Lawn Replacement with a Native Garden!
By Deva Luna

My goal in this presentation is to help DIY homeowners who want to replace their imported landscapes and lawns with California native plants, birds and butterflies. I want to stress that this is NOT the same as hiring a professional landscape designer or contractor who has spent decades honing his or her craft. They earn their money and provide a guaranteed product. Also, please don’t hire unlicensed operators who aren’t insured, bonded or properly trained. They don’t pay worker’s compensation or disability, and if an accident occurs on your property, you are completely liable for all costs and can even lose your home. ‘Nuf said.

Steps for landscape design:
1. Goals
2. Budget
3. Site Analysis
4. Base Map
5. Balloon Diagram
6. Select Plants

Design Concepts
- The rule of odd numbers
- Massing
- Layering
- Repetition
- Contrast
- Function

Try to create year-round interest
Bones: hardscape that is attractive, bold and functional
Bones can also be structural permanent trees and shrubs
Guts: outstanding and beautiful perennials
Skin: ground covers that tie it all together visually
Accents: focal points to draw the eye

Common mistakes:
- The collector’s garden (one of everything!) looks a jumble
- Overplanting – learn the mature size of plants
- Not enough contrast between plants – many CA natives have small leaves
- Designing by flower color – flowering is only a fraction of the year
- Not creating conditions for the plants to thrive
- Mixing different hydrozones, so some plants are over or underwatered
- Not maintaining the garden, this gives natives a bad reputation

What do you need for the design?
- Measuring tape(s)
- Ruler (but an architect’s scale is easier)
- Large piece of paper (gridded is easier)
- Compass or another way to find north

What does professional landscape design usually cost?
- Typical landscape designer rates are around $75-$125/hr
- Landscape architects are higher (usually 10-12% of construction cost)
- Average front yard design costs range from $1000 to $2500
- Average backyard design costs range from $2000 to $4000
### What do I need for the installation?

**Necessary**
- Plan: 10 examples at City of San Jose website
- Gloves (my favorite is Atlas Nitrile Grip)
- Shovel
- Rake/pitchfork
- Wheelbarrow
- Pruners (for drip tubing)
- Garden hose

**Optional**
- Pick to remove shrub roots
- Lawnmower or string trimmer
- Truck is handy for compost, but it's also deliverable
- Plumbing tools, if you are changing your system to drip (pipe wrench, PVC pipe cutter, etc.)
- Good friends!

### What tools do I need?

**Necessary**
- Newspaper or builder’s paper
- Free mulch
- Compost
- Plants
- Drip irrigation parts, including a pressure reducer & filter
- (or a willingness to hand water)

**Optional**
- Mycorrhizae
- Compost Tea
- Purchased mulch
- Boulders
- Focal elements like bird bath, bench, sculpture, pots

### Special instructions if you are landscaping on a slope

- If steep, you may wish to terrace
- Mulch on newspaper just slides off so instead, use a sandwich of shredded redwood bark, jute with 6” sod staples, topped with more bark (“gorilla hair”)
- Valves need to be 12” above the highest irrigation lines or have backflow device between water source and valves
- Place emitters above the plant
- Separate zones on the contour, not up and down
- Water the top of hill more than the bottom

### Soil testing

- Soil testing is best done as part of the design process.
- Do a simple jar test, and a drainage test

### What does professional landscaping cost, in the Bay Area?

- Demo, planting, lawn, irrigation only $10-12/sft
- Typical yard, softscape & average amount of hardscape $16 to $21/sft
- More complex with more hardscape $32 to $43/sft & up
Costs, if you do all the work yourself (If you already own or can borrow the tools)

- Plants: $5-12 each for small plants (4”-1 gallon)
- Mulch: $33/yard woodchips, $72/yard bark, $32/yard arbor chips at Lyngso
- Irrigation: $250-$300 includes 2 new valves and timer
- Compost: $40+/yard, municipal compost is less
- Compost Tea: $8/gallon, get 3-4 gallons which can be diluted
- Builders paper: $15 for a 3’x140’ roll (doubled covers 200sft)
- Staples $60/1000, but can get smaller amount
- Sod Cutter rental: $100 for 2 hours (This is only if you have Bermuda Grass. Rented sod cutters can be temperamental; it’s helpful to have two people.)

