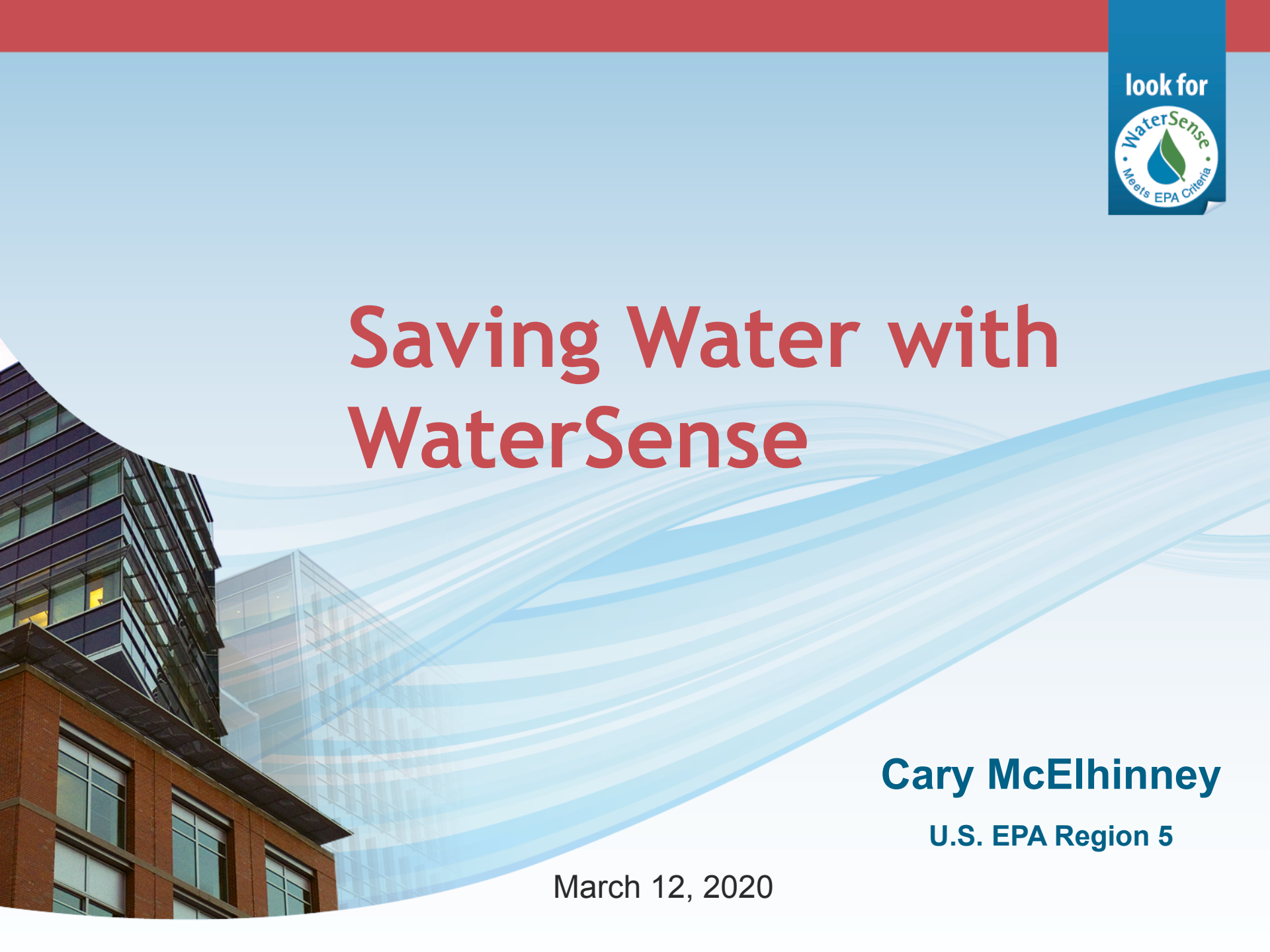


Saving Water with WaterSense

Cary McElhinney

U.S. EPA Region 5

March 12, 2020

WaterSense Vision

- WaterSense offers people a simple way to use less water
- Our vision is that all Americans will understand the importance of water efficiency and take actions to reduce their water use – in their homes, outdoors, and at work
- How will we achieve it?
  - By transforming the marketplace for products and services that use water
  - By promoting a nationwide ethic of water efficiency to conserve water resources for future generations and reduce water infrastructure costs

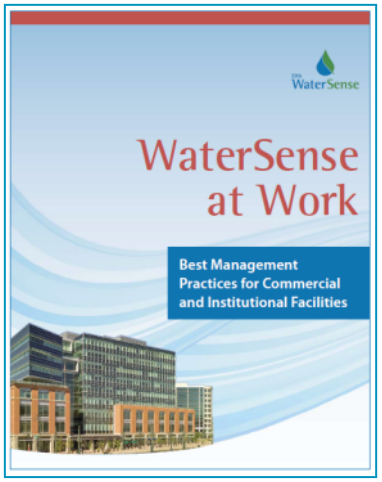
WaterSense Can Help

WaterSense is a voluntary partnership program launched by EPA in 2006 that provides a simple way to identify water-efficient:

