Keeping Your Eco-Friendly Landscape Looking Great

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Presentations, Diagrams, & More at ecolandscape.org
Congratulations!

- By choosing to replace your lawn with a water-efficient landscape you are:
  - Saving water
  - Creating a healthy habitat
  - Improving air & water quality
  - Saving yourself work & time
Getting to Know You

- Tell me a little about you & your yard
  - Have you taken other River-Friendly classes?
  - How long since your new landscape was installed?
  - Who did the work: You, pro, both?
  - Who will maintain?
Overview of Class

• Difference between lawn & plant care
• Fertilizer, compost, & mulch
• Plant care & maintenance
• Irrigation system maintenance
• Weed, insect & disease management
• Review by season
• Resources for help throughout
Comparison from 2005-2006
Benefits of the New California Landscape

• Drought is an on-going reality in California
• Saving water is important, even in years of high rainfall.

“Studies found that woody plants and other non-turf plants, in general [even non-waterwise plants], perform well with up to 55% less water than that needed by the average tall fescue lawn.”
–Pittenger & Hodel, May 2015
Benefits of the New California Landscape

• No air & noise pollution from mowers & other power equipment

• Reduced chemical inputs
Benefits of the New California Landscape

- Express your personal style & taste
Benefits of the New California Landscape

- Diversity = Healthier landscape, more habitat for wildlife
Benefits of the New California Landscape

• Less Work =
  – More free time on weekends
  – Ability to leave on vacation without worry
Lawn vs. Plant-based Yard

• Traditional lawn-based yard care is routine & fairly mindless
  – Water
  – Fertilize
  – Mow
  – Repeat
  – Repeat
  – Repeat

• Easy, but...
Lawn vs. Plant-based Yard

- Plant-based landscape requires less work, but a little more knowledge
  - Know your plants
    - How they grow
    - What they need
  - Understand nature’s systems
  - Know when NOT to do anything
Nature as our Guide

• Mother Nature has been growing beautiful landscapes for millennia without our “help”
Nature as our Guide

• The truth is we don’t **have** to do anything
  – A well-designed landscape needs little maintenance
  – A healthy, balanced eco-system has few pests or diseases
  – Plant selection & our desire for tidiness determines amount of work required
• Mother Nature does not have a gardening service
  – In many cases we do not have to fertilize
  – In fact, fertilizing incorrectly causes more problems than it solves
Fertilizer

- We should “feed” the soil, not the plants
  - Microorganisms breaking down organic material release nutrients in a form plants can absorb & use
- Synthetic fertilizer can destroy soil biology
The Downsides of Synthetic Fertilizer

• Causes quick tender growth that attracts sucking insects

• Causes dense growth that impedes good air flow > fungal diseases

• Extra growth = Need for extra pruning > openings for pathogens
• Environmental problems arise when excess fertilizer leaves your yard & gets into waterways
The Downsides of Synthetic Fertilizer

• Many plants native to California, Australia, & New Zealand suffer in nutrient-rich soils
When to Fertilize or Amend

• Ideally, soil should be tested & amended appropriately prior to plant installation
• May want to add water insoluble nitrogen (organic sources) in first 2 years after installation to assist growth as plants mature
When to Fertilize or Amend

• Heavy-blooming plants (roses, perennials) may deplete nutrients that need to be replenished over time
• Apply in spring & early fall
• Don’t apply just before a rain event
• Add on top of soil; no need to mix in
When to Fertilize or Amend

• A decrease in plant health/performance ("scrawny" growth, yellowing leaves, poor bloom) *may* indicate need for nutrients

• But rule out & fix other causes 1st
  – Improper water or sun
  – Pests or disease
  – Temperature extremes, air or soil
  – Compacted soil
  – Wrong pH level
When to Fertilize or Amend

- If soil pH is out of range—too acidic or alkaline—plants may not be able to access nutrients that are in the soil
- Adjust with sulfur to lower (acidify), lime to raise pH
- Always test before & after adding/adjusting
Choosing a Fertilizer

