

This presentation premiered at WaterSmart Innovations

watersmartinnovations.com





eGuide to a WaterSmart Lifestyle

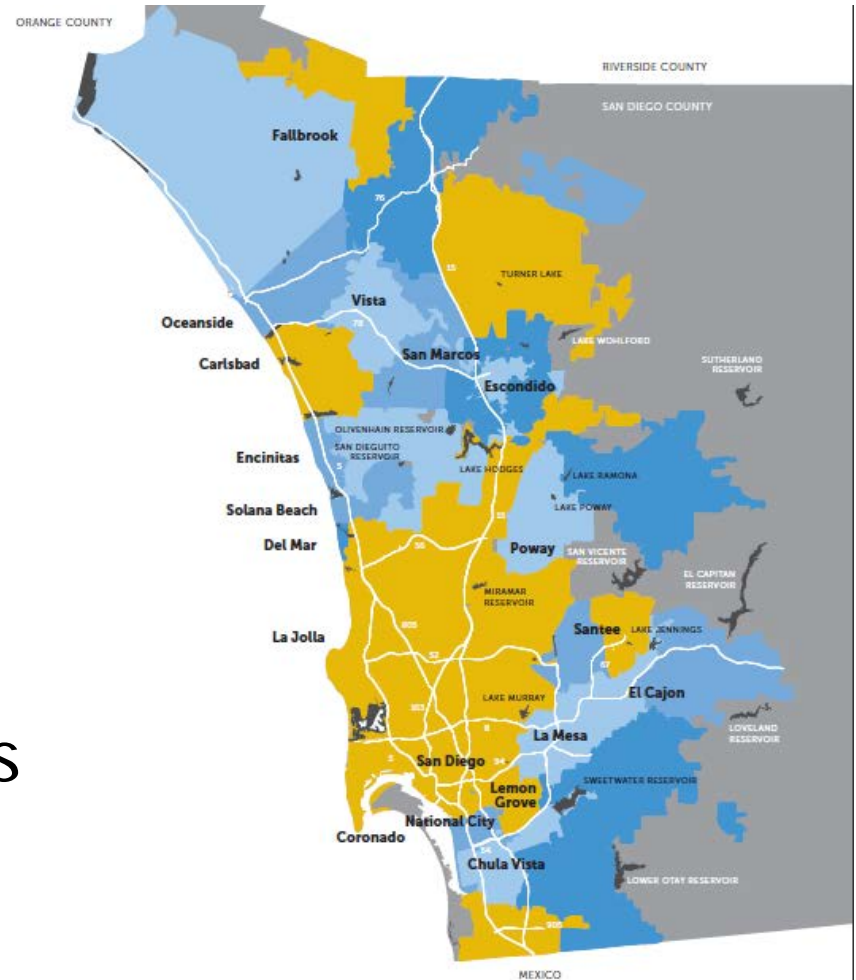
A single-family homeowner's go-to guide for water-use efficiency

watersmartsd.org/residential-guide

Kelly Mooney

San Diego County Water Authority

- Wholesale water agency
- Serves:
 - 24 member agencies
 - 3.1 million people
 - Region's \$188 billion economy
- Service area
 - 950,000 acres
 - 97 percent of county's population