- Products
- Programs
- Practices
- Homes

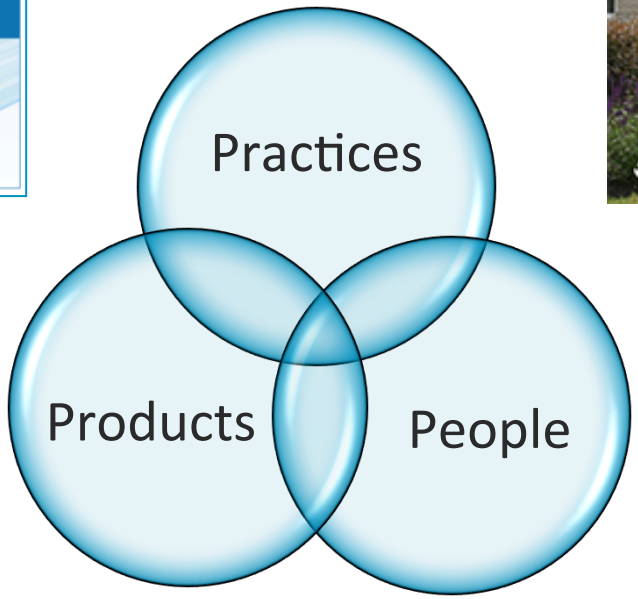
Products are independently certified for water efficiency **and** performance

WaterSense Focus



Actions that can be taken to reduce water use -- at home, outdoors and at work

Specific fixtures and technologies save water



Partners reach users to change behavior

WaterSense Partners Make Savings Possible

WaterSense partners with water utilities, local/state governments, non-profits, builders, and HOAs

WaterSense and its partners are committed to bringing water-efficient smart water use. Search by partner type, state, and/or partner name

Partner Type

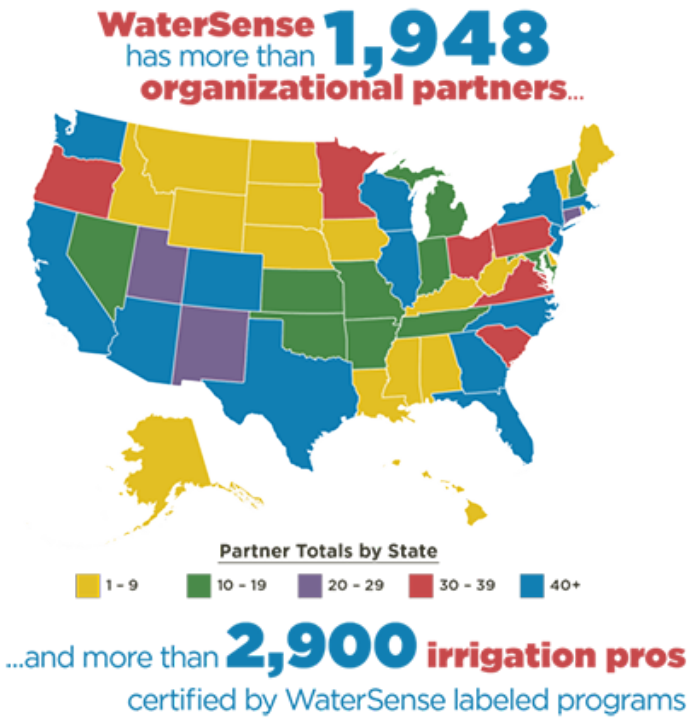
- All Partners
- Builder
- Home Builders Association
- Licensed Certification Provider
- Local/State/Federal Government

State

- All
- AK
- AL
- AR
- AZ

Partner Name

Search



Why Partner?

- EPA sets the stage & partners run with it
  - Our efforts are more powerful when partners join forces
- Support national specification for water-efficient products and services
- Access free materials, templates and logo or label
- Membership in a network of water efficiency experts
  - Learn new strategies
  - Collaborate with other types of partners
- Recognition from EPA as a water efficiency leader

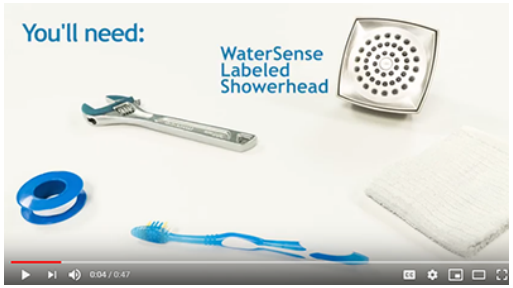
EPA WaterSense PARTNER

WaterSense is **FREE** to join!

Easy online form at https://www.epa.gov/watersense/join-watersense

Customizable Partner Tools

- Infographics
- Bill Stuffers
- Videos
- Sample web text
- Sample press release/ newsletter text
- Social media
- Case studies
- Spanish Tools



What's Special About WaterSense?

A label with integrity

- Third-parties independently certify that products and homes meet EPA criteria
- Backed by the credibility of EPA

Smart use of resources

- EPA provides national standardization and outreach for water-efficiency
- Manufacturers absorb product research, testing, and branding costs
- Licensed certifying bodies certify the products and police the label's use

WaterSense Labeled Products

More than **35,000** product models have earned the label. Water factors are included in many **ENERGY STAR** certified products.