Sources for materials

Plants

- Capitol Wholesale Nursery – good selection of natives, will sell retail
  2938 Everdale Drive, San Jose  www.capitolwholesalenursery.com
- Yerba Buena Nursery, now in Half Moon Bay
- Native Revival Nursery – great plants, and other retail items, demo garden
  2600 Mar Vista Dr. Aptos, CA 95003  www.nativerevival.com
- California Native Plant Society an annual plant sale, in October, at Hidden Villa

Mycorrhizae

- Capitol Wholesale Nursery, see above
- Most retail nurseries

Compost, Mulch, Boulders & Flagstone for stepping stones

- Lyngso Garden Materials 345 Shoreway Rd, San Carlos, 94070
  www.lyngsogarden.com (650) 364-1730
- South Bay Materials 1781 Angela St, San Jose, CA 95125 (408) 977-1855
- U-Save Rockery 589 E Gish Road, San Jose CA 95112
  www.usaverockerysanjose.com

Irrigation Parts

- Home Depot & Orchard Supply (be careful of the ½” tubing size!)
- Ewing Irrigation (wholesale/will sell retail) 1735 Rogers Ave, San Jose
  www.ewing1.com
- Horizon Irrigation (will sell retail) 1990 Stone Ave, San Jose, CA 95125
  www.horizononline.com

Free Arbor Chips

- Use the phone book and start politely calling tree trimming companies
- Lyngso sells (and delivers) cleaned arbor chips, for $32/yard

Live Compost Tea

- Lyngso Garden Materials (usually on Wednesdays, call ahead)
- Mauby All Natural  Brian Debasitis  www.mauby.com

Brew your own Compost Tea

- KIS Organics  www.kisorganics.com/pages/simplici-tea

Builder’s Paper  (Don’t get the one with waterproofing!!!)

- Lyngso Garden Materials 345 Shoreway Rd, San Carlos, 94070
  www.lyngsogarden.com
Lessons from EarthCare’s *Natural Front Yards* program

- Sustainable landscaping ideals of material re-use and minimal disruption
- Affordable lawn replacement using natives in sheet mulch
- www.naturalfrontyards.com
- Not for Bermuda or Oxalis (different treatments)

**STEP-BY-STEP PROCESS**

1. Remove unwanted shrubs
2. Cap off sprinkler system underground
3. Scalp lawn (optional)
4. Cut back edges near hardscape, 4” deep, 18” strip, tapered up to lawn
5. Mound the extra soil in a natural shape
6. Cover everything with 5 layers of newspaper (or 2 layers builder’s paper and arbor chips)
7. Plant small plants in planting pockets with mycorrhizae & compost
8. Install drip lines
9. Cover with attractive mulch
10. Spray with compost tea (AACT)

**Organic Bermuda Grass control:**

1. Water the soil 3 days before removal.
2. Rent a sod-cutter, make two passes (about 1 ½” each) to remove most rhizomes.
3. Remove to the landfill or other location to dry out thoroughly (then reuse the soil)
4. Rototill lightly, and rake out Bermuda
5. Follow up by spot hand weeding anything that re-sprouts

**Organic Oxalis (Oxalis pes-caprae) control:**

I haven’t really found any (sigh). Persistent hand pulling before it flowers, for three years. Weeding can be combined with lots of smothering, but will need to replenish paper/cardboard annually. Chickens do eat oxalis.

**CALCULATOR: How to calculate how much compost and mulch you need**

Bulk materials like compost and mulch are measured in cubic yards. To figure how many yards you need: Multiply the width by the length to get your square footage. Then multiply that by the number of inches of depth you want. Then divide by 324. **Example:** to put 4” of mulch on a 20’ x 30’ area = 600sft

\[
4 \times 600 = 2400 / 324 = 7.4 = 7 \frac{1}{2} \text{ yards.}
\]

**MAINTENANCE OF A CALIFORNIA NATIVE GARDEN**

- Without a lawn, you will no longer need weekly maintenance
- Periodic additions of mulch when needed
- It is best to keep blowers to a minimum (rake the autumn leaves, or add to mulch)
- No pesticides (kills the good bugs and the soil biology)
- Selective shaping; no pruning with a electric hedge shears
Quarterly Maintenance Schedule

Spring
• Turn on irrigation system
• Check irrigation system for leaks, broken lines
• Apply compost tea

Summer
• Keep an eye on irrigation, adjust as necessary
• Watch for pests (Integrated Pest Management)
• Replenish mulch if needed
• Some deadheading (remove dead flowers to encourage bloom)

Fall
• Turn down irrigation timer
• Rake leaves (put in compost pile)
• Cut back perennials after bloom
• Groom grasses
• Hand weeding
• Apply compost tea

Winter
• Turn off irrigation system
• Continue hand weeding where needed
• Pruning of woody trees and shrubs