eGuide Goals

Help member agencies meet 20x2020 targets

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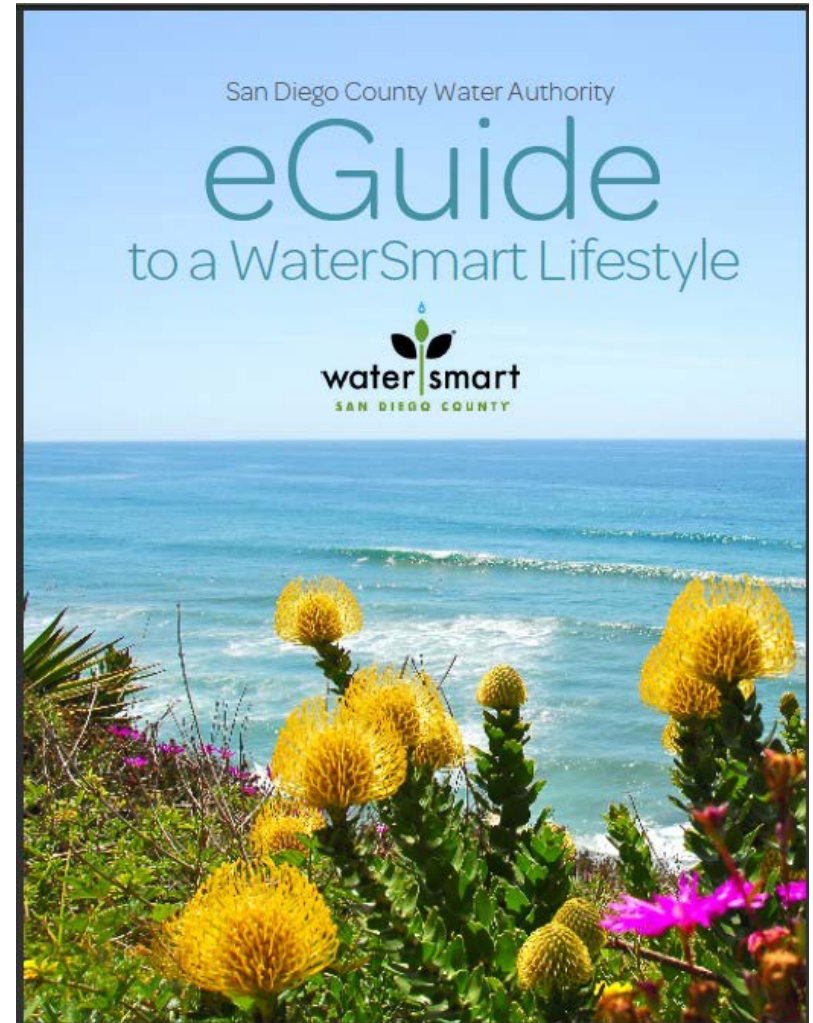
Inspire, educate and empower homeowners to take water-efficient actions

.....

Foster long-term behavioral change & market transformation

.....

Reinforce WaterSmart brand and lifestyle



eGuide Stakeholder Involvement

Funding for the eGuide to a WaterSmart Lifestyle provided by the Hans and Margaret Doe Charitable Trust. The San Diego County Water Authority would like to thank the people who contributed their time and knowledge to the development of this guide.

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This guide is intended to be used for general informational purposes; the guide does not take the place of professional advice. Please consult with appropriate landscape and/or plumbing professionals for site-specific advice prior to making changes to your plumbing, landscape or irrigation systems.

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eGuide Features

This is a Flipbook

a digital magazine that you can access from any computer or tablet - at home or work or on the road

The fun thing about a flipbook is how easy it is to share with friends. Email or Tweet a link to the guide, like it on Facebook, and open the photo library to pin plant and garden photos. Click on the camera icon at the top of a left or right page and the photo library will open in a separate window. This digital format lets us show you the beauty of water-efficient gardens in full color, anytime, anywhere. At the nursery and can't remember a plant name? Don't worry, it's on your iPad.

Reading



(In Navigation Bar)
Click for full screen mode the best way to read a flipbook



(On Page)
Click on text to make it larger, click again to zoom out

Sharing



(In Navigation Bar)
Click to share a link to the guide with email, Facebook or Twitter