Flushing Urinals

Showerheads

Lavatory Faucets

New Homes

Flushometer Valve Toilets

Tank-Type Toilets

Irrigation Controllers

Spray Sprinkler Bodies

Soil Moisture-Based Irrigation Control Technologies

- Also referred to as soil moisture sensors (SMSs)
- Save water by inhibiting an irrigation event if the soil is determined to be “wet” enough that the plants don’t need water
- Decision to allow watering is based on actual measurements in the soil
- Threshold to allow or inhibit irrigation is determined by the user, or automatically by the product, as part of the installation process
- While SMSs work in a different way from WBICs, they both provide a means to efficient scheduling compared to a typical clock-timer
- WaterSense is aiming to keep the WBIC and SMS specifications as consistent as possible

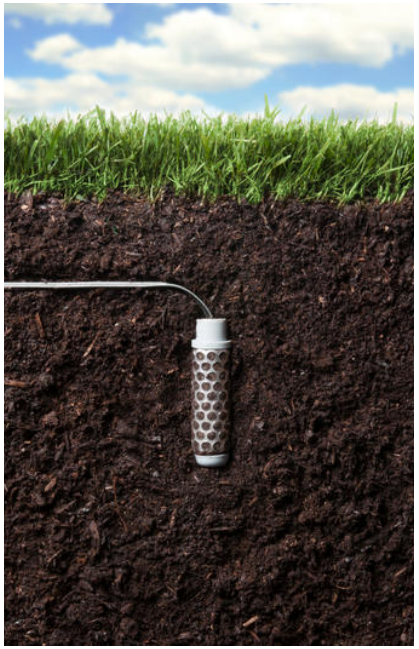


Photo courtesy of Hunter Industries, Inc.

Scope

Includes

- Products that enable or disable an irrigation event based on reading(s) from soil moisture sensor mechanism(s)
- SMSs for use in residential or commercial landscape applications
- Both wired and wireless technologies
- Stand-alone controllers, add-on devices, and plug-in devices

Photo courtesy of Spiio

Scope

Excludes

- On-demand SMSs, which enable irrigation at a lower preset soil moisture level and disable irrigation at an upper preset soil moisture level
- Sensor mechanisms alone (i.e., an interface device is required)
- SMSs intended for use exclusively within agricultural irrigation systems

Photo courtesy of Michael Dukes, UF/IFAS

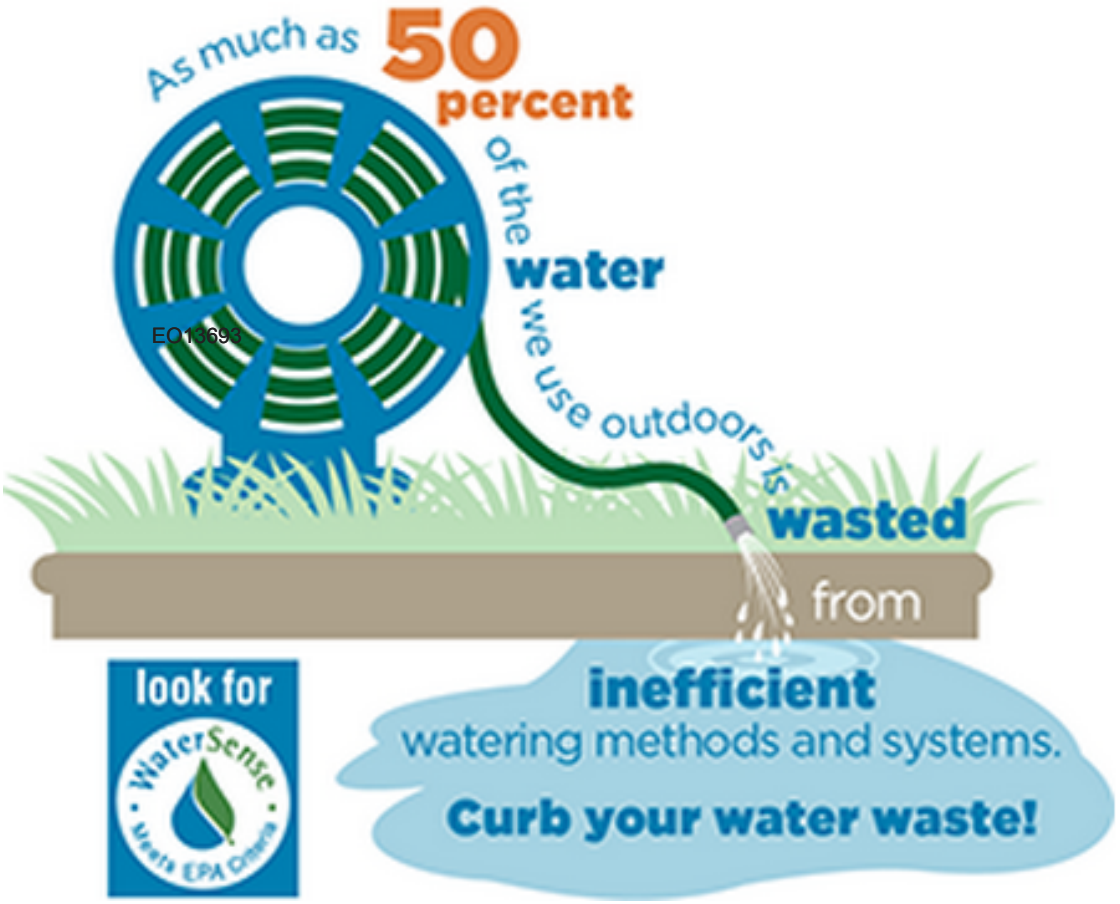
Outdoor Water Waste

20-30% of a building's water can be used outdoors

Losses caused by:

