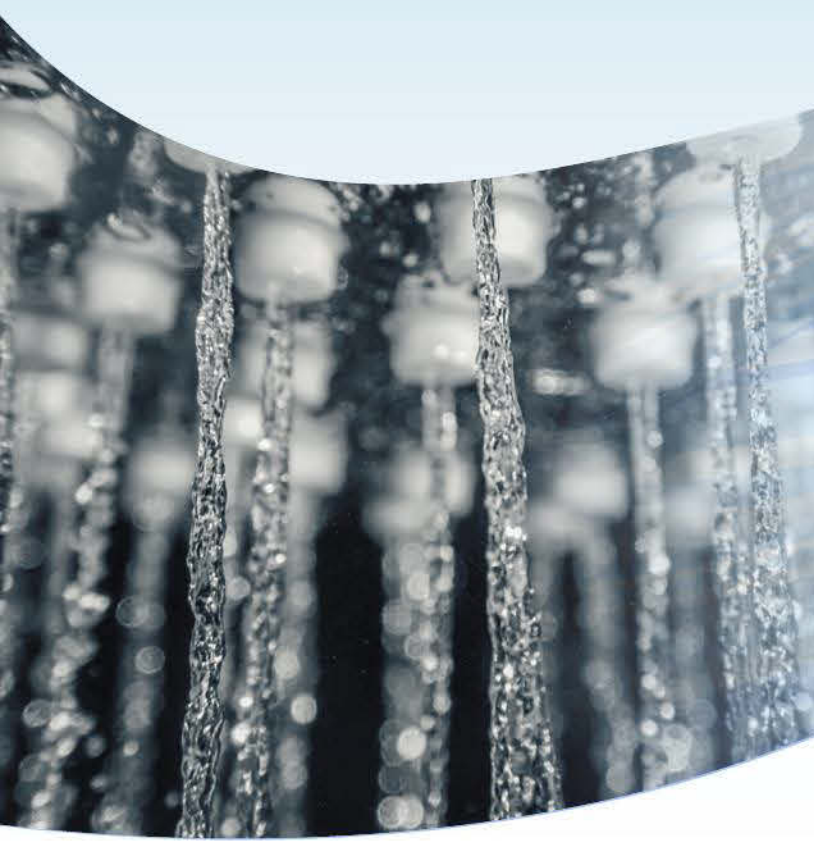
WaterSense® Public Meeting

Notice of Specification Review



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Joanna Kind and Robert Pickering, ERG

February 14, 2019

Housekeeping

- All attendees are muted to minimize background noise
- Please type questions into the Questions box in the GoToWebinar control panel. We will have a dedicated time for Q&A at the end of each section and at the end of the presentation as time allows
- This PowerPoint presentation will be posted on the public website following the call
- Submit written comments to: watersense-products@erg.com
- This meeting is meant to be an open discussion
- All questions, comments, and concerns are welcome!

Agenda

- Introduction to WaterSense
- Summary of the *America's Water Infrastructure Act*
- WaterSense Evaluation Criteria for Specification Revisions
- Summary of Product Specifications
  - Current Specification Requirements
  - Current Market Information
  - Considerations for Updating Scope, Efficiency Requirements, and/or Performance Requirements
- General Questions to Consider
- Timeline, Comment Deadline, and Future Stakeholder Meetings

Part 1

Introduction to WaterSense

What Is WaterSense?

