Principles of Integrated Pest Management to Maintain Landscapes Sustainably

Santa Clara Valley Urban Runoff Pollution Prevention Program

Webinar, May 25, 2021

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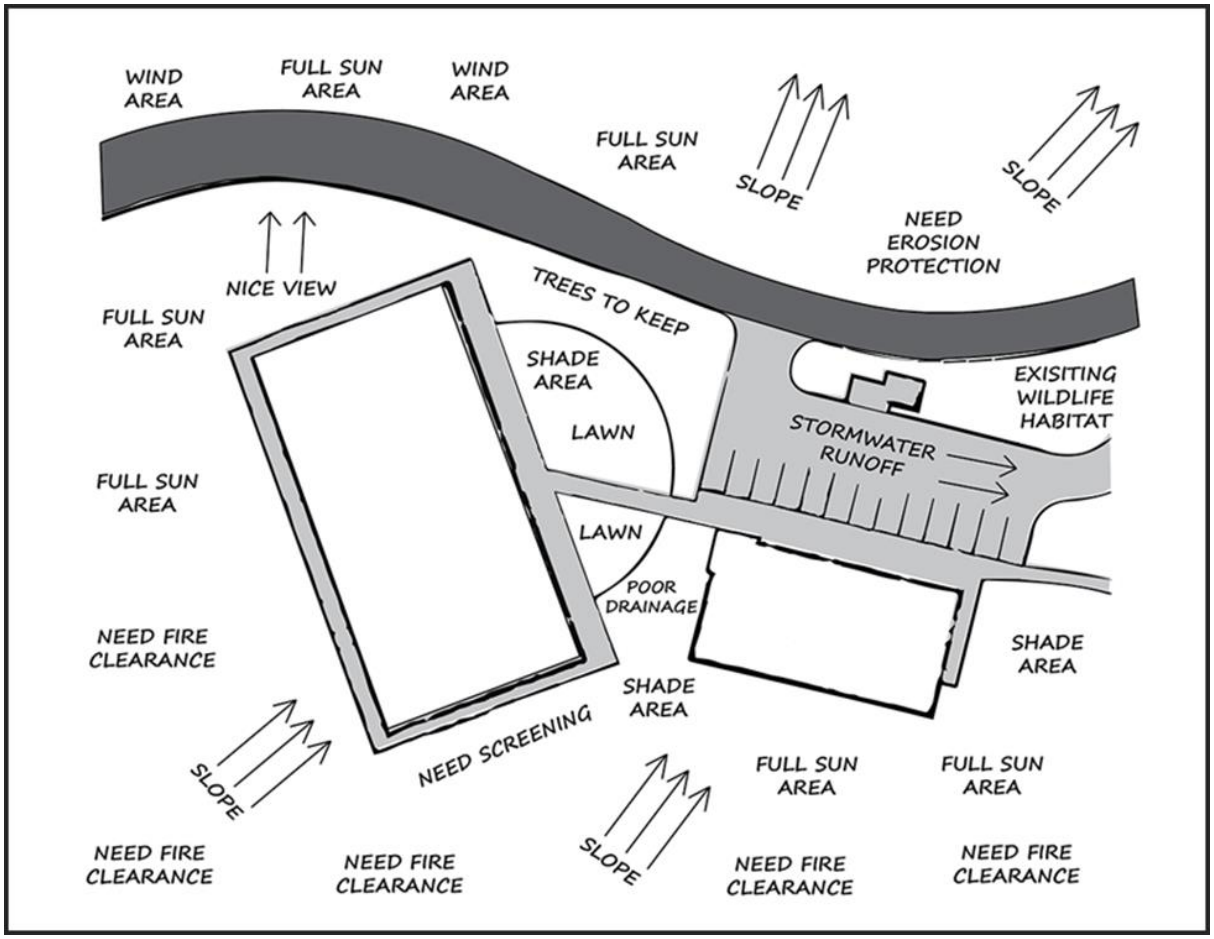
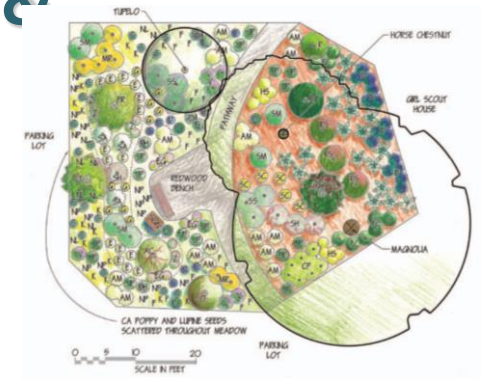
Principles of Integrated Pest Management to Maintain Landscapes Sustainably

