

# BAY-FRIENDLY LANDSCAPE GUIDELINES

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*Sustainable Practices  
for the Landscape Professional*

***“A thing is right  
when it tends to preserve the integrity,  
stability and beauty of the  
biotic community.”***

SOURCE: ALDO LEOPOLD, A SAND COUNTY ALMANAC.



These Bay-Friendly Landscape Guidelines are written for the professional landscape industry to provide an integrated approach to environmentally friendly landscaping.

The guidelines are organized around seven principles for protecting the environment. By viewing the landscape through the lens of these seven principles, we can see it in a different light, such as how plant selection can create or decrease waste or how soil preparation can prevent or increase runoff. There are fifty-five practices under these seven principles. The practices themselves each include many examples of applications. The applications are meant to be a starting point but are not meant to be comprehensive. It is likely that there are many additional applications for each.

Some practices are repeated under different principles because one practice can be integral to more than one principle. In other words, there are a number of critical practices that can protect the environment in more than one way. Using mulch, for example, reduces waste, nurtures the soil, conserves water, and creates wildlife habitat

The Bay-Friendly principles and practices included in these Guidelines were selected with guidance from landscape architects and designers, contractors, and experts in the many fields represented in these Guidelines, as well as representatives from local public agencies and the staff of StopWaste.Org. Bay-Friendly Landscaping is a project of StopWaste.Org.

**Disclaimer:**

The information in these Guidelines is provided for consideration by landscape professionals in the course of designing, constructing and maintaining new or existing landscapes. It is presented as a public service by the Alameda County Waste Management and Recycling Board in an attempt to support environmental benefits and reduce costs. The practices in these Guidelines are strictly for use on a voluntary basis. They are not a substitute for the exercise of sound judgment in particular circumstances and are not intended as recommendations for particular products or services.

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### Survey Says...

The results of a phone survey of Alameda County residents are quoted throughout the Bay-Friendly Landscaping Guide.

Evans/McDonough Company, Inc. conducted the survey in November 2002, for the Alameda County Waste Management Authority. More than 500 randomly selected single-family residents answered questions about their use of and interest in Bay-Friendly Landscaping practices. Conclusions about their opinions and practices are presented wherever you see the heading: Survey says...

# 1

## *Introduction to Bay Friendly Landscaping*

### **BASIC PRINCIPLES OF NATURAL SYSTEMS**

- 1** Natural systems are inherently beautiful.
- 2** Nothing goes to waste.
- 3** Inputs are limited and are primarily defined by the natural resources on site.
- 4** The more diverse they are, the more stable they are.

ADAPTED FROM: DAVID McDONALD, DESIGN WITH NATURE: *LANDSCAPE DESIGN AS THOUGH THE ENVIRONMENT MATTERED*, SEATTLE PUBLIC UTILITIES.



MICHAEL THILIGEN, FOUR DIMENSION LANDSCAPE CO.

## *Bay-Friendly Landscaping is...*

**A** whole systems approach to the design, construction and maintenance of the landscape in order to support the integrity of one of California's most magnificent ecosystems, the San Francisco Bay watershed.

The Bay-Friendly landscape professional can create and maintain healthy, beautiful and vibrant landscapes by:

- ✓ Landscaping in harmony with the natural conditions of the San Francisco Bay watershed.
- ✓ Reducing waste and recycling materials.
- ✓ Nurturing healthy soils while reducing fertilizer use.
- ✓ Conserving water, energy and topsoil.
- ✓ Using integrated pest management to minimize chemical use.
- ✓ Reducing stormwater runoff.
- ✓ Creating wildlife habitat.

A well-designed and maintained Bay-Friendly Landscape can cost less to maintain in the long run by consuming fewer resources. For public spaces, Bay-Friendly Landscapes embody community values for health, wildlife and the environment. For private property, Bay-Friendly landscaping addresses issues that your clients care about, such as lower water or garbage bills as well as increased environmental benefits.

As a landscape professional you can be proactive. You can be a part of the environmental solution rather than waiting for more severe water conservation and pollution controls that are increasingly likely with our growing population.