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

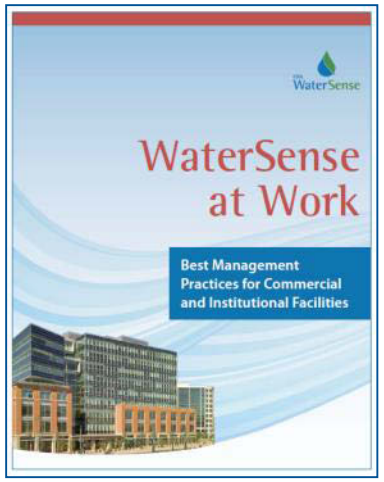
The WaterSense Vision

- 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

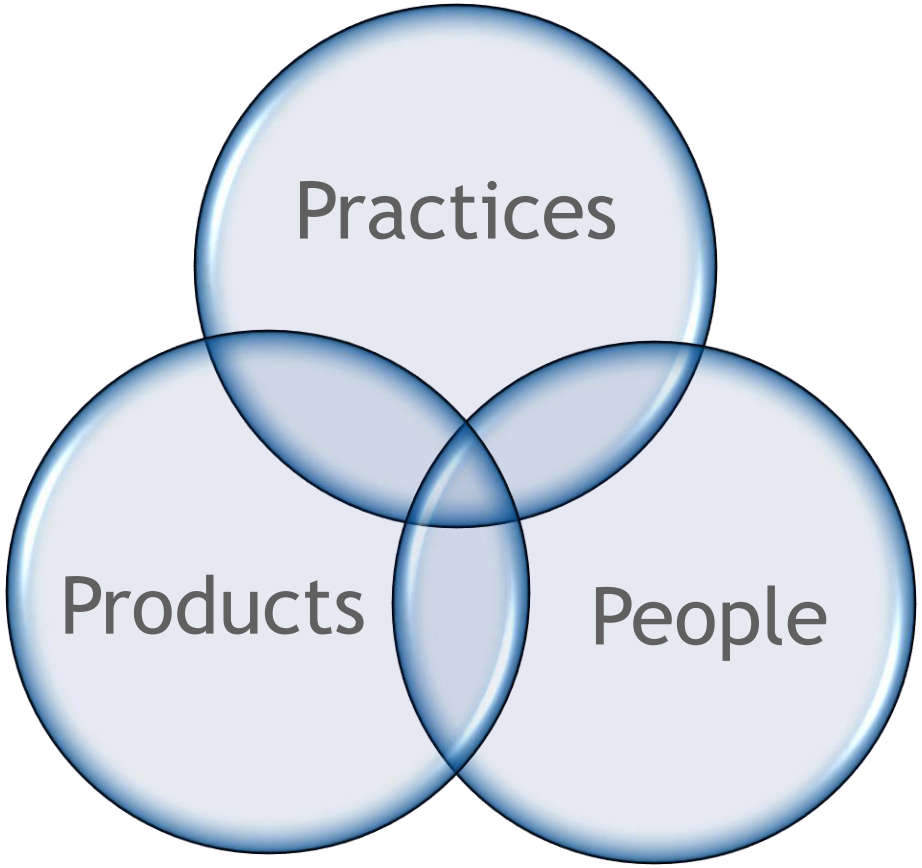
How will we achieve it?