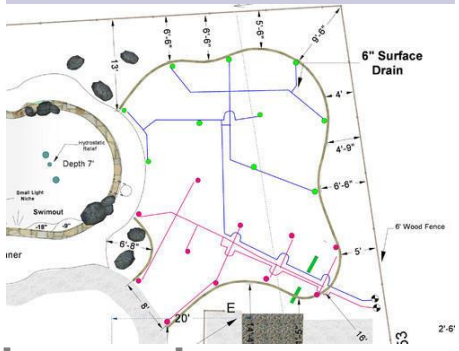
IPM is a holistic approach to control insects, plant diseases, weeds, and other pests through

1. **Pest Prevention by Design and Maintenance Approach**
2. **Correct Pest or Symptom Identification**
3. **Regular Surveying for Pests**
4. **Develop Action Thresholds**
5. **Apply Appropriate Management**

Principle 1: Pest Prevention By Design & Maintenance Approach

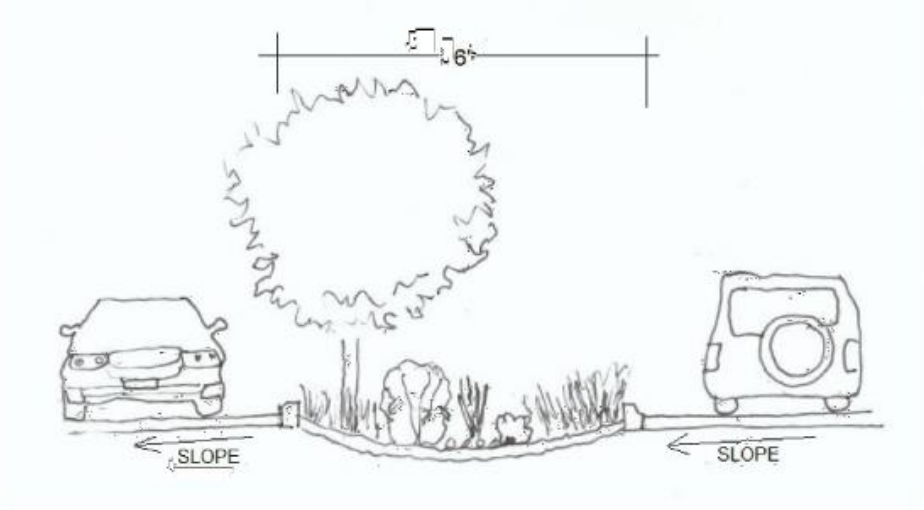


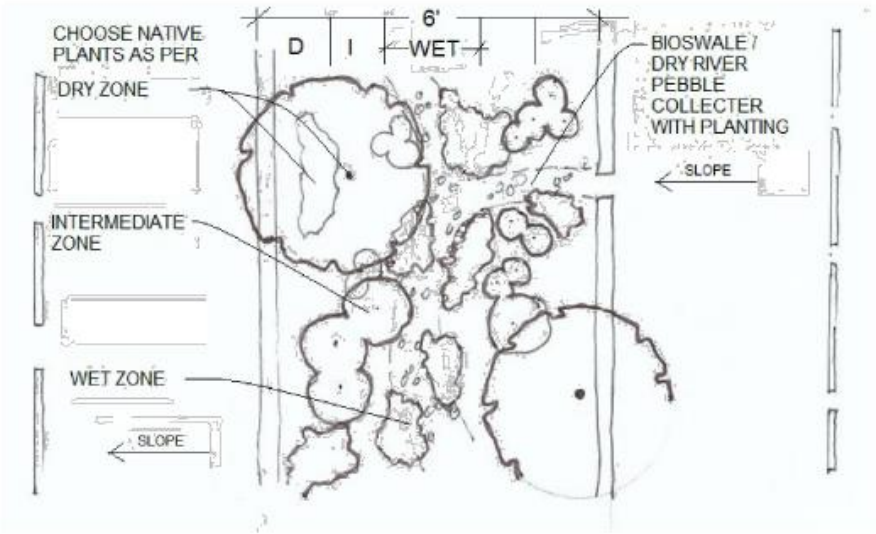