PHOTO: KWAI LAM

## Conventional Landscaping

Commercial, public and residential landscapes can benefit the owner and the community through their beauty, the recreation they offer, and their positive environmental effects. Trees, for example, can provide shade and reduce energy consumption, absorb air pollutants, reduce stormwater runoff and add to property values.

On the other hand, landscaping can cause damage to the environment, consuming fossil fuels, contributing to pollution of the soil, air and water, and burdening landfill space.

Conventional landscaping often relies on large lawns, non-native plants, abundant irrigation, and heavy use of fertilizers and pesticides. It frequently requires significant mowing, blowing, trimming and removal of plant debris.

Removing all plant debris from the site is one example of an especially damaging practice. It removes food and habitat for birds, insects and beneficial soil organisms. It mines our local soils of nutrients and degrades soil health. Often, the result is an increased dependency on fertilizers and irrigation, as well as greater stormwater runoff, erosion and pollution of the bay.

### Keeping plant debris on-site can:

- Foster living soils
- Increase the organic matter in the soil
- Improve soil structure and reduce compaction
- Retain topsoil
- Create healthier plants
- Reduce the need for irrigation, fertilizers and pesticides
- Reduce the air pollution from transporting plant debris long distances to be processed or landfilled
- Reduce green house gas emissions caused by plant debris decomposing without oxygen in landfills
- Conserve landfill space
- Restore the soil's ability to absorb and filter water, reducing pollution and stormwater runoff into local creeks and the San Francisco Bay

While it may not be possible or practical to keep all plant debris on site, there are more opportunities to reuse plant debris in our landscapes than are commonly practiced. Adding compost and mulch from off-site sources is also important to fostering living soils and sustainable landscapes.



***“To continue working with standard landscape practices is to continue to poison the earth. Reducing resource consumption and waste output are things we must learn to do. We have no choice but to adopt ecologically friendly techniques if we wish to thrive in the long term.”***

— Michael Thilgen, Landscape Architect and Contractor,  
Four Dimensions Landscape Company, Oakland

***“Our urban landscapes are really a major cause of environmental degradation and depletion.”***

— Bob Perry, Landscape Architect,  
Professor Emeritus Cal Poly, Pomona



### Survey Says...

Almost 50% of single-family households that employ a professional landscaper would pay more for a service that uses environmentally friendly practices.

## Why is Bay-Friendly Landscaping Important?

Over the last decade, there has been a significant reduction in plant debris landfilled in the San Francisco Bay Area, due in large part to residential recycling programs and because tens of thousands of households practice backyard composting. This positive trend reflects the interest of residents in recycling plant debris and reducing waste.

But more needs to be done, as tons of plant debris are still thrown away each year. Twenty-three states have banned or limited the disposal of plant debris in their landfills, however California has not.

State-wide 2.7 million tons of plant debris are landfilled each year. Leaves and clippings alone are sixth out of the ten most prevalent material types in California's overall disposal waste system. (CIWMB, 2003) – In Alameda County alone 110,000 tons of plant debris are still landfilled each year, much of which passes through the hands of a professional landscaper.

Other types of waste, including hazardous wastes, are also generated by conventional landscaping practices. For example, annual disposal of leftover pesticides used by residents costs tens of thousands of dollars for each Bay Area County – and only a fraction of the pesticides are disposed of properly.

Bay-Friendly landscaping diverts plant debris from the landfill by preventing waste in the first place through careful plant selection, watering and fertilizing or reusing plant material through grasscycling, mulch and compost.

Because generating plant debris is linked to a wide range of landscaping practices – such as watering and fertilizing – this integrated solution is essential.