- 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 Program Overview



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



Fixtures and technologies save water

Partners reach users to change behavior

WaterSense Labeled Products

Lavatory Faucets
Labeled since 2007
16,400 labeled models

Tank-Type Toilets
Labeled since 2007
3,400 labeled models

Flushing Urinals
Labeled since 2009
600 labeled models

Showerheads
Labeled since 2010
8,100 labeled models

Weather-Based Irrigation Controllers
Labeled since 2011
800 labeled models

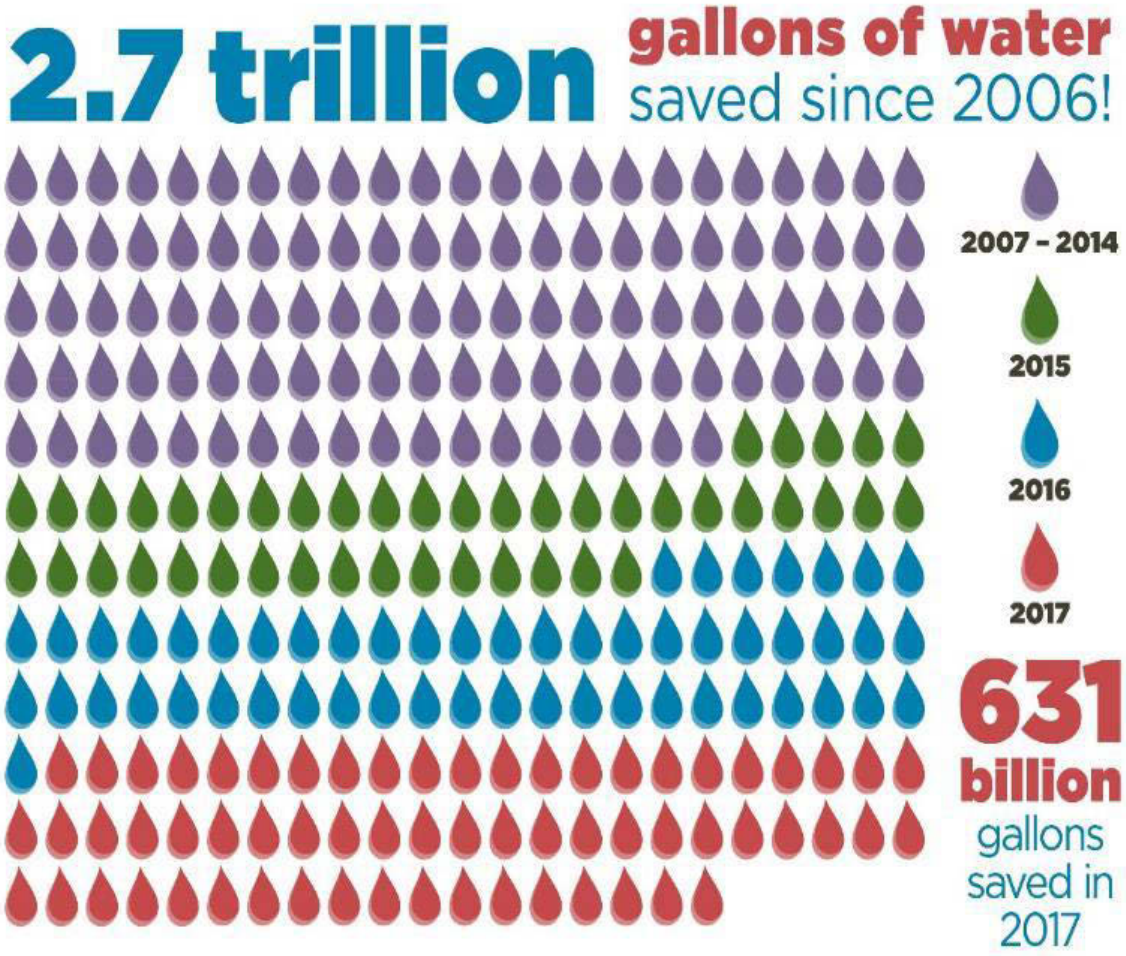
Flushometer-Valve Toilets
Labeled since 2015
900 labeled models

Pre-Rinse Spray Valves
(Recently Sunset)
Labeled from 2013 to 2018
30 previously labeled models