Incorporating maintenance considerations into landscape designs reduces any future pest problems that might arise from inadequate maintenance staffing or resources.

Principle 1: Pest Prevention By Planting Design & Plant Selection





LANDSCAPE CONCEPT PLAN/ SEC : 6' VEGETATED SWALES

6' BIO SWALES - TREES, SMALL SHRUBS/ GROUND COVER & TALL GRASSES

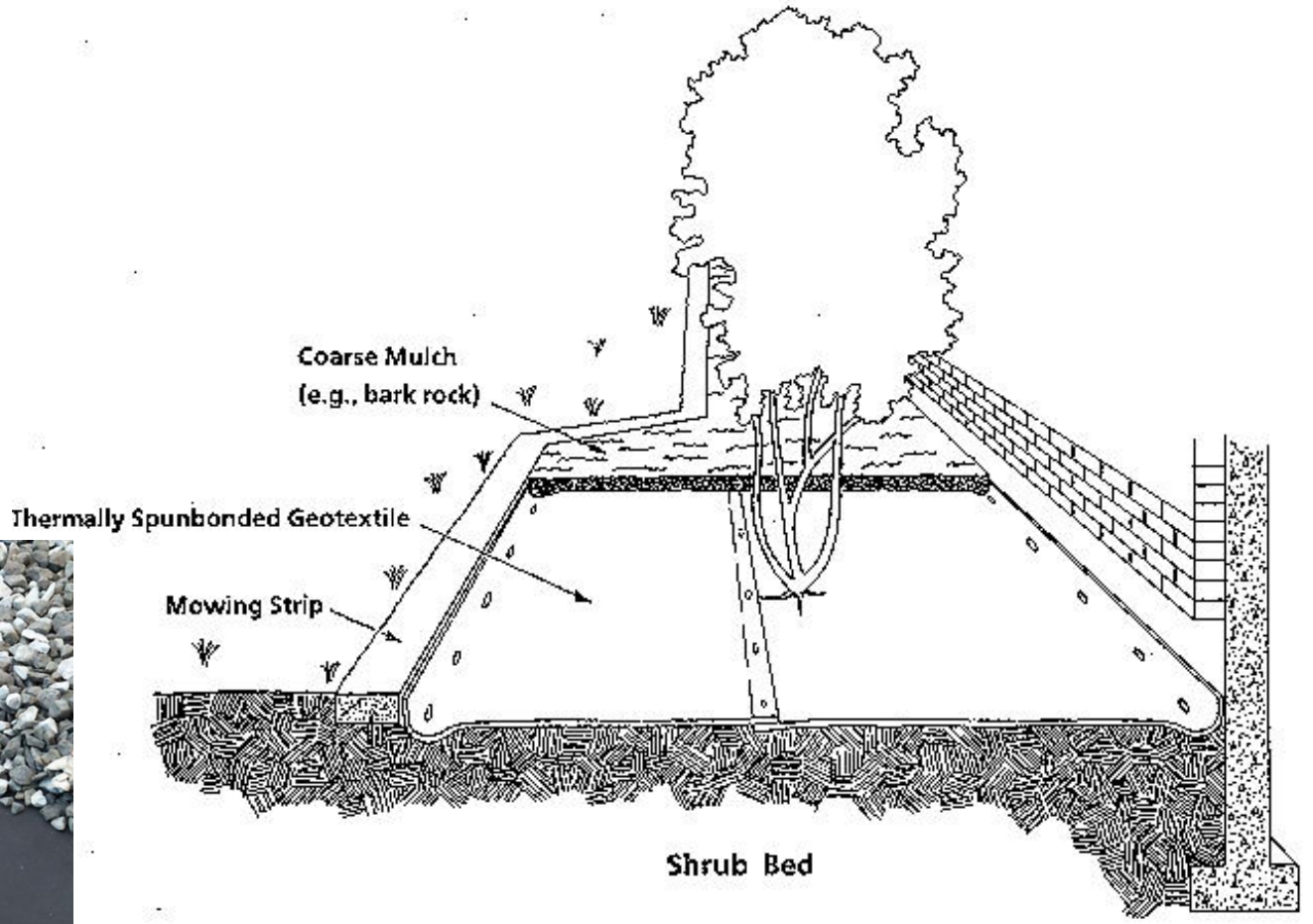
Principle 1: Pest Prevention By Treatment of the Interface Between Different Elements of the Design