- Poor irrigation system design
- Improper system installation and management
- Lack of maintenance
- Improper scheduling

Get help from an irrigation pro certified by a WaterSense labeled program



WaterSense®

Certified Irrigation Professionals

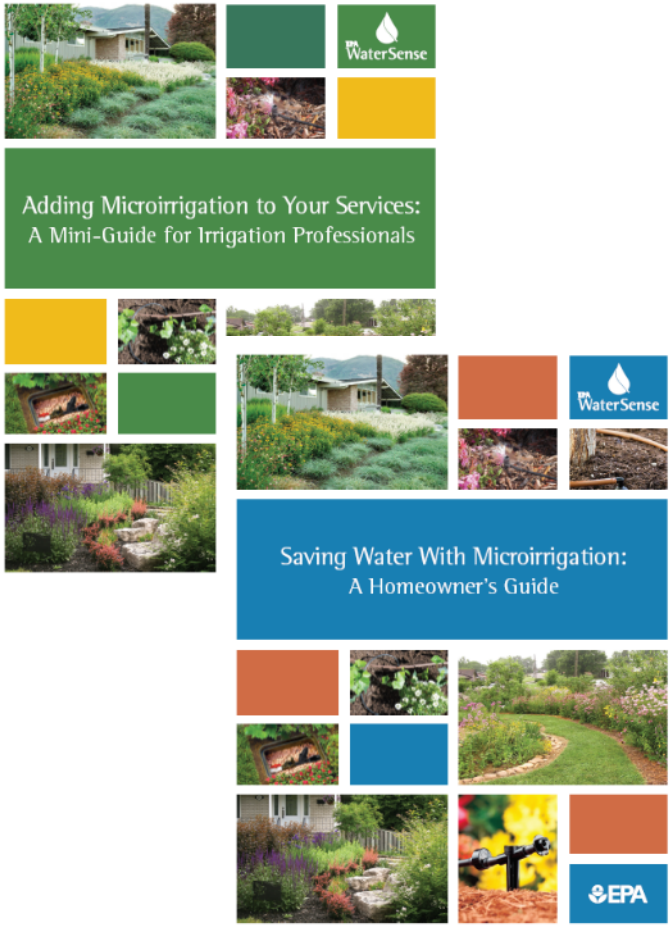
- Certified by a WaterSense labeled program
- Help reduce water consumption, save money, and maintain a healthy landscape
- Certification programs:
  - Irrigation system design
  - Irrigation system installation and maintenance
  - Irrigation system audits

Guidance for Outdoor Water Use

- Water Smart Landscapes
  - Planning and design tips for plants, soil health and maintenance; images; references
- Reduce Pressure/Waste from Sprinklers
  - Describes benefits of efficient sprinklers for irrigation pros and homeowners
- Case Study on Sprinkler Replacement
  - Oklahoma City replaced sprinklers in roadway medians

Microirrigation Guides

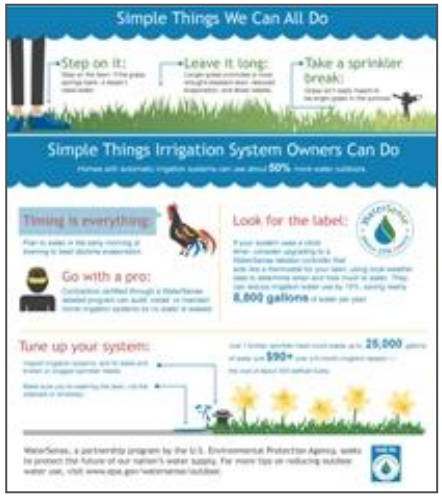
- Microirrigation equipment and techniques can save homeowners more than 25,000 gallons of water per year.
- Uses 20 to 50 percent less water than conventional sprinkler systems.
- Two Audiences:
  - Irrigation Professionals Guide
  - Homeowners Guide

