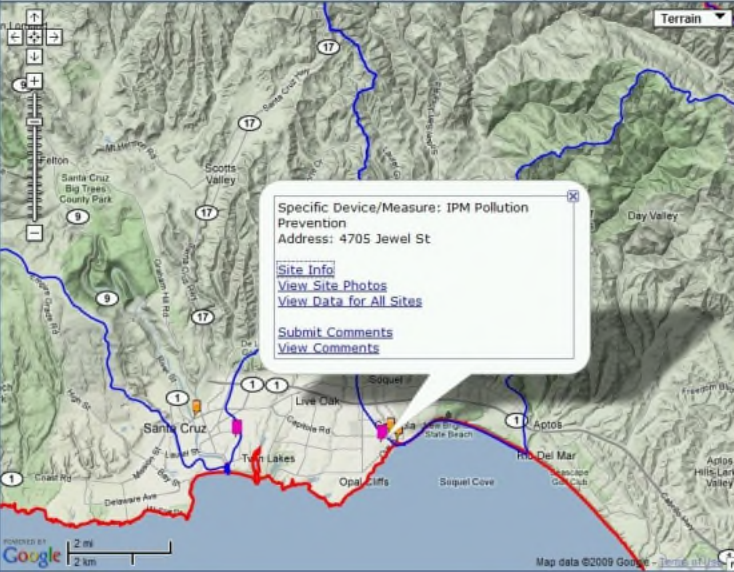
Click (+) to see Interactive Map and Sites of Interest

Select County: Santa Cruz

Select Watershed: Soquel/Arana Waddell

Select Programs: Snap Shot Day Urban Watch

Stewardship Sites: All Stormwater Runoff Quantity Reduction Stormwater Runoff Quality Improvement Runoff Quantity Reduction and Quality Improvement Integrated Stormwater Management



Map Info: Terrain, 2 mi / 2 km scale, Map data ©2009 Google

Add Stewardship Sites: [Print map](#)


Enter Place of Personal Interest (river, creek, garden, street address, etc.). Then press the Enter key or click the "Go!" button.

[Close](#)

Site Info	
Site Id	SW000004
Site Name	Armand Ruby
Address	4705 Jewel St
City	Capitola
Zip Code	95010
Telephone Number	831-477-1214
Email Address	aruby@coastalws.org
Device/Measure Category	Stormwater Runoff Quality Improvement
Specific Device/Measure	IPM Pollution Prevention
Description	Use of beneficial insects in place of pesticides
Dimensions	
Run Off	Lawn/Garden
Comments	
Latitude	36.971563959172556
Longitude	-121.95802688598633

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CWC Stewardship Portal - example site


 **CWC Data Portal** Coastal Watershed Council
PO Box 1459, Santa Cruz, CA 95061
(831) 464-9200
www.coastal-watershed.org

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Click (+) to see Interactive Map and Sites of Interest

Select County: Select Watershed: All Ano Nuevo Select Programs: All ALBA

Stewardship Sites: All Stormwater Runoff Quantity Reduction Runoff Quantity Reduction and Quality Improvement Stormwater Runoff Quality Improvement Integrated Stormwater Management

 Specific Device/Measure: IPM Pollution Prevention
Address: 4705 Jewel St
[Site Info](#)
[View Site Photos](#)
[View Data for All Sites](#)
[Submit Comments](#)
[View Comments](#)

Close
Site Id: SW000004
Site Name: Armand Ruby




Page: 1 of 1

Add Stewardship Sites

Enter Place of Personal Interest (river, creek, garden, street address, etc.). Then press the Enter key or click the "Go!" button.

Print map

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CWC Stewardship Portal - example site

Coastal Watershed Council
PO Box 1439, Santa Cruz, CA 95061
(831) 464-9200
www.coastal-watershed.org

CWC Data Portal

[Instructions](#) | [About](#) | [Learn More](#) | [Terms of Use](#) | [Street View](#)

Click (+) to see Interactive Map and Sites of Interest

Select County: Santa Cruz

Select Watershed: All Ano Nuevo

Select Programs: All ALBA

Stewardship Sites: All Stormwater Runoff Quantity Reduction Stormwater Runoff Quality Improvement Runoff Quantity Reduction and Quality Improvement Integrated Stormwater Management

Specific Device/Measure: Other/describe below
Address: 138 Calvin Place
[Site Info](#)
[View Site Photos](#)
[View Data for All Sites](#)
[Submit Comments](#)
[View Comments](#)

Close
Site Id: SW000011
Site Name: Ole Christensen

Page: 1 of 2

138 Calvin Place, santa cruz, ca
Enter Place of Personal Interest (river, creek, garden, street address, etc.). Then press the Enter key or click the "Go!" button.

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Next Steps

- Publicize Stewardship functions to public
- Acquire financial support for CWC's Stewardship Initiative
- Compile and summarize results for MS4s:
 - Permittees can incorporate runoff volume reductions/runoff quality improvements in annual reports to regulatory agencies
 - EcoLayers output includes plots, tables, graphs

KEY RESOURCES

- Coastal Watershed Council:
www.coastal-watershed.org/
- EcoLayers:
www.EcoLayers.com/

COMMENTS/QUESTIONS

For More Information Contact:

Armand Ruby: 831-477-1214

ADH Environmental: 831-477-2003

e-mail:

armand@armandrubyconsulting.com

Web Site:

www.armandrubyconsulting.com

(Lots of Useful Links)