Resources
Case study in Santa Monica with comparison costs, plant lists, etc.
https://www.smgov.net/Departments/OSE/Categories/Landscape/Garden-Garden.aspx
(just Google Santa Monica garden/garden)

Best book for maintenance (Spanish and English)
Care & Maintenance of Southern California Native Plant Gardens
by Bart O’Brien. Out of print, see if you can find an old one originally printed by Rancho Santa Ana Botanic Gardens

Books for design
Reimagining the California Lawn (Water-conserving Plants, Practices, and Designs)
Carol Bornstein, David Fross, Bart O’Brien

Designing California Native Gardens
(The Plant Community Approach to Artful, Ecological Gardens)
Glenn Keator and Alrie Middlebrook

To find a certified Green Gardener:
http://www.mywatershedwatch.org/findgardener.html

To find a landscape professional who specializes in California Natives, for design, installation or maintenance:

Deva Luna       EarthCare Landscaping       408-871-2792
### Ground covers for shade

<table>
<thead>
<tr>
<th>Botanic Name</th>
<th>Common Name</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asarum caudatum</td>
<td>Wild Ginger</td>
<td>good under redwoods</td>
</tr>
<tr>
<td>Oxalis oregana</td>
<td>Redwood Sorrel</td>
<td>good under redwoods</td>
</tr>
<tr>
<td>Fragaria vesca</td>
<td>Woodland Strawberry</td>
<td>good under oaks</td>
</tr>
<tr>
<td>Fragaria chiloensis</td>
<td>Beach Strawberry</td>
<td>spreads by runners</td>
</tr>
<tr>
<td>Ribes viburnifolium</td>
<td>Evergreen Currant</td>
<td>arcing, good under oaks</td>
</tr>
<tr>
<td>Satureja douglasii</td>
<td>Yerba Buena</td>
<td>fragrant underfoot, under oaks</td>
</tr>
<tr>
<td>Mahonia aquifolium repens</td>
<td>Creeping Mahonia</td>
<td>slowly spreads</td>
</tr>
<tr>
<td>Salvia spathacea</td>
<td>Hummingbird Sage</td>
<td>can also take sun, fragrant leaves</td>
</tr>
</tbody>
</table>

### Perennials for shade

<table>
<thead>
<tr>
<th>Botanic Name</th>
<th>Common Name</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquilegia formosa</td>
<td>Western Columbine</td>
<td>blooms tall, red with yellow</td>
</tr>
<tr>
<td>Heuchera maxima</td>
<td>Island Alum Root</td>
<td>vigorous plant, white flowers</td>
</tr>
<tr>
<td>Heuchera sanguinea</td>
<td>Coral Bells</td>
<td>several cultivars</td>
</tr>
<tr>
<td>Iris douglasiana</td>
<td>Pacific Coast Iris</td>
<td>purple or yellow, strap like leaves</td>
</tr>
<tr>
<td>Polystichum munitum</td>
<td>Western Sword Fern</td>
<td>fern for dry areas</td>
</tr>
<tr>
<td>Woodwardia fimbriata</td>
<td>Western Chain Fern</td>
<td>tall fern for moister areas</td>
</tr>
</tbody>
</table>

### Shrubs that can take part shade

<table>
<thead>
<tr>
<th>Botanic Name</th>
<th>Common Name</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Carpenteria californica</td>
<td>Island Bush Anemone</td>
<td>white flowers, bright green leaves</td>
</tr>
<tr>
<td>Mahonia aquifolium</td>
<td>Oregon Grape</td>
<td>can also be a hedge or screen, fruits</td>
</tr>
<tr>
<td>Ribes sanguineum</td>
<td>Pink Flowering Currant</td>
<td>pink flowers followed by fruit, deciduous</td>
</tr>
<tr>
<td>Symphoricarpus albus</td>
<td>Snowberry</td>
<td>deciduous</td>
</tr>
</tbody>
</table>

### Grass or grass-like

<table>
<thead>
<tr>
<th>Botanic Name</th>
<th>Common Name</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Juncus patens</td>
<td>Common Rush</td>
<td>sun or shade, hardy</td>
</tr>
<tr>
<td>Festuca idahoensis ‘Siskyou Blue’</td>
<td>Idaho Fescue</td>
<td>better with water</td>
</tr>
<tr>
<td>Festuca californica</td>
<td>California Fescue</td>
<td>tall, can take some shade</td>
</tr>
<tr>
<td>Carex tumulicola</td>
<td>Berkeley Sedge</td>
<td>adaptable, sun/shade</td>
</tr>
<tr>
<td>Muhlenbergia rigens</td>
<td>Deer Grass</td>
<td>large architectural focal grass</td>
</tr>
<tr>
<td>Sisyrinchium bellum 'Rocky Point'</td>
<td>Blue Eyed Grass</td>
<td>small flowering plant for sun</td>
</tr>
</tbody>
</table>