- What do the numbers mean?
- Higher is NOT better
Choosing a Fertilizer

- Water soluble/insoluble
- “Balanced”/single ingredient
Choosing a fertilizer

- Organic/Mineral
  - Slow & steady
  - Longer lasting
  - Certifications

- Synthetic
  - Quick effect
  - Boom/bust
  - Invites pests
  - Harms biota
Compost

- Nature’s way of fertilizing
  - Recycling of nutrients
  - Decomposed organic matter
Compost

• Hard to go wrong adding compost
  – Improves soil structure
  – Feeds soil micro-organisms
  – Making your own keeps yard “waste“ from going to landfill
Compost

• Choose quality
  – Garbage in, garbage out
  – Should not be able to recognize original ingredients
  – Fully decomposed
  – Should smell good
  – Should no longer feel warm
Fertilizer/Compost

• Take-away messages
  – Fertilizer…
    • Is not needed in mature, healthy landscapes
    • Synthetic does more harm than good
    • Choose organic when needed
  – Compost…
    • Feeds good soil micro-organisms
    • Can be the solution to many problems
    • Can be safely used anytime
Mulch

• Goes on top of the soil, never mixed in
• Can be organic (from living matter) or abiotic (rock, rubber)
Mulch

• The Bountiful Benefits of Mulch
  – Conserves water by retaining soil moisture
  – Moderates soil temperature
  – Protects irrigation components from the elements
  – Controls weeds
  – Reduces dust, soil compaction, & erosion
  – Harbors worms & other beneficial soil organisms
  – Adds nutrients as it breaks down
Mulch

- Size & shape matters
• Replenish as it breaks down
• Aim for at least 3 inches deep
Mulch

- Keep it away from base of plant
Mulch

- Mulch is #1 key to success in plant-based landscapes
- Worth the expense
- As plants fill in, let them mulch themselves (unless they are dropping diseased leaves)
Questions?

Resources
sacmg.ucanr.edu/Composting/
www.ecolandscapre.org/riverfriendly/topics/topics.html

Questions on Fertilizer, Compost, or Mulch?
Plant Care & Maintenance

• **Type** of care needed is broadly based on
  – The type of plant you’re caring for
    • Trees & woody shrubs, perennials, sub-shrubs, ornamental grasses
  – Its growth habit

• **Amount** of care needed will depend on
  – The specific plants in your yard
  – Your preference for tidiness
Plant Care & Maintenance

- Trees & woody shrubs - The big stuff with stiff brown stems & branches
  - Redbud
  - Indian hawthorn
  - Rosemary
  - Bottlebrush
  - Lorapetalum
  - Manzanita
  - Pittosporum
  - Crape Myrtles
  - Butterfly bush
  - Roses
  - Ceanothus
  - Grevillea
  - Junipers & other Conifers
  - Berberis/Barberry
• No fertilizer needed once mature (except maybe roses)
• Add compost
• Mulch & avoid compaction
• Keep crown/base clear of mulch & leaves
• When in doubt, don’t prune (with a few exceptions)
Trimming & Pruning

• Most pruning can be avoided by having right-sized plants for the space available
Trimming & Pruning

• Remember that plants will grow!
What is wrong with this picture?
Hedging & Heading Cuts

- Every cut creates a wound, an opening for pests & diseases
- The more you prune, the more you’ll have to
Effects of Topping Trees or Shrubs

• Stress response: Rapid weak growth prone to insect attack, hazards from poor branch attachment

• Plant or tree never regains natural shape

• DON‘T TOP TREES!
Proper Tree Pruning

• Important to train young trees (< 3 years old)
• Making wise small pruning cuts with a hand-held pruner or lopper when young avoids traumatic chain-saw cuts later
• Many workshops & guides available
  Sacramento Tree Foundation: www.sactree.com
• Best to call an arborist for mature trees
When Pruning is Needed

• To remove dead, diseased, crossing branches
• To increase air circulation
• To increase flowering
• To maintain shape (remove “rogue” branches”)
• To rejuvenate some CA natives
Proper Pruning Techniques

• Make thinning cuts
• Best done during winter (summer for some CA natives)
• Remove no more than \( \frac{1}{4} - \frac{1}{3} \)
• Smaller cuts better
• Use sharp, clean tools
Proper Pruning Techniques