Spray Sprinkler Bodies
Labeled since 2017
100 labeled models

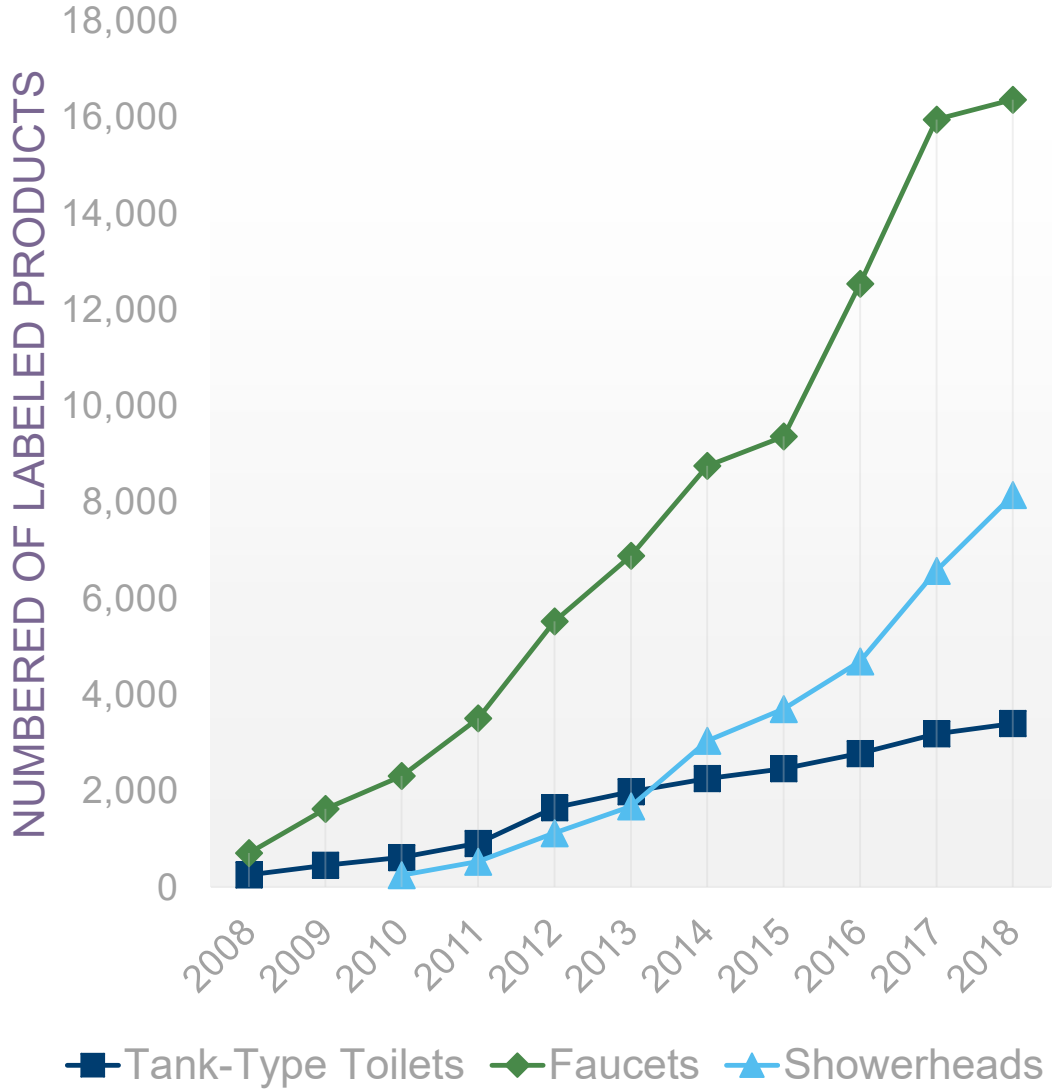
*Data as of January 2019

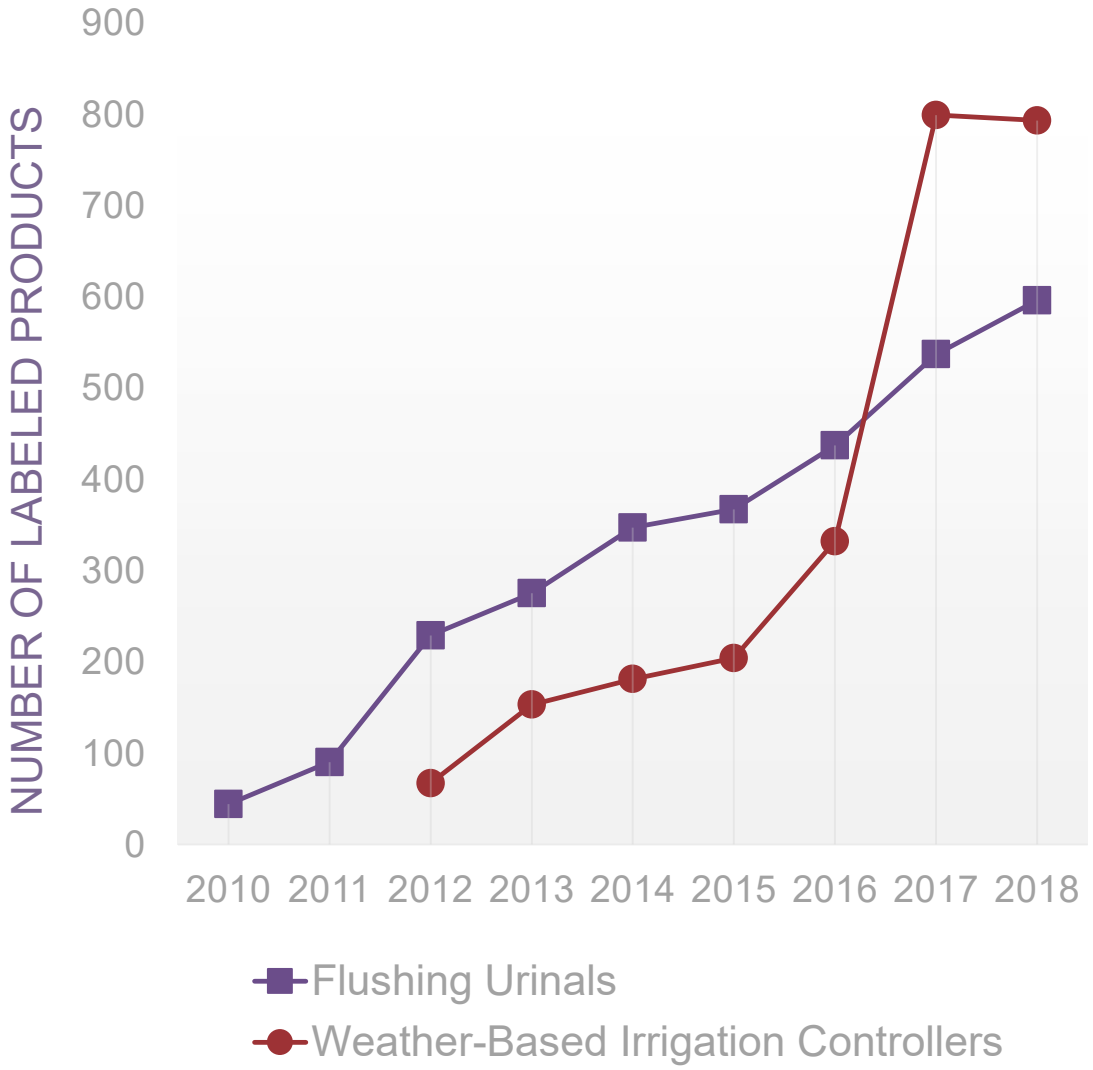
Accomplishments



WaterSense and Technology Adoption

WaterSense Labeled Products





Part 2

Summary of the *America's Water Infrastructure Act*

The *America's Water Infrastructure Act of 2018*

- Formally authorized the WaterSense program
- Directed the agency to:
  - Enhance awareness of the label
  - Preserve the integrity of the label
- Defined the scope of products and systems that could be included in the program
- Provided direction on the frequency and process for revision of products
- Directed WaterSense to institute a comprehensive review of products labeled before 2012.

The *America's Water Infrastructure Act*

The Act states that EPA shall,

(A) Provide reasonable notice to interested parties and the public of any changes

(B) Solicit comments from interested parties and the public prior to any changes

(C) As appropriate, respond to submitted comments

(D) Provide an appropriate transition time prior to an effective date of any changes

Also, EPA shall:

- Where feasible and appropriate, WaterSense will continue working with standard development bodies to collect pertinent information, and as appropriate, adopt or revise consensus performance and efficiency criteria and test methods that will form the basis for its specification revisions

The *America's Water Infrastructure Act*

Not later than December 31, 2019 EPA shall,

- "Consider for review and revise, if necessary, any WaterSense performance criteria adopted before January 1, 2012."