Principle 1: Pest Prevention By Mowing Strips and Underlayment

- Mowing Strips/Underlayment
- Tree Wells
- Walkways
- Payment Edges
- Trash Receptables
- Signage/Electrical Poles

Principle 1: Pest Prevention By Use of Geotextiles for Weed Control, Material Separation, and Surface Stabilization

- Weed abatement
- Filtration
- Drainage
- Renforcement
- Protection

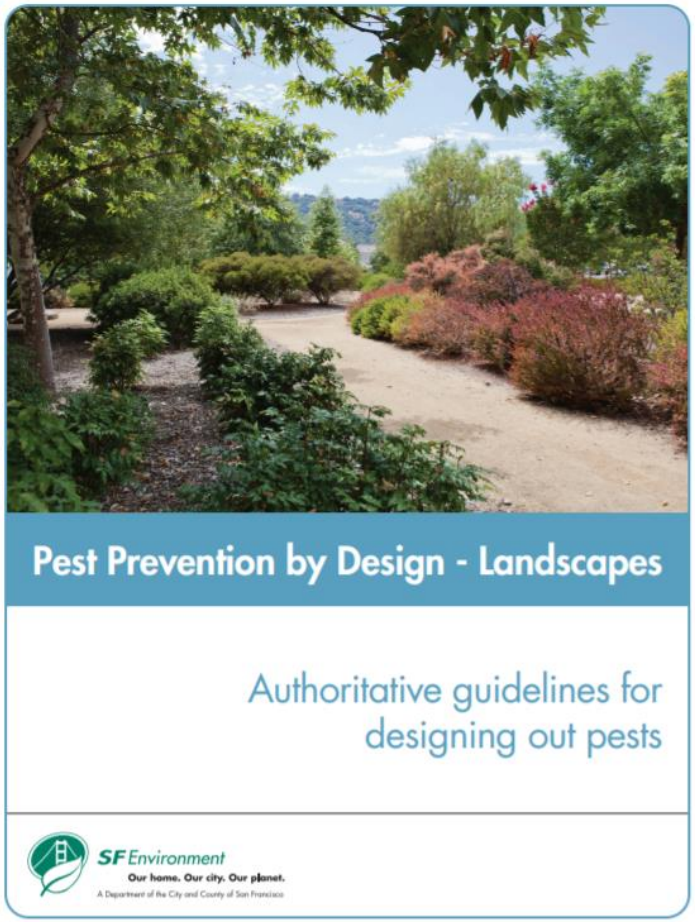


Physical barriers, fabrics, and mulches of various kinds can prevent weeds, insects and mammals from becoming pests in the first place.

Principle 1: Good Construction Practices

Preventing soil compaction reduces invasive exotic weed infestations and the development and spread of biotic (phytophthora, armillaria) and abiotic (oxygen depletion, water logging) diseases.