(On Page)
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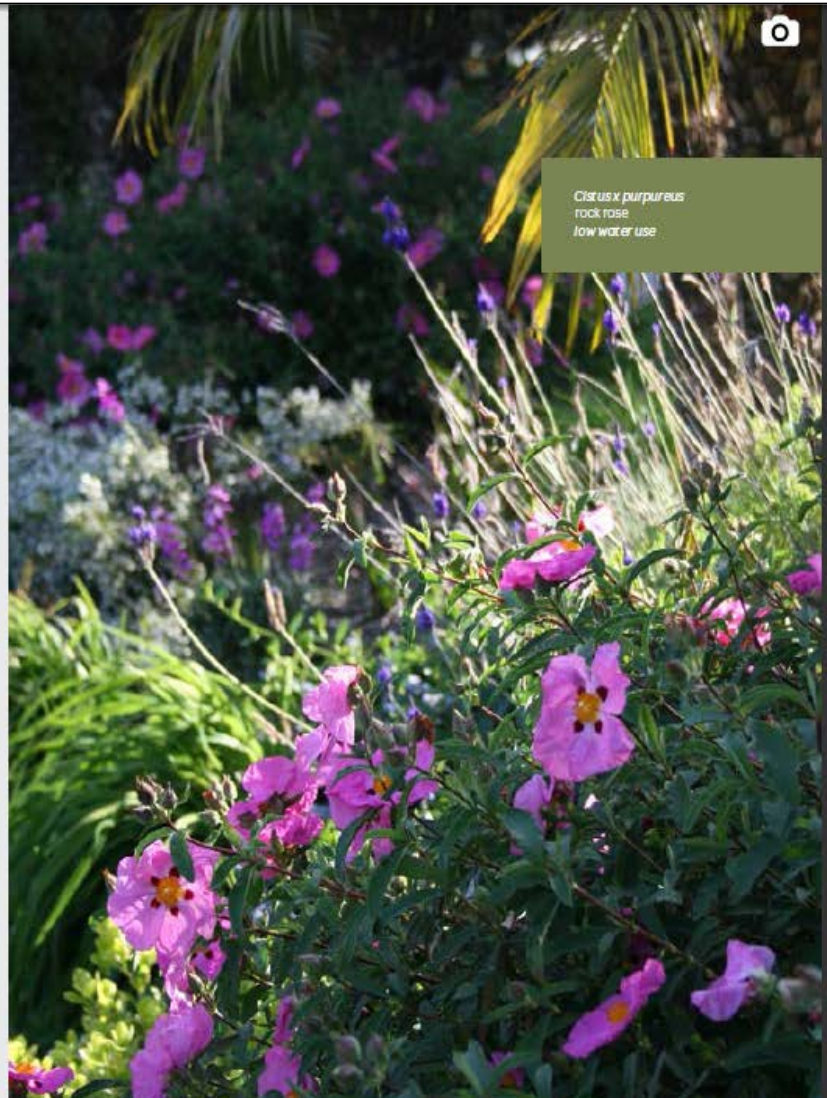
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eGuide Sections

A WaterSmart Home

Establishes a regional perspective

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Sets the stage – Why water efficiency is important

.....

Shares what others are doing

.....

Provides simple ways homeowners can do their part

WaterSmart

Four Reasons to be WaterSmart

WaterSmart is where our San Diego lifestyle and water efficiency meet

San Diego's Climate

- 70°F avg high temp
- 57°F avg low temp
- 10" avg precipitation

Source: NOAA/National Weather Service

Mediterranean Climate Zones

In San Diego County, summer ends in October and spring starts in February, which means more warm, sunny weekends than anywhere else in the country for riding our beloved longboards, horses and Harleys.

Our Mediterranean climate occurs in just six places on the planet – on the western edges of continents, between 30 degrees and 40 degrees latitude, north and south of the equator. This is the sweet spot where you find California and the Mediterranean Basin – think Provence and Tuscany – in the northern hemisphere, and Santiago, Cape Town and Perth in the Southern Hemisphere.

Life's fun when it only rains 12 days a year, but that little bit of rain doesn't produce enough water to supply the more than three million people who live here or sustain our growing economy.

The San Diego County Water Authority began importing water in the 1940s and diversifying our water resources in the 1960s. Water efficiency is so important because it reduces demand for more expensive water resources. Read on for four reasons to be WaterSmart!

WaterSmart

eGuide Sections

Ideas

Lifestyle oriented

Trends, ideas, examples, tips and resources

Motivates homeowners to take an action – small or large



Helpful Tools

From the Urban Forest Ecosystems Institute at Cal Poly San Luis Obispo

Selectree
Shows you which trees grow in your zip code or which trees match the characteristics you select.

Urban Tree Key
Helps you identify a tree you like.

ForesTree
Helps you identify a tree's pest or disease.

How to Select Trees for Your Garden

Go to the [Selectree](#) site and click on **Select Tree by Attribute**. It allows you to select the attributes you want and see which trees fit the bill. Here are a few attributes to keep in mind.

Height
Use the **Max Height** filter. If you want to plant a tree under or near utility lines, select a tree with a maximum height of 35 feet or less. If your utility lines are not in front of your home, consider a taller tree – perhaps 30 to 40 feet high – to shade the sidewalk and street.

Roots
Generally you want a tree with roots that grow down and not out. If you are selecting a tree to plant near the street or sidewalk this is especially important. Use the **Root Damage Potential** filter and select **Low**.