This requires EPA to review these specifications:

- Tank-type toilets
- Flushing urinals
- Lavatory faucets and faucet accessories
- Showerheads
- Weather-based irrigation controllers
- Homes (already undergoing review and revision)
- Irrigation professionals (underwent major revision in 2014)

Notice of Specification Review

- On December 20, 2018, EPA published the *WaterSense Notice of Specification Review*
- The notice can be viewed on WaterSense's Product Specification Review web page: www.epa.gov/watersense/product-specification-review
- The notice is intended to engage interested stakeholders in the specification review process
- As a first step, EPA is inviting stakeholders to provide feedback on whether it is appropriate to revise the WaterSense specifications discussed today

Questions?

Part 3

WaterSense Evaluation Criteria for Specification Revisions

Evaluation Criteria

Within the *WaterSense Program Guidelines*, EPA includes conditions that might trigger a technical revision to a specification:

- WaterSense labeled products in a specific category comprise a significant portion of the market share based on the number of units shipped as reported by WaterSense partners
- EPA identifies significant and broadly available improvements in technology or product design in any labeled product category that improves the product's water efficiency
- EPA becomes aware of performance issues associated with products that are currently labeled under an existing WaterSense specification
- A water efficiency standard is adopted nationally that mandates product efficiency equivalent to a specification, such that the WaterSense label would no longer differentiate more efficient products from those meeting the national standard

Evaluation Criteria

EPA always considers the following criteria in determining the feasibility or necessity of developing (or revising) a product specification:

- Equal or superior product performance
- Potential for significant water savings on a national level
- State of technology development—product categories that rely on a single, proprietary technology will not be eligible for the label
- Assurance that the development (or revision) of a specification will not lead to unintended or negative environmental, health and safety, or economic impacts
- Cost-effectiveness of products that would earn the label

EPA is seeking feedback regarding these criteria or other factors it should consider.

EPA Request for Feedback

- Beyond market transformation and national water savings, what other considerations should WaterSense include in its decision-making process for specification revision (e.g., stakeholder support, rebate availability)?

- For each product specification, what water efficiency improvements should be made to the WaterSense specification?

- For each product specification, what updates to performance criteria or referenced standards should WaterSense consider incorporating into the specification that would benefit the user experience and ensure long-term water savings?

EPA Request for Feedback

- For each product specification, what other classes of products or new technologies within the overarching product category should WaterSense consider incorporating into the scope of the specification?
- What new studies or data on water efficiency, performance, or water savings related to these product categories should WaterSense be aware of?
- For each product specification, what unintended consequences could result from increasing water efficiency requirements of a WaterSense specification?
- What other categories of products with quantifiable water savings and proven performance should WaterSense consider labeling? Any suggestions should be accompanied with data and information to support inclusion in the program.

Part 4

Summary of WaterSense Product Specifications and Market Information

Summary of Product Specifications

For the five specifications under review, EPA is:

- Summarizing current specification status and criteria
- Providing updates on the product marketplace
- Offering issues it is currently considering as part of the review

Specification for Tank-Type Toilets

WaterSense Specification for Tank-Type Toilets

- Released January 24, 2007
- Last revised June 2, 2014 (Version 1.2)
- 142 manufacturer partners
- Nearly 3,400 labeled models
- Number and percentage of WaterSense labeled tank-type toilets by flush volume:

Effective Flush Volume	≤ 1.28 gpf and > 1.1 gpf	≤ 1.1 gpf and > 1.0 gpf	≤ 1.0 gpf and > 0.8 gpf	≤ 0.8 gpf
Number of Models	2,627	438	265	70
Percentage of Total	77.3%	12.9%	7.8%	2.1%

Specification for Tank-Type Toilets

Water Efficiency Requirements

- The **effective flush volume** shall not exceed 1.28 gallons (4.8 liters).