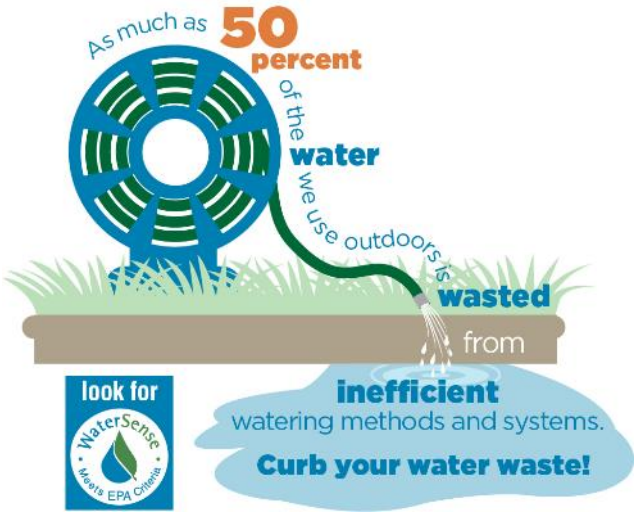


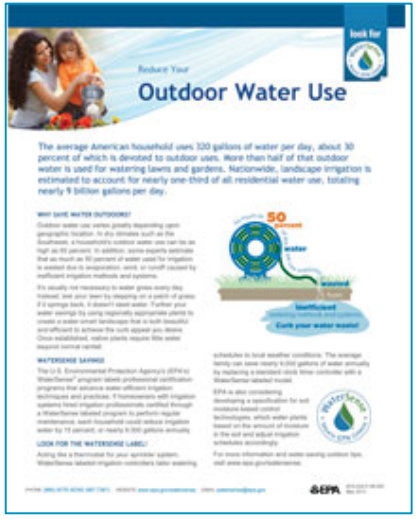
Summer Outdoor Water Savings

Partner Tools

- Infographics
- Bill stuffers
  - English/Spanish
- Door hanger
- Web banner
- Facts and tips
- Fact sheets
  - Outdoor water use
  - Irrigation controller
- Drought materials







WaterSense®

Sprinkler Spruce-Up

- First weekend in May—or any time in spring
- Encourage consumers to "spruce-up" their sprinklers
  - Inspect for clogged, broken, or missing sprinkler heads
  - Connect hoses and pipes and check for leaks
  - Direct spray away from sidewalks
  - Select WaterSense labeled products
- Tools/graphics on the partner website

WaterSense Labeled Homes

- First national new home labeling program for water efficiency
- Applies to single and multifamily homes
- Works with other green building programs
- WaterSense labeled new homes:
  - Reduce water use in new homes by **at least** 20%
  - Educate homeowners about continuing water-efficient behaviors
  - Encourage community infrastructure savings
  - Are third-party certified

Photo: First community of all WaterSense labeled new homes in Issaquah, W.A.

Objectives for Version 2

- Increase the number of WaterSense labeled homes
- Provide flexibility in technical requirements, while maintaining an equal (or greater) level of water efficiency
  - Allow builders to chose efficiency measures that maximize the value prospect in their market/ region
- Maintain quality performance measures
- Encourage broader participation in the certification process
  - Better leverage the existing certification structure in green building/energy efficiency
  - Open the door for additional home certification organizations
- Better quantify the savings and value of a WaterSense labeled home
- Harmonize more cleanly with ENERGY STAR, IAP, and other green building programs
- Make the program easier for WaterSense to administer

Requirements for WaterSense Labeled Homes V2	
Technical Requirements for WaterSense Labeled Homes	Requirements for Home Certification Organizations (HCOs)
• Be 30% more efficient than typical new construction • Meet all items of a mandatory checklist	• Organizational requirements • Certification method development • Certification method technical evaluation

Transitioning From v1 to v2

- WaterSense anticipates a one year transition

Potential dates (for example)	Requirements
January 1, 2020 to *June 30, 2020*	Any home may use either the v1 or v2 requirements
July 1, 2020 to *December 31, 2020*	Homes permitted prior to the start of the transition period may use v1 or v2, all other homes must use v2
After *January 1, 2021*	All homes use v2

- WaterSense is coordinating with potential HCOs to determine the exact timing of the transition period

ENERGY STAR® Portfolio Manager®

look for WaterSense Meets EPA Criteria

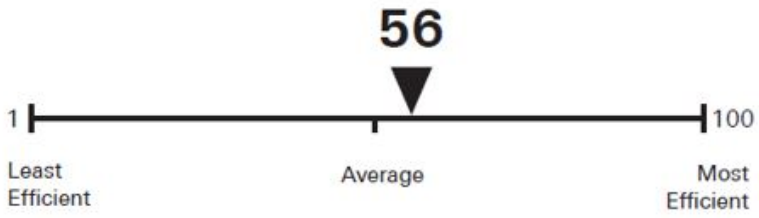
Management Tool

- Assess whole building energy, water, and waste consumption
- Track changes in performance over time
- Create custom reports
- Share/report data with others
- Apply for ENERGY STAR certification *(based on energy performance only)*

EPA's 1-100 Score for Multifamily Buildings

- Available for existing multifamily buildings with 20 or more units
- Approach consistent with the ENERGY STAR Score
  - Statistical evaluation of measured whole building resource (water) use
  - Normalize for weather and operation
  - Provide a meaningful peer comparison
  - Drive reductions in resource (water) use

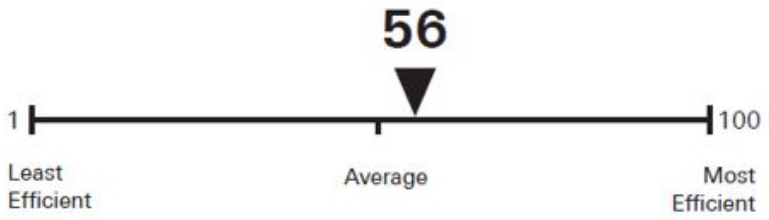
What's similar to ENERGY STAR score approach?



