

Green Notes

LANDSCAPE RUNOFF: WHAT'S THE BIG DEAL?

All spring and summer long, everywhere you go in California's cities, you can see water running down gutters into storm drains. A fair question to ask is, "Does it really matter?"

Where does it go?

Often homeowners and landscape managers simply don't think about where the water goes once it leaves their site by way of the storm drain. Many wrongly assume that it goes to water treatment plants where it can be cleaned up before re-using or releasing it. In reality, storm drains carry water to outlets that dump directly into natural waterways. In San Joaquin County that means streams, sloughs, and ultimately the Delta.

What's in it?

Water picks up all sorts of things on its way to the drains: soil particles, leaves, pet waste, car oil and exhaust fume residues, lawn and garden fertilizers, and pest control chemicals, to name a few. A recent UC study in both northern and southern California residential areas showed that pest control chemicals were present in virtually every sample of water that ran from neighborhood yards into drains. Fertilizer ingredients and coliform bacteria were also found with very high frequency.

How much actually runs off?

During the UC study mentioned above, the volume of water running off during the storm season and the dry season were compared. Surprisingly, the water running off these urban areas was several times HIGHER during the dry season. This means



Overspray runs off to parking lot storm drain

that the amount of *wasted water* (from poorly managed irrigation and outdoor activities like car washing and hosing off paths) was many times higher than the amount of winter rainfall that ran to drains in the same area! It was estimated that the amount of *wasted water* from the urban Sacramento region could fill Lake Oroville!

Why does it matter?

Pesticides at concentrations sometimes found in our local rivers and sloughs are known to be toxic to aquatic animals

GREEN NOTES

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UC Statewide IPM Project
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Algae-filled water can deplete oxygen

that are the beginning of the food chain and indicators of healthy natural systems. High levels of fertilizers can cause algae and other aquatic plants to overgrow and use up the oxygen needed by fish and other aquatic organisms for survival. When these balances break down, it degrades the health and beauty of the waterways we all use and enjoy.

In addition to carrying pollutants to natural waterways, runoff is just plain wasteful. In a state where our available urban water varies from year to year, it only makes sense to be careful about how we use it. The state water boards have mandated that urban water use be reduced 20% by the year 2020. Let's all do our part to make sure the water we use on landscapes is staying where it's needed: *on the landscape!*

5 KEY STRATEGIES FOR RUNOFF PREVENTION

A few straightforward practices can make a real difference in the amount of dry season runoff and in the quantity of pollutants found in the storm runoff that can't be prevented. Make the easiest changes first, and make a plan to implement all the practices until you truly have a river-friendly landscape.

1. ADJUST THE IRRIGATION: Water according to the weather and plant needs. If water is running off, pulse the irrigation

in more than one application until you've reached your total desired time so that all the water you apply stays on the planted areas. Use controllers with rain shut-offs, and adjust each month to reflect weather.

- 2. APPLY PEST CONTROL PRODUCTS SPARINGLY AND NEVER ON HARD SURFACES or WHEN RAIN IS FORECAST:** Where ants are being controlled, use contained bait stations. If any granular fertilizer is spilled onto paved surfaces, sweep it onto the planted areas before it can be washed to drains.
- 3. LOW WATER USE PLANTS:** When designing or replacing landscapes, use references to select from among the many beautiful drought tolerant plants now available. Many of these also require fewer pesticides and fertilizers.
- 4. USE EFFICIENT IRRIGATION SYSTEMS AND MAINTAIN REGULARLY:** Newer sprinkler heads and drip systems are more efficient, - delivering water at a slower rate that allows infiltration into heavy soils. Regular checking makes sure spray heads are aimed at planted areas and not onto pavements.
- 5. CONTOUR SLOPED LANDSCAPES TO KEEP WATER ON THE SITE:** Use water-loving plants in low-lying areas, swales, or catchment basins that allow water to stay on site until it is absorbed. Pavement slots can be cut and filled with gravel to slow sheet runoff and channel water to planted areas. Pavers, decomposed granite and permeable concrete paths allow water to stay on site.



Post-construction slot-drain installation

COMING THIS FALL!

SUSTAINABLE BY DESIGN: Landscape Seminar Series

This will be a 3-part half-day seminar series held on **November 2, 9, and 16** from 8 -12:30.

TOPICS:

SEMINAR ONE: DESIGN

- Sustainability principles, storm water management, state regulations, plant selection

SEMINAR TWO: CONSTRUCTION

- Site considerations including trees, irrigation, plan installation, landscape retrofits, materials inspection

SEMINAR THREE: MAINTENANCE

- Matching maintenance to design; near and long-term plans for the life of a landscape; tree plans

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WHO SHOULD ATTEND:

- Landscape architects, civil engineers, landscape designers
- Planning personnel involved in writing RFPs for landscape projects
- Landscape construction managers and site personnel
- Commercial and public landscape maintenance managers and site personnel

Check online for registration:

[SJ County Environmental Horticulture](#)

**or call for mail-in form:
953-6109**

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PLANTS FOR BIOSWALES

Vegetated swales can function in a landscape to slow the flow of water before it reaches storm drains acting to trap sediments, take up dissolved nutrients from fertilizers, and absorb toxins and heavy metals in their plant materials or allow them to be trapped in the soil itself. Although research still needs to be done on bioswale shapes, lengths, and combination of plant materials, the following list is a good place to start if you are attempting to slow the flow from a site. Native grass mixes specifically for bioswales are available as sod from local growers, and can be effective if mowed only annually. For more information, visit our website under the Landscape Water Use tab, you can download the free publication: *Vegetated Swales BMPs: CA Stormwater Handbook*

FOR THE BOTTOM:

- Acorus and Iris pseudoacorus (flags)
- Agrostis tenuis (Colonial bentgrass)
- Carex elata, densa, obnupta (sedges)
- Juncus species (rushes)
- Scirpus (bulrush)

FOR THE SIDES:

- Bromus carinatus (California brome)
- Carex pansa, praegracilis (sedges)
- Leymus species (wild rye)
- Deschampsia caespitosa (tufted hairgrass)



PLANT THIS

Lavandula stoechas 'Otto Quast'

For a splash of spring color, 'Otto Quast' Spanish lavender is hard to beat. This small evergreen shrub is a great choice for low-water areas and mounds. It requires maintenance only once or twice a year to shear off the dead flowers and keep it compact and bushy. 'Hidcote Blue' lavender is a good alternative that blooms a bit later and repeats in fall.

Good companions are a blanket of *Nepeta x faasennii* 'Walker's Low', or a backdrop of *Salvia heterophylla* or *Phlomis fruticosa*. These can be seen blooming in the Demo Garden at the Robert J. Cabral Agricultural Center's Learning Landscape. (Address below.)



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