



## *hui o ko'olaupoko*

# Homeowner's Clean Watershed Guide

Hui o Ko'olaupoko hopes you find this guide to be a helpful resource for your yard and garden questions. Here are some topics to help you maintain or build a green yard and a healthy watershed. Provided with each topic are web addresses and phone numbers for additional information. As always, you can contact us and learn more at [www.huihawaii.org](http://www.huihawaii.org).

**Did you know?** He'eia Stream has elevated levels of nutrients which can be associated with human health, recreational, and water quality problems in the stream and ocean. A major source of nitrogen and phosphorus in the stream is from individual home's yards, leaves, fertilizers, pet waste and runoff. You can implement practices in your yard to reduce overall nutrient levels in the stream.

### **Fertilizer and Pesticide Use**

It's easy to over apply fertilizers or pesticides. Consider not using fertilizer for a year and see what happens, probably nothing. When using chemicals, take precaution and follow some simple tips. Apply only when necessary, preferably after rainy weather, directly on desired area or plant, using a product that is made specifically for the desired purpose. Look for "**natural organic**" or "**slow release**" fertilizers that are **phosphorus free**. Your lawn and gardening soils have adequate levels of phosphorus for plant needs. Extra phosphorus can end up in streams and the ocean. Consider not fertilizing trees and shrubs, they receive enough nutrients from the soil. Your yard clippings and green waste make great compost for your yard; otherwise use your green trash bin to dispose the green waste.

### **Resources for fertilizer and pesticide use:**

- Ahupua'a friendly fertilizers, pesticides and composts are available locally in Kaneohe at City Mill and Ko'olau Farmers.
  - Amend your existing soil with rich organic composts in a 1:1 mix
  - Try natural options such as blood meal, chicken manure and fish emulsion to give plants a dose of nutrients
    - These high nitrogen products will help to capture and remove excess phosphates.
- Weed control information for homeowners from the University of Hawaii <http://www.ctahr.hawaii.edu/inweed/homeowner.html>
- UH CTAHR Kaneohe Extension Office  
Phone : 247-0421 E-mail: [Kaneohe@ctachr.hawaii.edu](mailto:Kaneohe@ctachr.hawaii.edu)
- Natural alternatives to synthetic pesticides by type of pest [http://www.agric.wa.gov.au/objtwr/imported\\_assets/content/pw/chemaltsprays2.pdf](http://www.agric.wa.gov.au/objtwr/imported_assets/content/pw/chemaltsprays2.pdf)
- 5 ways the EPA suggests to green your yard while saving time, money, and protecting the environment <http://www.epa.gov/epawaste/consERVE/rrr/greenschapes/owners.htm#soil>  
<http://www.epa.gov/oppfead1/Publications/catalog/greenschaping.pdf>

**SWEEP** – driveways, sidewalks and road gutters. Don't hose down to prevent green waste and other debris from entering the storm drain

**SCOOP** – pet waste and dispose of it properly to prevent excess bacteria in our streams

**PLANT** – plant natives that are drought/pest resistant, saving money and the environment

**SCRUB** – wash your vehicles in the lawn with phosphorus-free soaps

*To protect ocean health by restoring the 'āina: mauka to makai*

## Native Plants

In general, native Hawaiian plants, when planted in the correct habitat, will be able to grow with less irrigation, less chemical pest control, and be able to handle drought conditions better than most common, introduced plant species. Once outplanted natives have become established in the ground they can survive quite well with the water provided naturally during rain events or manual watering during times of drought. Native plants can also provide significant ecological benefits such as reducing soil erosion, stream bank stabilization, and phytoremediation (the uptake of pollutants through a plants root system) and may not need fertilizer at all. A few of the native plants used at He`eia Stream are:

- ‘Ae‘ae
- ‘Aka‘akai
- ‘Ahu‘awa
- Pohinahina
- U‘ala
- ‘Ūlei

Resources for planting natives:

- Hui Kū Maoli Ola native plant nursery in Ha‘ikū  
<http://www.hawaiiannativeplants.com/our-plants.html>
- Native Plants Hawaii  
<http://nativeplants.hawaii.edu>
- Hui o Ko‘olaupoko: Native plant care manual  
<http://huihawaii.org/resources.html>

## Rain Barrels

Rain barrels collect rain water from your roof to use in your yard, conserving clean drinking water for other uses and lowering your water bill. About 1/3 of household water consumption is for outdoor use. Rain barrels can be easily built and maintained. The Board of Water Supply has information and workshops on what you need to build a rain barrel and where to find construction help. \*BWS does not sell plastic barrels.

- Board of Water Supply Rain Barrel information  
<http://www.boardofwatersupply.com/cssweb/display.cfm?sid=2091>  
Phone: 748- 5041

## Resources for Erosion Control

Erosion prone areas include: bare soil in gardens/yards, dirt paths, areas under construction, sloped areas and stream sides. To reduce sedimentation into the streams and prevent loss of land area, coir logs or filters made with all natural materials can be placed above stream banks or the toe of slope. Plant groundcover or mulch with woodchips up in addition to using coir logs.

- GeoTech Solutions <http://www.geotechsolutions.com/index.html>
- Filtrexx [www.hawaiiiec.com](http://www.hawaiiiec.com)

## Rain Gardens

Rain gardens are flat-bottomed depressions in the ground which are used to capture excess water and pollutants, such as storm runoff from rooftops, driveways, sidewalks, parking lots, and streets, and stop them from reaching streams and oceans by acting as an infiltration system. They are beneficial because they reduce flooding by absorbing rain water; they filter oil, grease and other toxic materials before polluting water bodies; they allow groundwater aquifers to be recharged. For a 1,000 square foot roof, one inch of rainfall produces 600 gallons of runoff. Rain gardens can be located near a downspout to capture this rainwater and reduce the amount entering the stormwater system and nearby streams.

HOK is developing the State of Hawaii Rain Garden Manual, due for publication in early 2012, and a Rain Garden Co-op which will help facilitate the installation of rain gardens on private property with the use of volunteers and homeowners.

Resources for Rain Gardens:

- Hui o Ko‘olaupoko <http://huihawaii.org/raingardens.html>
- City and County downspout guideline [http://www.cleanwaterhonolulu.com/storm/learning\\_center/HealthyYards-CleanStreams-DownspoutDisconnectionTips-Final.pdf](http://www.cleanwaterhonolulu.com/storm/learning_center/HealthyYards-CleanStreams-DownspoutDisconnectionTips-Final.pdf)
- How-to information from Rain Garden Network <http://www.raingardennetwork.com/>

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