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<p>Callistemon corymbosus rose bottlebrush - Low to moderate water use - Native to Australia - Height: 20 feet</p> <p>Arbutus Menziesii madrone - Low water use - Native to California - Height: 20 to 60 feet</p> <p>Lagerstroemia speciosa giant crape myrtle - Low to moderate water use - Native to India, Australia - Height: 40 to 65 feet</p> <p>Liquidambar styraciflua american sweetgum - Low to moderate water use - Native to eastern U.S. - Height: 80 feet</p>	<p>Laurus nobilis sage rosemary - Low to moderate water use - Native to Mediterranean region - Height: 35 feet</p> <p>Albizia leonuriifolia silkworm tree - Low to moderate water use - Native to Argentina, Bolivia - Height: up to 60 feet</p> <p>Cercidium floridum blue palo verde - Low water use - Native to Southern California - Height: 35 feet</p> <p>Sambucus nigra "Opal" elderberry - Low to moderate water use - Native to U.S. West Coast - Height: 10 to 30 feet</p>
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eGuide Sections

Planning

The nitty-gritty of:

Identifying goals

Establishing a budget

Finding professional assistance

Creating a landscape plan



eGuide Sections

Installation


Step-by-step

From
permits to
installation


Tips to
avoid
mistakes

Go Step by Step


Here is a step-by-step guide to help you avoid mistakes and enjoy your project!



- 1. Secure Building Permits**
Contact the building department at your city (or the county) and ask if a permit is needed for your garden renovations.
- 2. Call Dig Alert**
Call 8-1-1 at least two work days before you are ready to break ground. The phone service will send local utility workers to your home to mark their underground lines.



811
Know what's below.
Call 811 before you dig.



- 3. Remove What You Don't Want**
Rent a roll-off bin from the company that picks up your trash each week or a local waste management company. They come in various sizes and rent for three to ten days, or long term. The hardest thing to remove is your old lawn. If you don't do it right, it will grow back throughout your new garden. First, determine what type of turf you have, then follow the instructions below.

How to Remove Turf

Cool-season turf

Stays green in winter and turns brown in summer. Common types include fescue and bluegrass.

Option 1

Rent a sod cutting machine, which makes a horizontal cut about 2 1/2 inches deep and 18 inches wide. Then flip each strip so the soil is on top. If you have not removed your irrigation system, mark the locations of sprinkler heads before you start and be careful to avoid them.

Option 2

Smother your turf under four to six inches of organic mulch, depriving it of the sunlight it needs to grow.

With both options, water the turf area for the two weeks afterward and remove any new growth.



More Information:
[UC Guide to Healthy Lawns](#)
[Lawn Care](#)
[Cornell University](#)

Warm-season turf

Turns brown in winter and stays green in summer. Common types include Bermuda, St. Augustine and Zoysia.

Option 1

If you want to avoid spraying herbicide, use solarization, which deprives the turf of sunlight and heats the soil to a level that kills weed seeds. First, mow the turf at the mower's lowest level. Then water intensively and cover with black plastic. The process takes six to eight weeks.

Option 2

If you prefer to spray herbicide, use solarization, which deprives the turf of sunlight and heats the soil to a level that kills weed seeds. First, mow the turf at the mower's lowest level. Then water intensively and cover with black plastic. The process takes six to eight weeks.

How to Plant Plants and Trees

1. Dig hole twice as wide as root ball

2. Fill space with moist soil and compost

3. Add 3" layer of mulch, 6" away from stem or trunk

How to Install Plants
Refer to your landscape diagram to jog your memory and use a garden hose to temporarily outline each planting area while you develop it. Leave plants in their pots and put them in position according to your diagram. Leaving them in pots allows you to move them around until the arrangement looks just right. Having each plant in the right position makes it easy for others to help you plant, too.

10. Install Lighting
Most decorative lighting systems are 12V, low-voltage systems that are easy to install. Plug the transformer into an outdoor outlet and it converts your home's 120V current to 12V. If you need more powerful lights and circuitry, call a professional electrician. Position individual lights to illuminate walkways or trees, and cover the wires with mulch.

11. Spread Mulch
Apply a three-inch layer over planting areas, keeping the mulch six inches away from plant stems and tree trunks to avoid rot.

eGuide Sections

Gardening

Establishment
period

Ongoing
maintenance

Surviving a
drought

Watering

Establishment Period

The first 12 months in the life of a newly planted garden is called the **establishment period**. This is your garden's brief childhood, and during this time each plant's roots grow down and out in search of nutrients, oxygen and the water needed to sustain growth. It is best to install young plants in the fall so winter rains can supplement the extra irrigation they need when they are young. Refer back to [Using Your New Plants](#) for detailed watering instructions.