Principle 1: To Learn More About Pest Prevention By Design and How to How To Design Biodiverse Landscapes Refer To Following Guides:



https://sfenvironment.org/sites/default/files/fliers/files/sfe_th_ppbd-landscapes_030320.pdf

Designing Biodiverse Urban Landscapes on Google's Campus

Thursday, April 29, 2021 | 10:00 – 11:30 AM

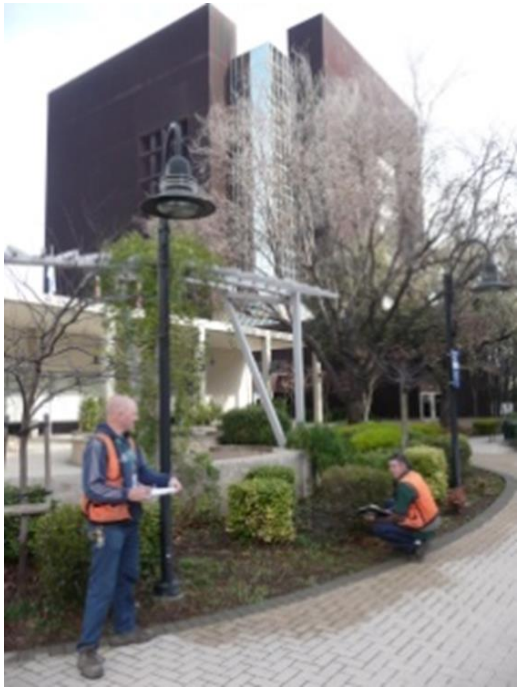
The landscape of the Google campus offers more to Silicon Valley than aesthetics. Google's Ecology program, launched in 2014, aims to expand wildlife habitat, withstand the effects of climate change, and restore ecological functions of the landscape lost to development. The program has supported efforts to "re-oak" Silicon Valley with native valley oaks and expand the footprint of vanishing willow groves by creating new habitats across the campus.

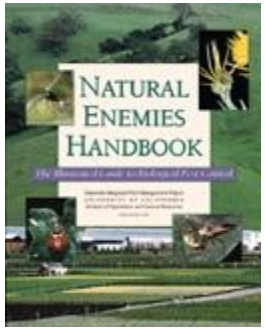
Learn about Google Ecology's science-based, collaborative approach to restoration, as well as public resources available for similar projects in the region.

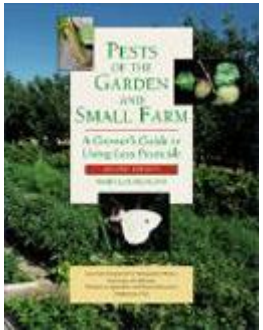
▶ WATCH THE WEBINAR

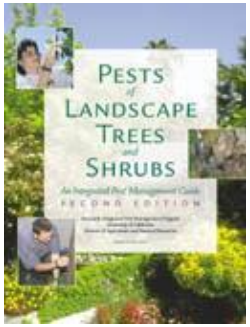
https://canopy.org/more-trees-please/designing-landscape-resilience/