- When removing diseased branches, disinfect tools between cuts
- Do NOT leave stubs
- Do NOT use sealant
Caring for Woody Shrubs

• Some common shrubs/trees you may want to prune regularly
  – Crape Myrtles, *Lagerstroemia*
  – Butterfly Bushes, *Buddleia*
  – Roses, *Rosa*
  – Some California native shrubs
Caring for Woody Shrubs
Crape Myrtles

• Crape Myrtles, *Lagerstroemia*, bloom on new growth
• Many sizes, know what kind you have
Caring for Woody Shrubs
Crape Myrtles

Crape myrtles: Late February/Early March: Selectively thin out branches to allow better circulation. OK to head smaller branches (thinner than pinky). Remove twiggy growth.
Caring for Woody Shrubs
Butterfly Bushes

- Butterfly bushes, *Buddleia*, need pruning for best bloom and structure

- In Summer:
  - As blooms fade, cut branches back to a set of leaves
  - Repeat if desired
Caring for Woody Shrubs

Butterfly Bushes

In Winter: Cut 1/3-1/2 of the oldest branches all the way back to ground; cut remaining branches to 1/3 of length
Caring for Woody Shrubs
Carpet Roses

• Carpet Roses do best with selective pruning & occasional fertilizing
  – Summer (optional): Prune back to outward facing buds to shape, refresh blooms and keep tidy
Caring for Woody Shrubs

Carpet Roses

• Carpet Roses may get too dense over time
  – Winter (every 2-3 years): Remove some large branches to increase air flow, which will decrease likelihood of fungal diseases
Caring for Woody Shrubs
Carpet Roses

– Winter (every 2-3 years): Shorten remaining branches by cutting to an outward facing bud
– Clear leaves & mulch away from base
Caring for Woody Shrubs
California Natives

- California Natives: Summer fires were normal in pre-settlement California
- Some native shrubs, especially those from chaparral eco-systems, adapted accordingly
- Mimic the action of fire by coppicing - Cutting older plants to the ground to lengthen life
- Alternatively, replace when old or ugly

California Lilac, *Ceanothus*
Caring for Woody Shrubs
California Natives

Coyote bush, *Baccharis*
Plant Care & Maintenance

• Perennials—The pretty stuff with soft, green, floppy stems & lots of flowers; some “die” back in winter

  California fuchsia  Achillea/Yarrow
  Catmint         Gaura
  Coreopsis       Santa Barbara Daisy
  Asters          Euphorbia
  Echinacea       Ornamental Oregano
  Lantana*        This is but a tiny sample
Perennials
Add Life to Garden
Caring for Perennials

• Need occasional trimming
  – Summer: Deadheading of spent flowers
  – Winter: Removal of dead stems
  – Early Spring: Pinching back to increase bloom (optional, not all need)

• Keep crowns clear of mulch & leaves

• Benefit from regular applications of compost or balanced organic fertilizer
Caring for Perennials

Shearing

- Cutting many stems at once (deadheading)
- Should only be done on soft stem growth
- Done to remove spent flowers
Caring for Perennials
“Mowing”

• Cutting within a few inches of ground
  – A way to refresh groundcovers
  – Winter clean-up

Carpet Bugle, *Ajuga repens*
Caring for Perennials

• What looks terrific during growing season may look awful or dead in winter
  – Trim back dead material when you can’t stand looking at it, but best after 1st frost.
Caring for Perennials

• One example: Yarrow, *Achillea*
Caring for Perennials

• Another example: Catmint, *Nepeta*
Caring for Perennials

• One more example: Lantana
Caring for Subshrubs

- Subshrubs - Halfway between perennials & woody shrubs
  - Woody at base, with soft outer branches
    - Lavendar
    - Sages, *Salvia* (some)
    - Breath of Heaven, *Coleonema*
    - Wormwood, *Artemisia* (some)
    - Bluebeard, *Caryopteris*
    - Germander, *Teucrium* (some)
  - May require combo of shearing & pruning
Caring for Subshrubs

- Subshrubs can sometimes be a little trickier to prune/trim well
  - It’s okay to leave them alone, but…
  - Without trimming, they eventually
    - Get proportionally more woody
    - Don’t bloom as well
    - May flop or crack apart
  - Different species of same genus may respond differently, so there is no hard & fast guideline
Caring for Subshrubs