After That

After the establishment period, the goal is to reduce watering and let your garden be water efficient.

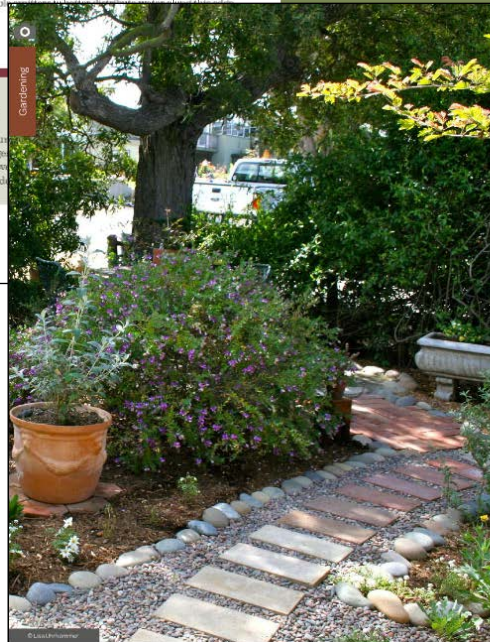
Treat your moderate-water use plants like moderate water users and your low-water-use plants like low water users. Re-program your controller appropriately, using the [Landscape Watering Calculator](#) if needed.

Water moderate- and low-water-use plants once every two to four weeks for the **total minutes per week** recommended by the [Landscape Watering Calculator](#), multiplied by the number of weeks between watering (two, three or four). If your plants show stress, reduce the number of days between watering.

Focus watering on the area below the outside edge of each plant or tree canopy, and use a dripline or mulch.

How to Avoid Overwatering

Water-efficient plants react the same way as overwatered plants. Their leaves turn brown around the edges. The only way to know if you are overwatering is to check the soil where the roots are. If it is moist, the



Pull Your Garden Through the Next Drought

Drought and water-use restrictions are still a possibility in California. Here are six tips to pull your garden through

1. If your garden is past its establishment period and you are only watering plants every two to four weeks, you may have already achieved the required water savings.
2. Remember that your garden can account for about half of your household water use. If restrictions call for a 5 percent reduction in water use, you can reduce watering times by 2.5 percent and find the other 2.5 percent indoors.
3. Continue irrigating deeply, but increase the number of days between watering.
4. While you wait for hot water for your shower or to do the dishes, collect the cold water in a bucket and use it to water your garden.
5. If you didn't already do it, install a graywater system and use the water from your clothes washer, showers and bathroom sinks to water your garden.
6. If restrictions are so severe that you cannot water your whole garden, focus the watering large shade trees and shrubs – your garden's bones – which would take years or decades to replace.

eGuide Market Participant Profile (handout)

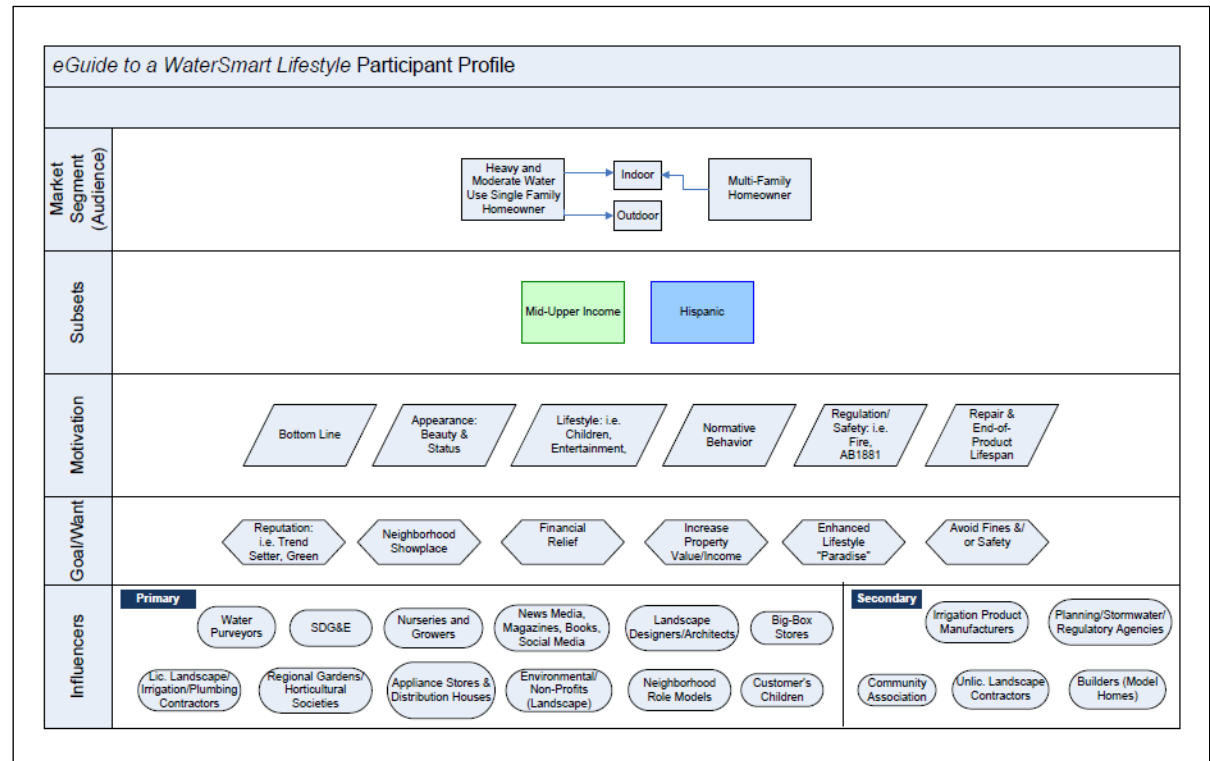
Who is most likely to take action?