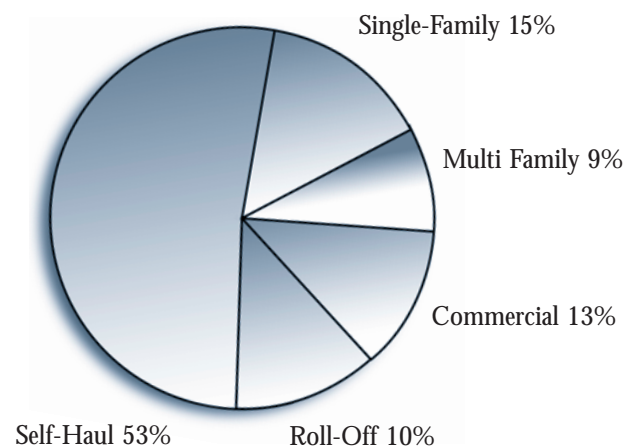
***“For the landscaping industry to perpetuate itself, we have to answer some nagging questions. The number one question is, what are we going to do with all this waste we generate?”***

— Manual L. Gonzales, Director of Training, Cagwin & Dorward, Novato

***“Landscape waste is an unused resource, a misapplied nutrient.”***

— Geoff Hall, Co-founder,  
Sentient Landscape, Inc., Sebastapol

### Plant Debris Disposal



Source: Alameda County, Year 2000  
109,393 tons

### What is a Wasteshed?

A wasteshed is the area of land from which all of the “streams” of refuse from individuals and their communities – flow into the same landfill.

### What is a Watershed?

A watershed is the area of land that water flows across or through on its way to a creek, river, lake, bay or ocean.

All of the land from which water eventually flows into the San Francisco Bay is the SF Bay watershed.

ADAPTED FROM: CREEK CARE GUIDE FOR RESIDENTS OF THE SAN LORENZO CREEK WATERSHED, AC PUBLIC WORKS.

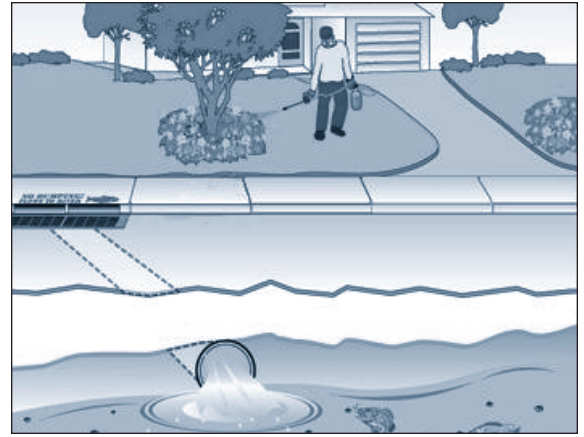
## The Link Between Wastesheds and Watersheds...

Returning organic matter to the soil, in the form of plant debris, is the link between protecting our watershed and conserving landfill space.

In healthy landscapes, water from rain or irrigation percolates through soil that is rich in organic matter and alive with organisms. Living soils absorb and retain much of the water while also filtering out pollutants before the water reaches the aquifer or watershed.

For the most part, conventional landscapes no longer provide this cleansing function because...

1. Rooftops, asphalt, cement, and other impervious surfaces, on the one hand, prevent much of the water from ever reaching the soil.
2. On the other hand, urban soils that have been mined of organic matter, compacted, eroded, and treated with chemicals are often lifeless and no longer able to function naturally – they have lost their ability to absorb much water or to filter pollutants out of the water.
3. Water from irrigation and rainfall then washes pesticides, fertilizers, plant debris, heavy metals, spilled motor oil and other contaminants from lawns, gardens, roads and parking lots into gutters and storm drains.
4. And once in the storm drain, the water is not treated!
5. From storm drains, the polluted runoff flows directly into creeks and rivers, which are themselves important resources for supporting the diverse and complex array of Bay Area natural ecosystems.
6. And, all creeks and rivers in our watershed flow to the wetlands and the San Francisco Bay, where the contaminated water again harms fish and other wildlife and can cause illness in humans.



***The EPA has listed all creeks in the San Francisco Bay Area as impaired due to the pesticide diazinon.***

SOURCE: PROBLEM PESTICIDES, BAY AREA WATER POLLUTION PREVENTION AGENCIES, 2001.



### Survey Says...

Almost 90% of single-family households agree or strongly agree with the statement: "lawn and garden products can have an impact on the water in the bay".



***So... whether your client's site is next to a creek or miles away, your landscaping activities can impact the quality of water in the San Francisco Bay Watershed. This also means...***

***The landscape you design, construct or maintain can be the first line of defense.***