



# WaterSense® Labeled Homes

Delivering on Efficiency in Charlotte, North Carolina



The U.S. Environmental Protection Agency (EPA) established WaterSense to protect the future of the nation's water supply and to promote water-efficient products, homes, and programs with a simple, easy-to-identify label. WaterSense labeled homes allow families to enjoy the comforts of home while using less water and energy and saving money on utility bills.

To earn the WaterSense label, homes must meet EPA's specification criteria: they must be at least 30 percent more water-efficient than typical new home construction, include WaterSense labeled plumbing products, and be free of water leaks. WaterSense labeled homes can also include features such as: hot water that gets to the tap faster; ENERGY STAR® certified appliances; efficient irrigation equipment; and water-smart landscapes that minimize or eliminate the need for irrigation.

## Why Water Efficiency Matters to Communities and Builders

In Charlotte, North Carolina, the home building industry is booming, with Mecklenburg County's population growing by more than 60 percent since 2000. The area gets most of its water from lakes, rivers, and streams, which are fed by the Catawba River within the Catawba-Wataree River Basin. Despite the absence of frequent drought conditions, climate change is expected to increase lake system evaporation in the coming decades, reducing the region's water supplies. The 2014 Catawba-Wataree River Basin Water Supply Master Plan projected when water supply will become critical under various scenarios (see the figure on the next page showing findings), illustrating how Charlotte and other areas with significant population growth need to plan communities wisely so as not to overstress water supplies.

WaterSense labeled homes can help preserve the ability to add housing in communities that are water- or infrastructure-constrained by minimizing the impact of new construction on water resources. They can also mitigate the impact of rising costs of water and connection fees.

## Benefits of WaterSense Certification

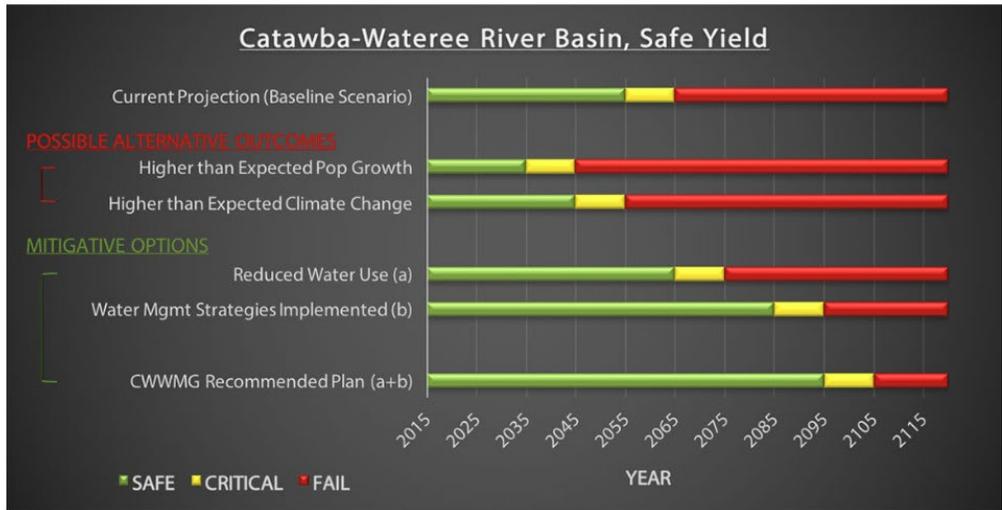
### For Communities/Water Agencies:

- Preserves the ability to add new housing and grow communities while limiting impacts on water and infrastructure resources.
- Achieves greater water efficiency using a whole-house, building-science approach and system solutions that may not be possible solely with efficient products.
- Encourages builders to design homes with water-efficient features in mind, maximizing water savings at minimal incremental cost.

### For Builders:

- Mitigates the rising cost of water and utility connection fees.
- Leverages support from existing communities and investors.
- Offers advantages in the permitting and land entitlement processes.
- Supports corporate disclosures and reporting.





Source: Envision Charlotte (<https://envisioncharlotte.com/water-waste-air/water/>)

### Why Choose WaterSense Labeled Homes

The WaterSense label for homes provides a whole-house approach to water efficiency. The programs that certify homes through WaterSense address specific climate and market conditions by encouraging system and design improvements in addition to efficient products and appliances. This approach helps maximize savings and reduce costs for the builder, the homeowner, and the community.