• Some common sub-shrubs
Caring for Subshrubs

• **General guidelines**
  – (Optional) Shear lightly in early spring, before bud development to encourage multiple stems
  – Deadhead after 1\textsuperscript{st} bloom by shearing
  – Can prune back a little harder after 1\textsuperscript{st} frost, but never cut into wood below green sprouts
Caring for Subshrubs
Plant Care & Maintenance

**Dicots**
- Daisies
- Lavender
- Roses
- Ceanothus
- Photinia
- Oak trees
- Blue flax (*Linum lewisii*)

**Monocots**
- Grasses
- Lilies, Iris
- Agapanthus
- Bamboo
- Palm trees
- Agave
- New Zealand flax (*Phormium tenax*)
Plant Care & Maintenance

Dicots
Growth point at tips

Monocots
Growth point at ground level
Plant Care & Maintenance

Dicots
Growth point at tips

Monocots
Growth point at_ground_level
Caring for Grasslike Plants

• Don’t treat ornamental grass-like plants like lawn grass
  – Any time you cut the leaf - of any plant - it results in a wound that will only look worse as time goes by
  – Remove dead or damaged leaves - the whole leaf - at the base

Photo from Crimes Against Horticulture
Caring for Grasslike Plants

• Fortnight lily, African iris, *Dietes*

DON’T shear or chop from top!!!
Caring for Grasslike Plants

- Fortnight lily, African iris, *Dietes*
  - Hand pull dead leaves & flower stalks (or cut at base)
Caring for Grasslike Plants

- New Zealand Flax, *Phormium*
  - Remove dead or unsightly leaves by cutting off at base
Caring for Grasslike Plants

• Clean up smaller grass-like plants the same as the large ones
  – Remove dead leaves & flowers at the base
  – Divide & share when they spread too wide
Caring for Ornamental Grasses

– Some are evergreen & just need annual “combing” with a rake to remove dead blades
– Blue oat grass, *Helictotrichon*; Idaho Blue fescue, *Festuca idahoensis* (both cool season)
Caring for Ornamental Grasses

– Another “evergreen” (warm season)
  Deer grass, *Muhlenbergia rigens, M. dubia*
– Comb with rake every year, fall or late spring
– Can be cut to ground every 3-5 years to rejuvenate (simulate fire)
Caring for Ornamental Grasses

• Warm season grasses
  – Pink muhly, *Muhlenbergia capillaris*
  – Fountain Grass, *Pennisetum*
Caring for Ornamental Grasses

• Warm season grasses
  – Maiden Grass, Japanese Silver Grass, *Miscanthus*
Caring for Ornamental Grasses

• Other warm season grasses
  – Grama Grass, *Bouteloua*
  – Japanese Forest Grass, *Hakonechloa*
  – Alkali sacaton, *Sporobolus*
  – Switch Grass, *Panicum*
Caring for Ornamental Grasses

• Warm season grasses
  – Most of growth occurs in summer
  – Blooms late summer, fall
  – Many turn brown in the fall
    • Some remain attractive, but can be cut to the ground if you don’t like the look
  – Trim back in late spring before new growth
  – Divide in late spring to summer
Caring for Ornamental Grasses

• Cool season grasses
  – Growth occurs in spring before temps reach 75°F and again in fall
  – Blooms early summer
  – Some turn brown after bloom

Reed Grass,
*Calamagrostis x acutiflora*

Giant Feather Grass,
*Stipa gigantea*
• Cool season grasses
  – Cut in late winter, leaving 1/3 of leaf length
    • Trimming too short can damage or kill
  – Divide in spring or fall
Caring for Ornamental Grasses

• If you don’t know what you have (warm or cool season)…
  – Cut when dead or “ugly”, leaving 4-6” above ground
  – Not best advice, merely safest bet
Questions?

Resources:
EcoLandscape California Plant Profiles
http://www.ecolandscape.org/new-ca/plant_profiles.html
UC Davis Arboretum All-Stars
http://arboretum.ucdavis.edu/arboretum_all_stars.aspx

Any Questions on Pruning and Plant Care?
Irrigation Maintenance

• Keeping things running properly
• Scheduling: Getting the right amount of water where it needs to go & when it needs to be applied
• Adjusting as your landscape matures
How Well Do You Know Your Irrigation System?