EPA's 1-100 Score for Multifamily Buildings

- Inputs Adjusted Appropriately for Water
  - Include all water use (indoor and outdoor)
  - Focus on water intensity: Total water use divided by building square foot
  - Assess normalization factors in the context of water
    - Operation is assessed with an understanding of water use
    - Climate terms capture outdoor water needs
    - Irrigated Area is an important factor (capped at a 1:1 ratio with floor area)

What's different from ENERGY STAR score approach ?



No EPA certification based on the Water Score

How Do You Get the Score?

Required inputs for a building of 20 units or more

- 12 months of water use
- Building location
- Building size
  - floor area
  - number of units
  - total number of bedrooms
- Irrigated area – options to determine:
  - Check service contract of the property to find area of landscape
  - Deduct footprint of the building and hardscape (pavements and parking area) from the total property area.
  - Use an online mapping tool (e.g, free tool www.freemaptools.com/area-calculator.htm)

The EPA Water Score in Action

look for WaterSense Meets EPA Criteria

Summary | Details | Energy | Water | Waste & Materials | Goals | Design

Water Score (1-100)

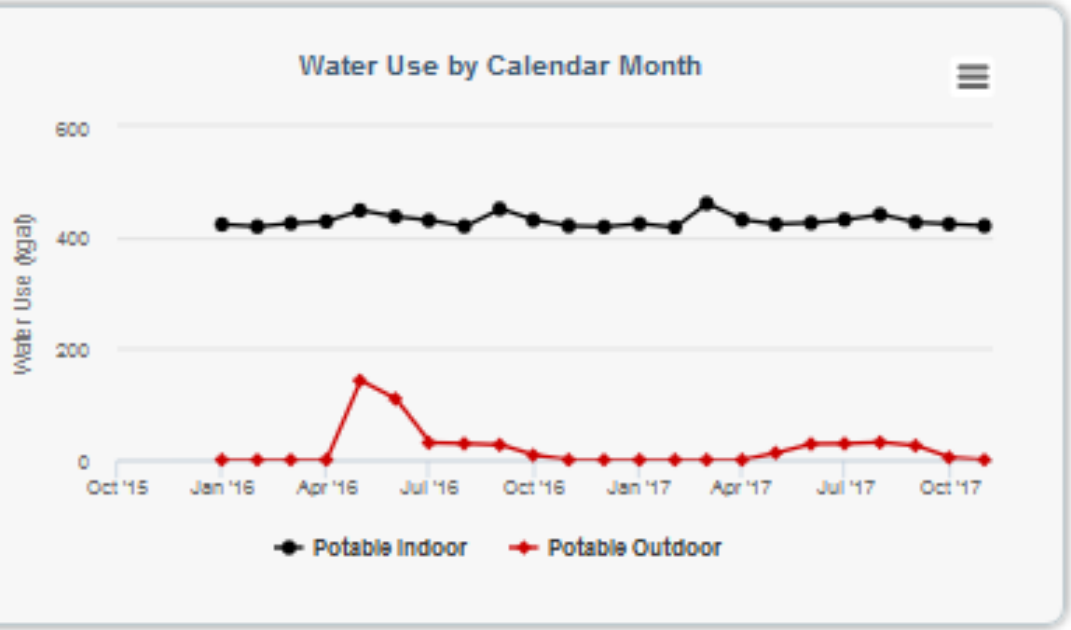
Current Score:	88
Baseline Score:	86

Meter Summary

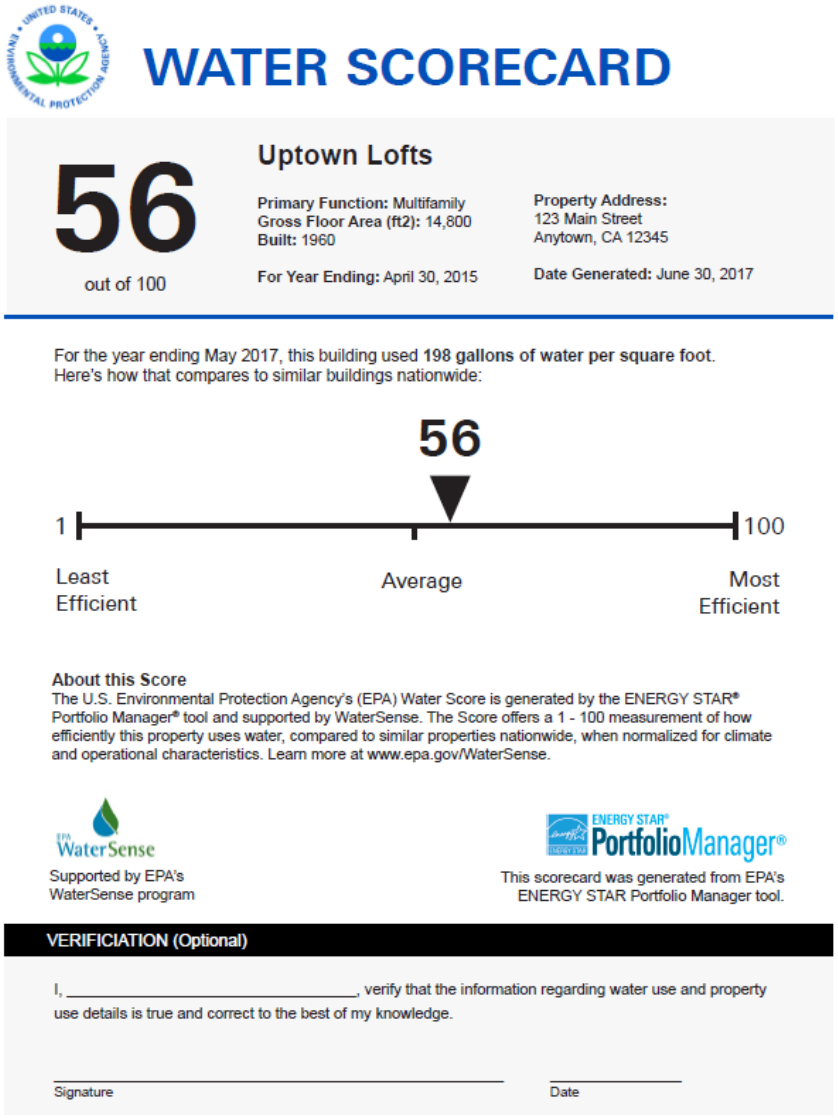
2 Water Meters Total

2 - Used to Compute Metrics

Add A Meter