Principle 2: Correct Pest or Symptom Identification is Essential









Principle 2: Ensure to differentiate between Weeds and Desired Turf Grasses

Principle 2: Ensure to differentiate between Pest Damage and Abiotic Disorders

Dull mower blades

Nutrient Deficiency

Excess Fertilizer burn

Herbicide burn

Dog Urine

Puddling

Shade

High traffic

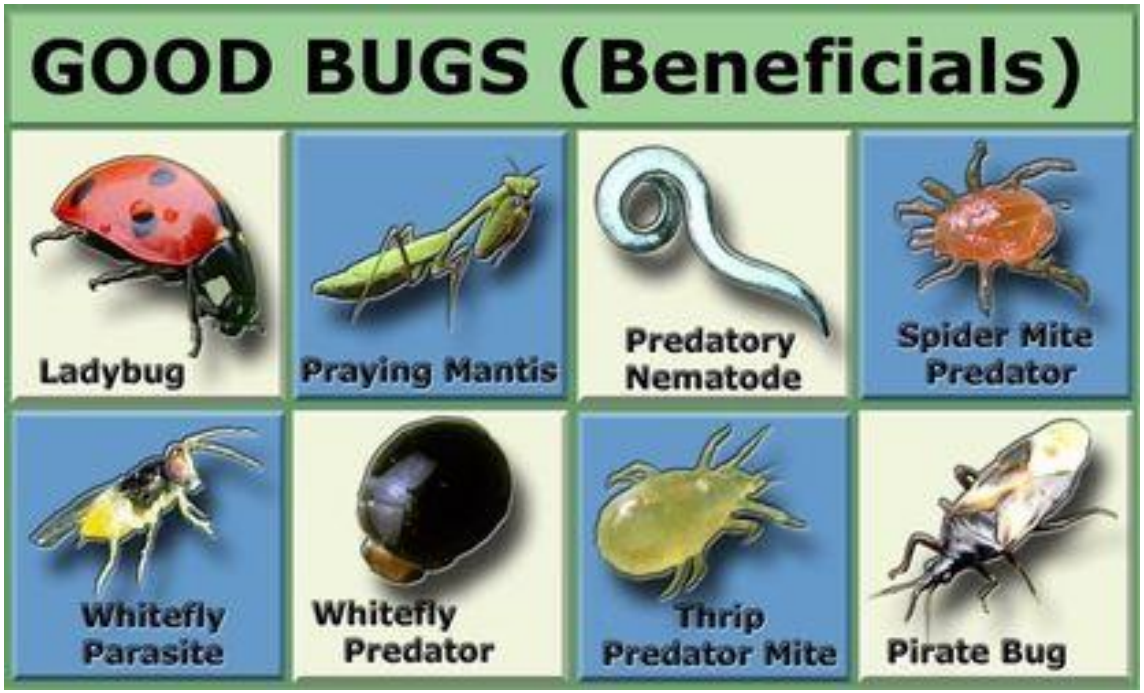
Uneven mowing scalp

Sprinkler head

Uneven fertilization

Areas under items

Principle 2: Ensure to differentiate between Good and Bad Bugs; and Save Good Bugs