- Controller
- Zones, valves
- Sprinklers, bubblers, drip?
- Soil
• Flush lines & clean drip filters at least once, preferably twice, a year

• Change controller battery if necessary
Maintenance & Repairs

- It is critical to check for leaks, clogs, & other problems
  - At beginning of season
  - Check periodically throughout the year
  - Run each zone, 1 by 1
  - Walk around, look & listen for leaks
Make Sure Water is Going Where You Want It

- Check for Run-off
  - Leaks?
  - Compacted or high-clay soil?
  - Slope?

- Irrigate in multiple short cycles if necessary

- Is water actually making it to plant roots?
Make Sure Water is Going Where You Want It

• Irrigate to depth of root zone
  – Check with soil probe
  – For best root depth and health, run system fewer days for longer cycle each time (exception is sandy soils)
Make Sure Water is Going Where You Want It

- Symptoms of overwatering & underwatering can look similar
- More plants killed by overwatering
- Find out what’s happening below the surface
Scheduling & Seasonal Adjustments

• Need to know how long to water?

EcoLandscape.org
Resources > Resource Lists > Irrigation Scheduling
Irrigation Scheduling Tool

• Need to know how long to water?

Welcome to the Sacramento Region Smart Irrigation Scheduler

Calculates run-time minutes per week for a single sprinkler or drip zone. See videos

NEW • Scheduling for drip zones is included.
• Register to save multiple zones & controllers.

Zone 1

<table>
<thead>
<tr>
<th>Plant Material</th>
<th>Mixed plants</th>
</tr>
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<tbody>
<tr>
<td>Exposure</td>
<td>Full sun</td>
</tr>
<tr>
<td>Wind</td>
<td>Moderate</td>
</tr>
<tr>
<td>Slope</td>
<td>Steep</td>
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<td>Soil</td>
<td>Clay loam</td>
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<td>Irrigation Type</td>
<td>Emitter</td>
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**CURRENT** Weekly Watering Schedule (based on past 7 days weather data)

<table>
<thead>
<tr>
<th></th>
<th>MINUTES PER CYCLE</th>
<th>CYCLES PER DAY</th>
<th>DAYS PER WEEK</th>
<th>MINUTES PER WEEK</th>
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<td>4</td>
<td>4</td>
<td>1</td>
<td>16</td>
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<tr>
<td>Watering Index 19%</td>
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</tbody>
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See schedule based on historical weather data
Irrigation Scheduling Tool

- Need to know how long to water?

Welcome to the Sacramento Region Smart Irrigation Scheduler

BASEd ON CURRENT WEATHER

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See schedule based on historical weather data
• Need to know how long to water?

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<tr>
<td>(based on historical weather data)</td>
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<tr>
<td>January</td>
<td>3</td>
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<td>1</td>
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<td>4</td>
<td>1</td>
<td>28</td>
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<td>May</td>
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<td>56</td>
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<td>2</td>
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<tr>
<td>August</td>
<td>9</td>
<td>4</td>
<td>2</td>
<td>72</td>
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Scheduling & Seasonal Adjustments

• If you can’t figure out controller or schedule
  – Read the manual (Search for it online)
• If you still can’t figure it out, get help from your water supplier
  – Water-wise house calls
  – Rebates

• Remember: Turn system OFF in the winter
Making Adjustments as Plants Mature

• What do you have? Point Source or Grid?
Making Adjustments as Plants Mature

• As your plants grow, will your irrigation system still get the job done?
  – If a grid of inline tubing, did installer use plugs? If so, remove plugs as plants mature.
Making Adjustments as Plants Mature

- If you have a point source drip system you will need to move & add emitters as plants mature

New planting  Additional emitters for mature shrub
Making Adjustments as Plants Mature

• Move emitters & driplines away from trunks and bases of shrubs
  – To help avoid root rot
  – To avoid things like this ➔
Making Adjustments as Plants Mature