Platform provides ability to create a scorecard, but there is no formal certification for buildings (a'la ENERGY STAR)



WATER SCORECARD

56
out of 100

Uptown Lofts

Primary Function: Multifamily
Gross Floor Area (ft2): 14,800
Built: 1960

For Year Ending: April 30, 2015

Property Address:
123 Main Street
Anytown, CA 12345

Date Generated: June 30, 2017

For the year ending May 2017, this building used **198 gallons of water per square foot.**
Here's how that compares to similar buildings nationwide:

56

1 — 100

Least Efficient | Average | Most Efficient

About this Score
The U.S. Environmental Protection Agency's (EPA) Water Score is generated by the ENERGY STAR® Portfolio Manager® tool and supported by WaterSense. The Score offers a 1 - 100 measurement of how efficiently this property uses water, compared to similar properties nationwide, when normalized for climate and operational characteristics. Learn more at www.epa.gov/WaterSense.

Supported by EPA's WaterSense program

This scorecard was generated from EPA's ENERGY STAR Portfolio Manager tool.

VERIFICIATION (Optional)

I, _____, verify that the information regarding water use and property use details is true and correct to the best of my knowledge.

_____ Signature

_____ Date

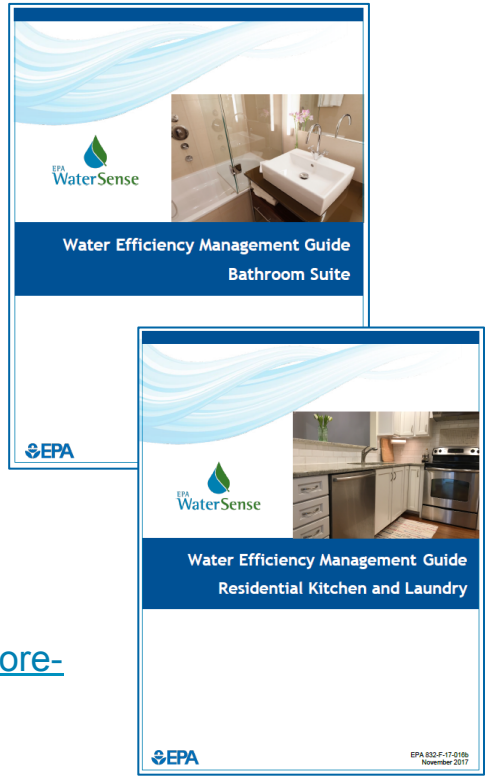
WaterSense Resources

Water efficiency management guides focused on multifamily buildings cover:

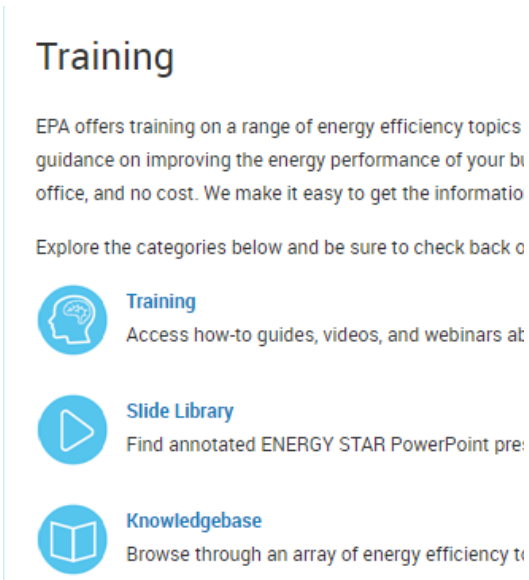
- Bathrooms
- Residential kitchens and laundries
- Outdoor Water Use
- Mechanical systems