### Ground Covers for sun

<table>
<thead>
<tr>
<th>Botanic Name</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Arctostaphylos edmundsi ‘Carmel Sur’</td>
<td>Groundcover Manzanita</td>
<td>better choice than thirsty Arcto. Uva-ursi ‘Emerald Carpet’</td>
</tr>
<tr>
<td>Baccharis pilularis ‘Pigeon Point’</td>
<td>Coyote Bush</td>
<td>can spread far, can be cut back hard</td>
</tr>
<tr>
<td>or ‘Twin Peaks II’</td>
<td>California Lilac</td>
<td>can spread 8’ in a 3 years</td>
</tr>
<tr>
<td>Ceanothus griseus horiz. ‘Yankee Point’</td>
<td>California Buckwheat</td>
<td>spreads 4’, great pollinator</td>
</tr>
<tr>
<td>Eriogonum fasciculatum ‘Warriner Lylte’</td>
<td>Saint Catherine’s Lace</td>
<td>difficult to find</td>
</tr>
<tr>
<td>Rhamnus californica ‘Sea View’</td>
<td>Dwarf Coffeeberry</td>
<td>spreads 10’ but looks better with annual pruning</td>
</tr>
<tr>
<td>Salvia sonomensis or ‘Bee's Bliss’</td>
<td>Groundcover Sage</td>
<td></td>
</tr>
</tbody>
</table>

### Perennials for sun

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Achillea millefolium</td>
<td>Yarrow</td>
<td>typically with white flowers</td>
</tr>
<tr>
<td>Artemisia pycnocephala ‘David’s Choice’</td>
<td>Sandhill Sage</td>
<td>short lived, but lovely feathery grey/blue foliage</td>
</tr>
<tr>
<td>Dudleya sp.</td>
<td>Stonecrop</td>
<td>several varieties of succulents</td>
</tr>
<tr>
<td>Epilobium ‘Calistoga' or 'Everett's Choice'</td>
<td>California Fuchsia</td>
<td>scarlet hummingbird attractor, cut back in fall</td>
</tr>
<tr>
<td>Erigeron glaucus ‘Wayne Roderick’</td>
<td>Beach Aster</td>
<td>purple flowers</td>
</tr>
<tr>
<td>Eriogonum giganteum</td>
<td>Saint Catherine’s Lace</td>
<td>5’ tall flowering statement</td>
</tr>
<tr>
<td>Eriogonum grande var rubescens</td>
<td>Rosy Buckwheat</td>
<td>pink flowers</td>
</tr>
<tr>
<td>Eriogonum umbellatum ‘Shasta Sulfur’</td>
<td>Sulfur Buckwheat</td>
<td>yellow flowers</td>
</tr>
<tr>
<td>Heterotheca villosa ‘San Bruno Mountain’</td>
<td>Hairy False Goldenaster</td>
<td>several colors of flowers, looks better with summer water</td>
</tr>
<tr>
<td>Mimulus aurantiacus</td>
<td>Monkey Flower</td>
<td>purple flowers</td>
</tr>
<tr>
<td>Monardella villosa</td>
<td>Coyote Mint</td>
<td></td>
</tr>
</tbody>
</table>
**Shrubs for sun**

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td><em>Penstemon heterophyllus 'Margarita BOP'</em></td>
<td>Foothill Penstemon</td>
<td>purple/blue flowers, cut back after bloom</td>
</tr>
<tr>
<td><em>Salvia 'Winnifred Gilman'</em></td>
<td>Sage</td>
<td>3'-5' fragrant sage, deep color flower</td>
</tr>
<tr>
<td><em>Verbena liliacina 'De la Mina'</em></td>
<td>Cedros Island Verbena</td>
<td>long-blooming purple flowers</td>
</tr>
</tbody>
</table>