• As plants mature, you may need to adjust
  – How often you water (not as often)
  – How long system runs (longer to reach deeper roots)

• For CA native plants you may only need to water once a month after they’re established (year 3+)
Making Adjustments as Plants Mature

• Remember, mature trees (>5 yrs.) need to have **deep** watering once a month through summer
  – Especially if they were used to getting regular water from a nearby lawn
  – Irrigate to drip line (tree’s shadow at noon) and beyond
Making Adjustments as Plants Mature

- Adding circular rings as trees grow
Dry Stream Beds

• Slightly related to irrigation…
• Blow leaf debris out of dry stream beds (& rock mulch areas) at least once a year
Dry Stream Beds

Left to decay, leaf debris will decompose & create a medium in which weed seeds will germinate.
Any Questions About Irrigation Maintenance?
Great news: More than ½ the battle with pests is already won because of the features we have already talked about:

- Diversity of plantings = Healthy eco-system
- Compost + Mulch – chemical fertilizers = Healthy soil and happy plants
- Proper pruning, care, watering = Healthy plants
Pest Management

- Healthy gardens are complex systems composed of a wide diversity of plants, animals, insects & micro-organisms. There are no “pests” in nature.
• We humans need to learn to relax, back off and let Mother Nature do the work.

• IPM (Integrated Pest Management) seeks to achieve human aim (pretty garden) with the least detrimental effect on environment.
Pest Management

• Why are pesticides bad?
  – Harmful to earthworms, soil microbes, natural enemies, birds, bees, & other pollinators
  – Toxic to humans as well
    • Mode of action of synthetic pesticides is biochemical: Affects hormones, nervous system, enzymes & other biological processes of organisms
  – Can produce resistant pests
  – Energy-intensive to produce
  – Pollute waterways
Pest Management

The best fertilizer is a gardener’s shadow
—ancient proverb
Pest Management

• Know your own tolerance for pests & damage - Is it really a problem?
  – Many problems resolve themselves
• Correctly identify the problem
  – It isn’t always what you think
  – Address cause, not symptom
• Get help with ID if necessary
  – Master Gardeners
  – UCIPM Website
  – Nursery Pros
Pest Management

• Use the least toxic method to manage the pest without harming non-target organisms
Pest Management Resources

ipm.ucanr.edu

- Info by pest or plant
- Weed ID
- Good bug gallery

University of California
Agriculture and Natural Resources
Integrated Pest Management Program
Pest Management Resources

ourwaterourworld.org
“Ask our expert”
Fact sheets online & in stores
Shelf tags marking least toxic products
Pest Management
Weeds

• Weeds – the biggest chore in a plant-based landscape
Pest Management
Weeds

• Prevention is best control
• Mulch, mulch, mulch!
  – Deprives weed seeds of sun needed to germinate
  – Weeds that break through mulch are easier to pull
Pest Management

Weeds

- Hoe, hoe, hoe! – mechanical removal
- Pull early, pull often – by hand
- Before they go to seed
Pest Management

Weeds

- Pre-emergent: corn gluten (also a source of N)
- Flamers
- Hot water
- Vinegar
- Clove & other oils
Pest Management
Insects

- Least toxic methods: stomp, squish, squirt, trap
Pest Management

Insects

• Even organic, least toxic products will affect “good” bugs

• Apply carefully and when non-target insects are not present
  – Water
  – Soap
  – Oils
  – Biological Controls
Common Insect Pests
Snails, Slugs, Earwigs

• Snails & earwigs seek out cool, moist areas. Lay out traps in these areas.
  – Shallow can, top edge at soil level, with ¼" tuna or vegetable oil or beer in bottom
  – Rolled up newspaper, old hose, wood board, inverted melon rind
  – “Harvest” and dispose of them in morning
Common Insect Pests
Snails, Slugs, & Earwigs

• Other snail & slug management measures
  – Copper barriers
  – Iron phosphate bait
Common Insect Pests
Aphids & Scale

• Aphids are drawn to young, tender growth
  – Many kinds, most common in spring
  – Monitor & blast off with strong spray of water
  – Lady beetle & syrphid fly larvae will eat
  – Insecticidal soap, neem oil, only if really bad
Common Insect Pests
Aphids & Scale