Multifamily Water Assessment Worksheets

https://www.epa.gov/watersense/water-score-multifamily-housing



ENERGY STAR Resources



https://www.energystar.gov/buildings/training

WaterSense Commercial Facility Resources

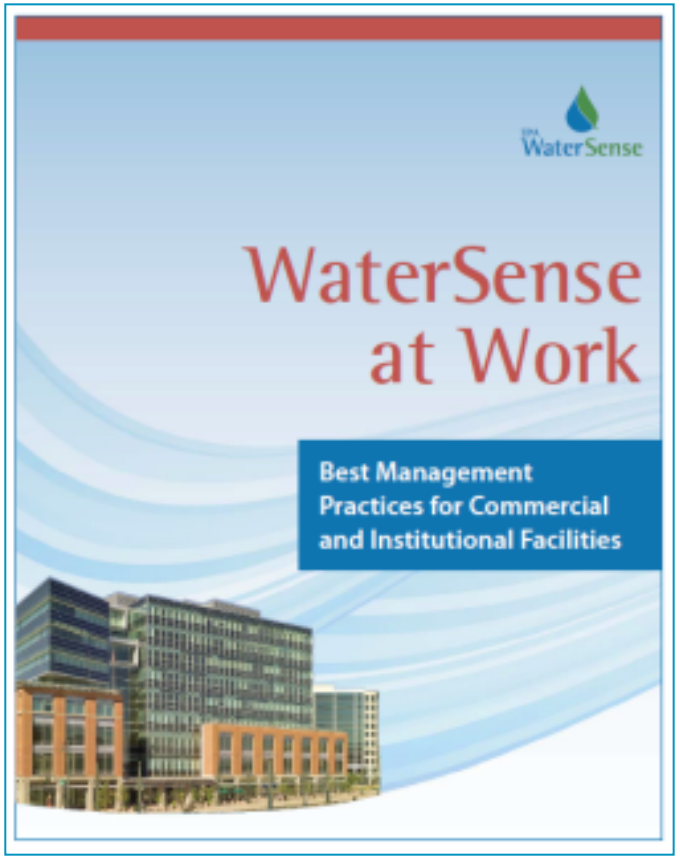
- Water use information by facility type
- Water-saving tips
- Best Management Practices
- Assessment tools
- Worksheets and checklists
- Live and recorded training webinars
- Case studies and more!

www.epa.gov/watersense/tools

Best Management Practices

WaterSense at Work is an online guide facilities can use to manage water use:

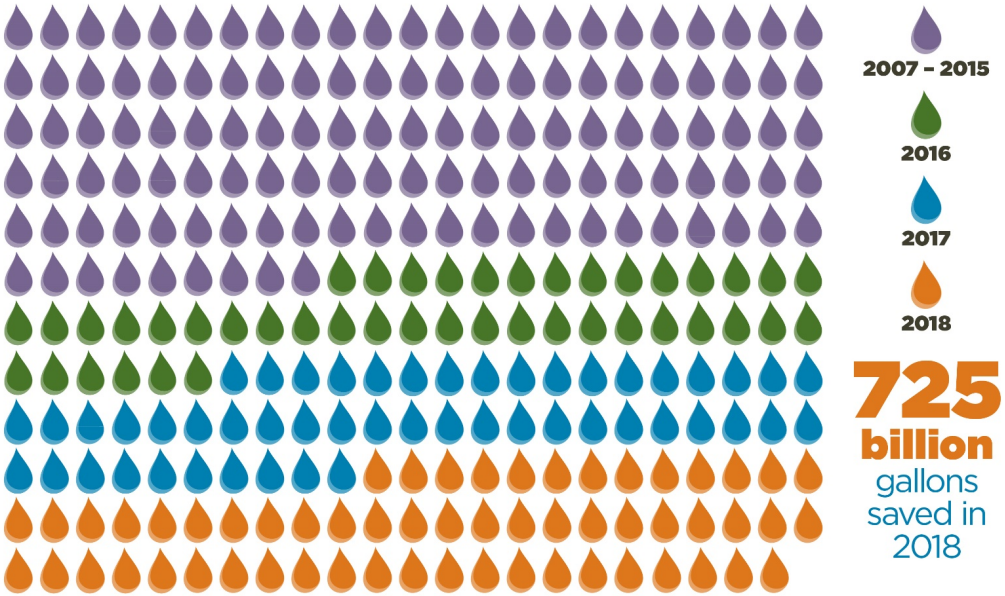
- Water management planning
- Water use monitoring and education
- Sanitary fixtures and equipment
- Commercial kitchen equipment
- Outdoor water use
- Mechanical systems
- Laboratory and medical equipment
- Onsite alternative sources of water



Accomplishments

look for WaterSense Meets EPA Criteria

3.4 trillion **gallons of water** saved since 2006!



725 billion gallons saved in 2018

saving consumers

$84.2 billion

in water and energy bills

More Information

- WaterSense Information
  - Web site: www.epa.gov/watersense
    - List of products
    - Partnership information
    - Educational fact sheets and resources
  - E-mail: watersense@epa.gov
  - www.facebook.com/epawatersense
  - www.twitter.com/epawatersense
  - Toll-free Helpline: (866) WTR-SENS

  - Cary McElhinney – EPA Region 5
  - E-mail: mcelhinney.cary@epa.gov
  - Phone: (312) 886-4313