Principle 3: Conduct Regular Surveys for Pests

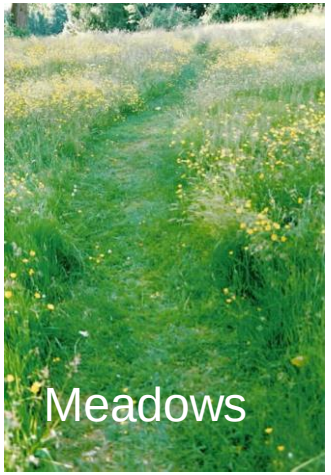

White Grubs


Weeds


Brown Patch

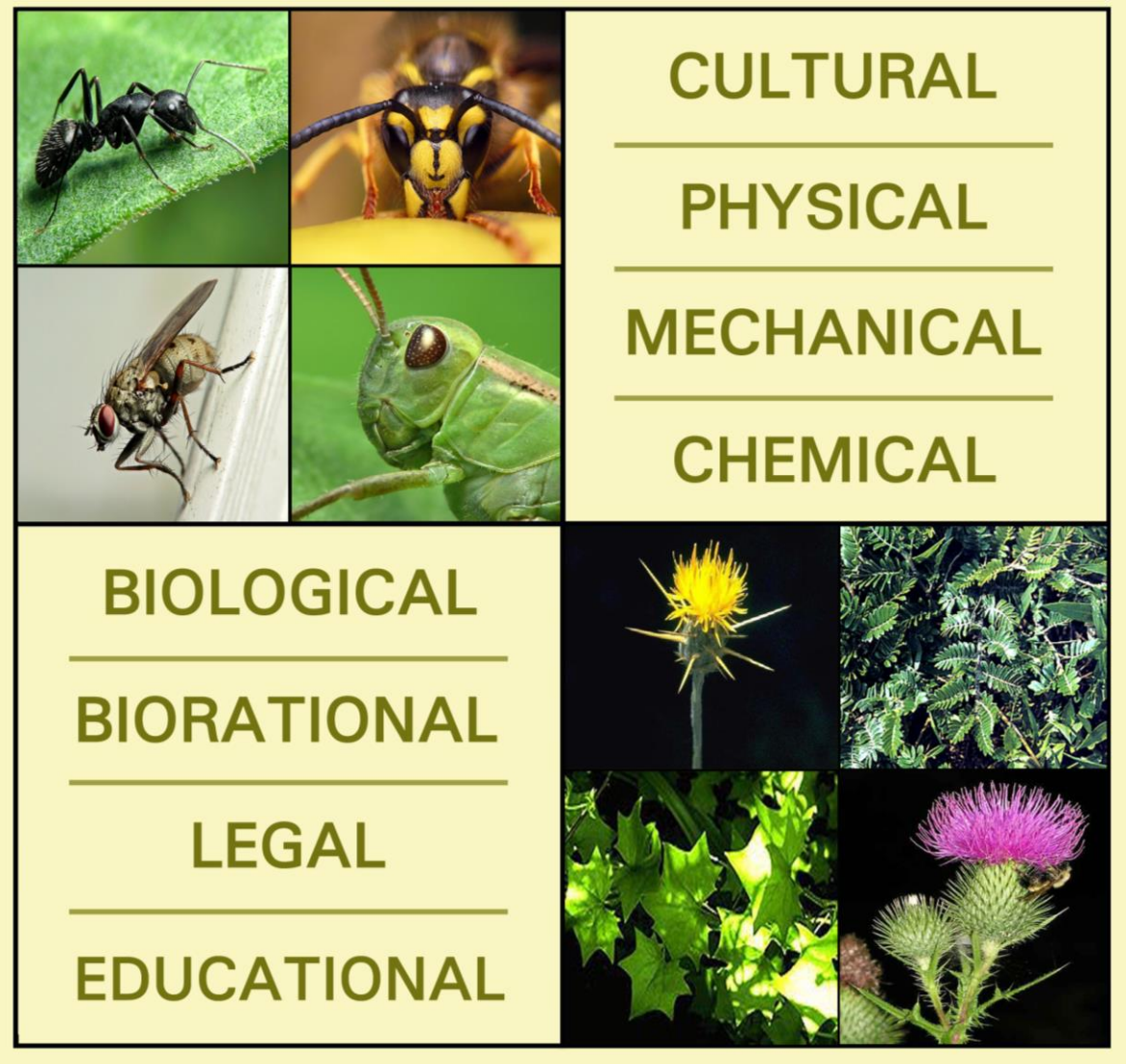

Gophers

Principle 4: Establish Standards and Thresholds



Overall, a landscape has to be functional, maintainable, environmentally sound, cost effective, and visually pleasing

Principle 5: Apply Appropriate Management



Principle 5: Sanitation-Plan for cleaning equipment

In situations where equipment is frequently transported between management sites, such as municipal parks, removing seeds and other plant material from the equipment can greatly reduce the spread of invasive weeds.

Principle 5: Sanitation - Plan for frequent refuse removal

- Removing refuse before it attracts pest populations will reduce pest activity in the vicinity of the garbage containers. Increased sanitation has the potential to reduce pest populations on the entire site.

Principle 5: Proper Use of Pesticides

For Proper Use of Pesticides, Refer to UCANR Guide:
http://ipm.ucanr.edu/WATER/U/watqual.html

Practice Principles of Integrated Pest Management to Maintain Landscapes Sustainably

Remember, implementing IPM principles and practices can lead to

- ✓ More attractive landscape
- ✓ Easier maintenance
- ✓ Lower water, waste, and energy bills
- ✓ Better storm water detention and filtration
- ✓ Better air and water quality
- ✓ Better habitat for wildlife and people
- ✓ High community and property value
- ✓ little or no chemical input

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https://www.sccgov.org/sites/slm/Pages/Home.aspx