• Scale is an insect pest that attacks woody plants & trees
  – Control with horticultural oil in dormant season
Common Insect Pests
Aphids & Scale

- Aphids & scale suck out plant juices & excrete "honeydew" which is attractive to ants
- Ants will protect aphids from their predators, so to control aphids & scale, go after the ants
Common Insect Pests
Spider Mite & Whitefly

• Controlled by natural enemies; important to not spray things that will kill “good guys”
  – Spray off with water
  – Insecticidal soap or oils if necessary
Common Fungal Pests
Rust & Black Spot

- Especially on roses in wet, warm spring
- Tolerate until weather conditions change
- Make sure plants have been pruned to allow good air circulation
- Remove, rake up, & discard leaves
- Avoid overhead watering
Common Fungal Pests
Rust & Black Spot

• Preventative oil or sulfur spray during dormant season if problem in past
• Treat w/ least toxic fungicides
  – Potassium bicarbonate
  – Neem or other botanical oils
  – *Bacillus subtilis*

Black Spot on Rose Leaf in Fall
Yellowing is seasonal, not symptom
Common Fungal Pest
Powdery Mildew

• Especially crape myrtles in summer
  – Remove/dispose affected leaves, branches
  – Blast with water when 1st noticed
  – Follow with potassium bicarbonate or horticultural or neem oil
    (oils only if temp. <90°)
  – *Bacillus subtilis*
Root & Crown Rots

- Can cause catastrophic failure of trees and shrubs
- Fungal & bacterial causes
- Prevention is more successful than treatment
  - Avoid overwatering
  - Improve drainage
  - Clear mulch & leaves away from base of trees & shrub
Pest Management

• Don’t be scared off by what you’ve just seen… worst case possible pests of a whole year crammed into 10-15 minutes

• Remember: You are starting with a happier, healthier ecosystem that is more naturally resistant to pests

• A hand’s-off approach is best

• Leave pest control to Mother Nature
Nurturing the Good Critters in the Garden

- Recognize, protect, & nurture all the beneficial insects in your environment
Nurturing the Good Critters in the Garden

- Provide food for beneficials in the form of flowers & avoid spraying insecticides
  - My kind of pest control!
Review
Main Tasks by Season

- Spring
  - Test/repair irrigation
  - Pull & hoe weeds
  - Apply compost
  - Add mulch if needed
  - Watch for aphids, snails, & slugs, fungal diseases
Review
Main Tasks by Season

• Spring
  – Go to a plant sale
  – Take a wildflower hike
  – Watch your kids’ sports
  – Or... (insert your favorite activity here)
Review
Main Tasks by Season

• Summer
  – Monitor irrigation
  – Add emitters if plants have grown
  – Pull weeds
  – Remove spent blooms
  – Watch for powdery mildew, mites
  – Give trees good soak
Review
Main Tasks by Season

- Summer
  - Prune CA natives in late summer
  - Go on vacation without worrying about garden
  - Relax in your garden sipping your favorite beverage
  - Or... (insert your favorite activity here)
Main Tasks by Season
Fall

- Fall
  - Reduce irrigation
    Turn off once rain starts
  - Pull weeds
  - Refresh mulch if needed
  - Clean up fallen leaves
    - Compost healthy
    - Discard diseased
  - Blow debris from dry river beds
Main Tasks by Season

Fall

- Clean & sharpen tools
- Go to a plant sale (this *is* the *best* time to plant)
- Enjoy the butterflies and hummingbirds in your yard
- Watch your kids‘ sports
- Or... (insert your favorite activity here)
Main Tasks by Season
Winter

- Winter
  - Pull weeds
  - Irrigation OFF, hand water if needed
  - Prune shrubs
  - Remove dead parts of perennials, grasses
  - Continue leaf cleanup
  - Preventative sprays if needed
Main Tasks by Season
Winter

- Winter
  - Protect sensitive plants from frost
  - Use trimmings from conifers & berried plants for decorations
  - Snuggle by the fire with your favorite beverage watching birds through the window
What Will You Do with Your Free Time?
Keeping Your Eco-Friendly Landscape Looking Great

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For more information, visit
www.EcoLandscape.org