.....

What do they *really* want?

.....

Who influences them?



eGuide Helpful Resources

Where do I find it?

Plant finders



Interactive maps



Favorite websites

Online Plant Finders:
What a Design Tool!

Use online plant finders to look up plants by name or find plants that match the characteristics you select. We'll show you how, using three design ideas as examples. First, here are a few good plant finders to try:

- [Sunset Magazine](#)
- [Garden Soft](#)
- [Fine Gardening Magazine](#)
- [Monrovia Nursery](#)
- [The Mulch](#)
- [Ecorhythm Group](#)

Design Idea #1
In Mediterranean gardens, foliage

Design Idea #2

Create a group of plants with the same flower color, but different heights and textures.

.....

How to use a plant finder
Do three searches, changing the height requirement each time while keeping USDA zone, plant type, water use, sun needs and flower color the same.

The relaxing beauty of purple:

1. *Hebe x franciscana*, hebe
2. *Salvia leucantha*, Mexican bush sage
3. *Glandulifera pulchella*, moss verbena
4. *Wisteria sinensis*, Chinese wisteria
5. *Osteospermum frutescens*, African daisy
6. *Lavandula*, lavender
7. *Buddleja davidii* 'Black Knight', butterfly bush

eGuide Helpful Resources

Where do I find it?

Plant finders

.....

Interactive maps

- USDA plant hardiness zones
- Demonstration gardens
- Municipal compost facilities
- Local nurseries
- Member agencies

.....

Favorite websites

Which Plants Love San Diego?


Choosing plants and trees that love San Diego is simple, because plants are categorized according to climate zone and the amount of water they need. The U.S. Department of Agriculture created 13 climate zones based on average minimum winter temperature (each zone has a 10-degree range), and categorized plants based on where they will survive the winter. All you really need to know is which climate zone you live in (see animated graphic), and to choose plants based on your zone.

If you read *Sunset* magazine or use the *Sunset Western Garden Book*, both longtime favorites among gardeners, then you know that *Sunset* developed its own climate zones that take year-round weather into account. As the chart below shows, *Sunset* and USDA zones match up closely.

Favorite Websites

- [Landscape for Life](#)
- [California Native Plant Society](#)
- [Mediterranean Garden Society](#)

Choose Plants That Love These Climate Zones

 USDA Zone 9 (Inland) Sunset Zones 20, 21, 22	 USDA Zone 10 (Coastal) Sunset Zones 23, 24
20-30°F avg minimum temp	30-40°F avg minimum temp

Source: USDA and *Sunset*


USDA PLANT HARDINESS ZONES

Zone 10A
30° to 35° F
-1.1° to 1.7° C

Map showing San Diego region with zones 9, 10A, 10B, 11, 12, 13, 16A, 16B, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50.

Mouse over icon for details

Above: click on the blue dots to identify the USDA plant hardiness zones in the San Diego region. Which zone do you live in? Below: when you shop for plants, read their labels - to make sure they love the USDA zone you live in.



eGuide Helpful Resources

Where do I find it?