WaterSense labeled homes can achieve significantly more savings than homes with WaterSense labeled plumbing products alone. Plus, WaterSense labeled homes carry the additional benefit of being independently certified to ensure they are free of leaks and that products and systems are properly installed to maximize savings.

### Maximizing Water Savings With WaterSense Labeled Homes

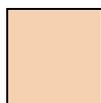
The table on the next page illustrates the features that may be included under four scenarios in Charlotte. This example uses a typical 2,400-square-foot home with an average-sized household (2.61 occupants) on a 10,000-square-foot lot that includes 5,826 square feet of conventional, irrigated turf (unless otherwise specified). Assumptions for a typical home are based on national averages.

The **baseline home** includes products meeting federal efficiency standards and other features typical of new construction. The **home following the Mandatory Checklist for WaterSense Labeled Homes** includes WaterSense labeled toilets, faucets, and showerheads, but no additional water-efficient features. The **home meeting California standards** is required to meet more rigorous product efficiency criteria for certain plumbing and irrigation products. Finally, the example **WaterSense labeled home** incorporates a variety of water-efficient indoor and outdoor features that meet the water efficiency requirement for WaterSense labeled homes and result in substantially more water savings.

This is just one example of a home that has earned the WaterSense label—other design configurations could also meet the requirement. The example shows that improvements limited to indoor water efficiency will not be sufficient to achieve the 30 percent threshold. The home will generally need to focus on maximizing outdoor water savings (e.g., by reducing the irrigable

landscape area, by reducing turf, and by installing a WaterSense labeled irrigation controller) to ensure it is at least 30 percent more water-efficient than typical new construction.

Feature	Baseline Home	Home Meeting WaterSense Mandatory Checklist	Home Meeting California Appliance Efficiency Standards*	Example WaterSense Labeled Home in Charlotte**
Toilets	1.6 gpf	1.28 gpf	1.28 gpf	1.28 gpf
Showerheads	2.5 gpm	2.0 gpm	1.8 gpm	1.8 gpm
Lavatory Faucets	2.2 gpm	1.5 gpm	1.2 gpm	1.2 gpm
Kitchen Faucets	2.2 gpm	2.2 gpm	1.8 gpm	1.8 gpm
Dishwashers	5.0 gpc	5.0 gpc	5.0 gpc	3.5 gpc (ENERGY STAR)
Clothes Washers	6.5 IWF	6.5 IWF	6.5 IWF	4.3 IWF (ENERGY STAR)
Hot Water Delivery	Standard	Standard	Standard	More efficient hot water delivery
Landscape and Irrigation	Turf irrigated with standard fixed spray sprinklers and timer-based controller	Turf irrigated with standard fixed spray sprinklers and timer-based controller	Turf irrigated with WaterSense labeled spray sprinkler bodies and timer-based controller	20% less irrigable landscape; 25% of remaining landscape is non-turf design with pressure-compensating drip irrigation; turf irrigated with WaterSense labeled spray sprinkler bodies; WaterSense labeled irrigation controller; rain sensor
Total Estimated Annual Water Use	129,000 gallons	121,000 gallons	119,000 gallons	<90,000 gallons
<b>Total Estimated Annual Water and Percent Savings From Baseline</b>	<b>0 gallons</b> <b>0% savings</b>	<b>8,000 gallons</b> <b>3 to 8% savings</b>	<b>10,000 gallons</b> <b>5 to 10% savings</b>	<b>≥39,000 gallons</b> <b>≥30% savings</b>



Feature meets federal standard or common construction practices



Feature meets WaterSense or ENERGY STAR criteria



Feature achieves greater efficiency level than WaterSense product specification criteria

gpf = gallons per flush; gpm = gallons per minute; gpc = gallons per cycle; IWF = integrated water factor

\* For comparison, California product and appliance standards are considered the most efficient state requirements.

\*\* For example purposes only. Home could qualify with a different combination of features, and a different home with these features is not guaranteed to achieve WaterSense certification.

## Learn More

Interested in learning more about WaterSense and how it can benefit your community? Visit [www.epa.gov/watersense](http://www.epa.gov/watersense).