**Shrubs for sun**

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<tbody>
<tr>
<td><em>Arctostaphylos densiflora 'Howard McMinn'</em></td>
<td>Manzanita</td>
<td>Garden adaptable, 3'-5' tall, takes pruning easily</td>
</tr>
<tr>
<td><em>Arctostaphylos bakeri 'Louis Edmunds'</em></td>
<td>Manzanita</td>
<td>medium size, upright specimen</td>
</tr>
<tr>
<td><em>Arctostaphylos pajoensins 'Paradise'</em></td>
<td>Manzanita</td>
<td>spreading wide</td>
</tr>
<tr>
<td><em>Artemisia californica</em></td>
<td>California Sagebrush</td>
<td>fragrant leaf, can take pruning or it becomes shaggy</td>
</tr>
<tr>
<td><em>Ceanothus thyrsiflorus 'Skylark'</em></td>
<td>California Lilac</td>
<td>spring bloom, blue</td>
</tr>
<tr>
<td><em>Ceanothus 'Dark Star'</em></td>
<td>California Lilac</td>
<td>spring bloom, blue</td>
</tr>
<tr>
<td><em>Galvezia speciosa</em></td>
<td>Island Bush Snapdragon</td>
<td>arching, red flowers, hummingbirds</td>
</tr>
<tr>
<td><em>Rhamnus californica 'Eve Case'</em></td>
<td>Coffeeberry</td>
<td>looks good year-round, berries for birds</td>
</tr>
</tbody>
</table>

**BOTANIC NAME** | **COMMON NAME** | **NOTES - this list from Deva Luna**

**Tall shrubs for screening**

<table>
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<tr>
<th>Botanical Name</th>
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</tr>
</thead>
<tbody>
<tr>
<td><em>Heteromeles arbutifolia</em></td>
<td>Toyon</td>
<td>white flowers, red berries, usually multi-trunk</td>
</tr>
<tr>
<td><em>Myrica californica</em></td>
<td>Wax Myrtle</td>
<td>can be sheared or small tree (12'-20')</td>
</tr>
<tr>
<td><em>Prunus illicifolia or Iyon</em></td>
<td>Hollyleaf Cherry</td>
<td>makes a tall hedge or small tree, fruits</td>
</tr>
</tbody>
</table>

**Trees**

<table>
<thead>
<tr>
<th>Botanical Name</th>
<th>Common Name</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Acer circinatum</em></td>
<td>Vine Maple</td>
<td>native substitute for Japanese Maple, typically multi-trunk</td>
</tr>
<tr>
<td><em>Acer macrophyllum</em></td>
<td>Big Leaf Maple</td>
<td>tall, fast growing deciduous local maple</td>
</tr>
<tr>
<td><em>Aesculus californica</em></td>
<td>Buckeye</td>
<td>beautiful flowers, bark and fruits, can loose leaves in late summer in response to drought</td>
</tr>
<tr>
<td><em>Arctostaphylos 'Dr. Hurd'</em></td>
<td>&quot;Dr. Hurd&quot; Manzanita</td>
<td>awesome bark &amp; structure, 12' x 12'</td>
</tr>
<tr>
<td><em>Ceanothus 'Ray Hartman'</em></td>
<td>California Lilac</td>
<td>one of the largest Ceanothis; available pruned as a tree</td>
</tr>
<tr>
<td><em>Cercis occidentalis</em></td>
<td>Western Redbud</td>
<td>multi-trunk tree, typically, pink flowers in spring</td>
</tr>
<tr>
<td><em>Quercus agrifolia</em></td>
<td>Coast Live Oak</td>
<td>Local, dense evergreen oak</td>
</tr>
<tr>
<td><em>Quercus lobata</em></td>
<td>Valley Oak</td>
<td>Large fast-growing deciduous oak</td>
</tr>
<tr>
<td><em>Sambucus mexicana</em></td>
<td>Elderberry</td>
<td>fast growing, multi-trunk tree, edible blue berries</td>
</tr>
<tr>
<td><em>x Chitalpa tashkentensis</em></td>
<td>Chitalpa</td>
<td>fast, deciduous hybrid (between Catalpa and Desert Willow) with showy flowers</td>
</tr>
</tbody>
</table>

**Possible espaliers or on trellis**

<table>
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<tr>
<th>Botanical Name</th>
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</tr>
</thead>
<tbody>
<tr>
<td><em>Garrya elliptica 'James Roof'</em></td>
<td>Silk Tassel</td>
<td>Willowy branches can be espaliered</td>
</tr>
<tr>
<td><em>Ceanothis 'Yankee Point'</em></td>
<td>California Lilac</td>
<td>Usually 8’ wide, this can be pruned narrow and 8’ high</td>
</tr>
<tr>
<td><em>Ribes viburnifolium</em></td>
<td>Evergreen Currant</td>
<td>A reasonable size &quot;vine&quot; for a fence in part shade</td>
</tr>
</tbody>
</table>