Plant finders



Interactive maps



Favorite websites

Water Efficiency vs. Home-Grown Produce
Some herbs are low water users, citrus trees are moderate water users and lettuce is a high water user. If your goal is to reduce your water bill, then offset your edibles with an equal amount of *very low* water use plants like Yarrow, Galvesta and Dudleya that need less than 10 percent of the water that a lawn needs. It's a balancing act, but worth the effort. Few things are more satisfying than growing your own food.

Plant a Row for the Hungry
Fresh food is always in short supply at food pantries around San Diego County. Find a local pantry to share your surplus with at AmplioHarvest.org.

World Kitchen Garden Day
The fourth Sunday of August
World Kitchen Garden Day was started in 2003 by [Kitchen Gardeners International](http://KitchenGardenersInternational.com), a non-profit group based in Maine, to celebrate the benefits and pleasures of homegrown, handmade foods. Invite friends, family and neighbors to celebrate in your garden.

Favorite Websites

- [San Diego Master Gardeners](#)
- [Organic Gardening](#)
- [Food Not Lawns](#)
- [Vegetable MD Online](#)
- [Kitchen Gardener's International](#)

eGuide Helpful Resources

How do I do it?

WaterSmart

Once-a-Month Water Smarts


Most homeowners don't worry about water leaks until it's too late.

Whether it's a municipal water main or an irrigation line in the backyard, sometimes pipes leak and leaks happen. The best a homeowner can do is limit how many days leaks go unnoticed. To avoid a water bill with an extra zero in it, check for leaks at least once a month. Here's how:


1. Check Your Water Meter

- Turn off the water throughout your home and garden, including the ice maker (the on/off switch is often inside the freezer) and the pool pump.
- If the flow indicator on your water meter is still spinning, you have a leak.
- If your meter does not have a flow indicator, note the position of the sweep hand and wait 15 minutes. If it moves, you have a leak.

Videos:



Reading Your Meter for Leaks



Leaking Toilets

Laundry to Landscape System

The beauty of this type of system is that it does not require alterations to your plumbing, and is simple to install yourself. The pump inside your clothes washer does the heavy lifting, limited to plants or trees level with your house and within 100 feet from your house. Materials for a DIY project or professional installation typically range from \$1,000 to \$3,000.



Add a three-way diverter valve on your clothes washer drain hose so you can direct wash-water to the sewer or your garden.



Stop using products that contain bleach, dyes, boron, sodium and non-biodegradable chemicals that harm plants. Switch to biodegradable and organic brands. If a load of laundry needs bleach, turn the lever on the three-way diverter valve so the wash-water goes to the sewer.



Use 1-inch polyethylene tubing to distribute water to trees and plants downhill from your home.




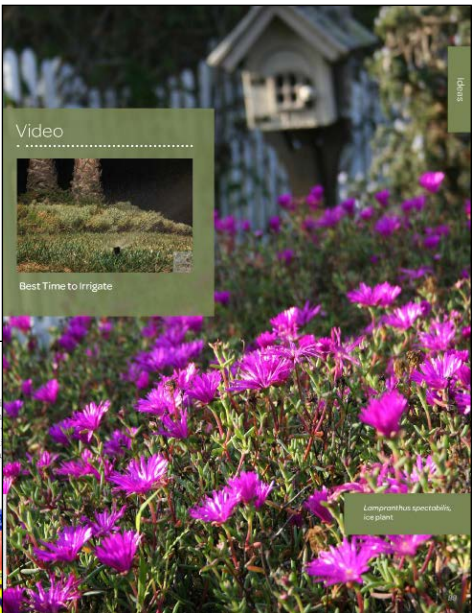
Video

Laundry to Landscape



Video

Best Time to Irrigate

Lampranthus spectabilis, ice plant.

Videos

- Identifying and fixing leaks
- Smart irrigation products and practices
- Climate-appropriate gardens and techniques
- Graywater

Calculators

eGuide Helpful Resources

How do I do it?

How much water do you use?

Let's Get Started!
Click an area on the home to input data to learn how much water you use and how you can conserve water there. Answer for yourself only and assume you are in your home for a 24-hour cycle.

My Daily Usage
Roll over for results

Water Tip
Based on your answers, our quick estimate is that your entire household consumes 102.6 gallons per day INDOORS, and 0 gallons per day OUTDOORS. This is a rough estimate. Click on each area of the house to adjust this estimate to reflect the specific situation in your home.

Percent Complete
Roll over for number of questions

Areas to Complete
Roll over for number of questions

Close

The screenshot shows a 3D cutaway view of a house with various rooms. A 'Water Tip' pop-up window is open, displaying the estimated water usage. The interface includes a 'My Daily Usage' pie chart, a 'Percent Complete' progress bar, and 'Areas to Complete' bar chart. A green checkmark is visible in the bottom right corner of the house view.

Videos

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Calculators

eGuide Helpful Resources

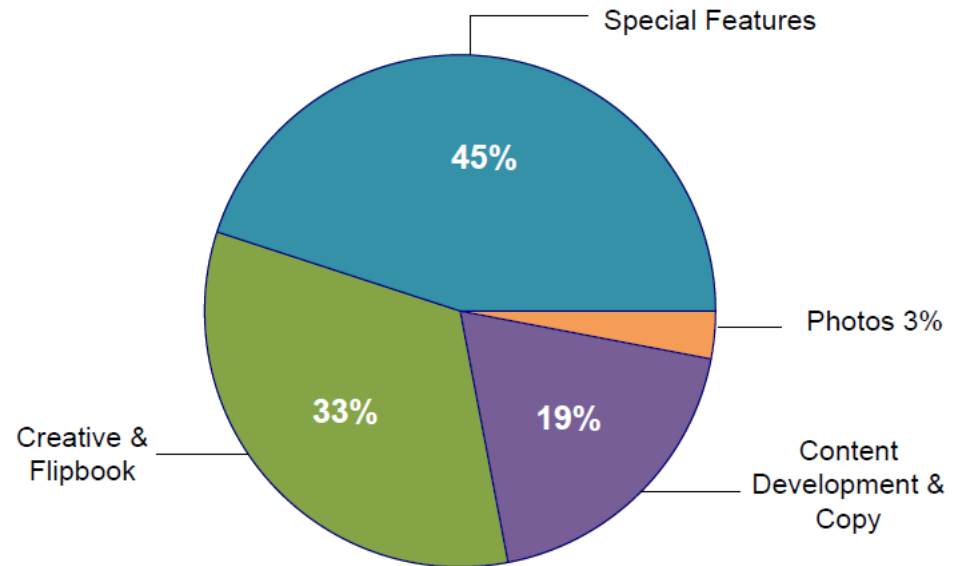
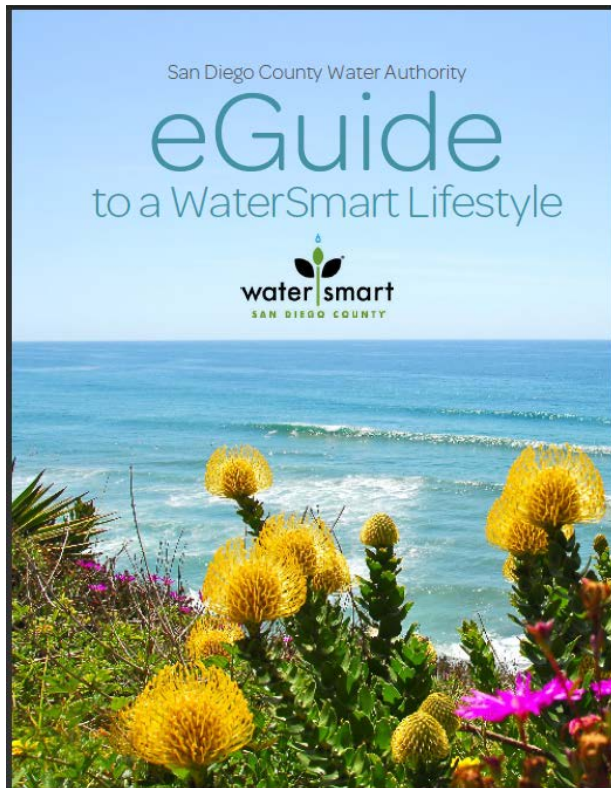
Animations

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Resource page



eGuide Development Costs



Take-Aways

It's all about your customer

- Celebrate what makes your community or region unique
 - Determine what your target audience values and use it to spur long-term behavioral change
-

What's hot?

- Utilize trends (i.e., outdoor rooms, edible gardens, succulents)
-

Partnerships

- Reach out to industry for advice, content, expert review, and marketing assistance
-

A picture is worth a thousand words

- Make it visual (limit text)

Contact Information



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Thank You

Questions?