Performance and Other Requirements

- Toilets shall pass **flush performance** criteria based on the waste extraction test protocol in ASME A112.19.2/ CSA B45.1 *Ceramic Plumbing Fixtures* (i.e., flush toilet paper and 350 grams of miso paste).
- Toilets shall conform to **other applicable requirements** in ASME A112.19.2/CSA B45.1 and ASME A112.19.14 *Six-Liter Water Closets Equipped with a Dual Flushing Device* (for dual flush).
- Products shall be **marked** with the flush volume according to ASME A112.19.2/ CSA B45.1.

Considerations for Tank-Type Toilets

Changes in the market

- At least six states in the U.S. and multiple municipalities have adopted regulations mandating a flush volume of ≤1.28 gpf.
- Should WaterSense consider additional reductions to the maximum allowable effective flush volume criteria?

System Concerns

- If WaterSense reduces the maximum allowable effective flush volume for tank-type toilets, will this have a significant and adverse impact on premise plumbing systems (e.g., drainlines)?

Performance Considerations

- Should WaterSense consider revising its performance criteria to require tank-type toilets to clear a larger quantity of waste and/or toilet paper?
- Are stakeholders aware of data to support a connection between increased performance and user satisfaction?

Specification for Flushing Urinals

WaterSense Specification for Flushing Urinals

- Released October 8, 2009
- 25 manufacturer partners
- Nearly 600 labeled models
- Number and percentage of WaterSense labeled flushing urinals by flush volume:

Flush Volume	≤ 0.5 gpf and > 0.25 gpf	≤ 0.25 gpf and > 0.125 gpf	≤ 0.125 gpf
Number of Models	265	88	249
Percentage of Total	44%	14.6%	41.4%

Specification for Flushing Urinals

Water Efficiency Requirements

- The **average maximum flush volume** must not exceed 0.5 gpf (1.9 Lpf), when tested in accordance with the applicable standards

Performance Requirements

- Fixture must **conform to the applicable ANSI standards** (depending on fixture material), when tested with a flushing device with the same rated flush volume
- Flush tank (gravity type) flushing devices must **conform to applicable ASME standards**.
- Pressurized flushing devices must **conform to ASSE Standard 1037**
- The flushing device must not contain a **flush volume adjustment** that allows the flush volume to vary more than ± 0.1 gpf and may not be packaged, marked, or provided with instructions directing a user to an alternative flush volume setting
- The urinal fixture and flushing device product and product packaging must be **marked with the rated flush volume**

Considerations for Flushing Urinals

Changes in the Market

- At least five states in the U.S. and multiple municipalities have adopted regulations mandating urinals have a flush volume of ≤ 0.5 gpf.
- California requires wall mounted urinals have a flush volume of ≤ 0.125 gpf.
- In a potential revision, should WaterSense consider further reducing the maximum allowable flush volume criteria?

System Concerns

- If WaterSense reduces the maximum allowable flush volume for urinals, will it have a significant and adverse impact on premise plumbing systems (e.g., drainlines)?

Considerations for Flushing Urinals

Potential Scope Expansion

- WaterSense does not intend to incorporate non-water urinals into its specification for flushing urinals (non-water-using urinals that meet applicable ANSI and ASME standards are inherently water-efficient)
- There is at least one product (called a hybrid urinal) that combines the non-water-using urinal technology with a periodic drainline clearing flush
  - Are there other similar products on the market?
  - Is there information on the long-term performance and water efficiency of this product type?

Questions and Discussion

Specification for High-Efficiency Lavatory Faucets

WaterSense High-Efficiency Lavatory Faucet Specification

- Released October 1, 2007
- Approximately 300 manufacturer partners
- Approximately 16,400 labeled models
- Scope includes lavatory faucets and faucet accessories (e.g., aerators, laminar flow control devices)
- Number and percentage of WaterSense labeled lavatory faucets and faucet aerators by flow rate:

Maximum Flow Rate	≤ 1.5 gpm and > 1.2 gpm	≤ 1.2 gpm and > 1.0 gpm	≤ 1.0 gpm
Number of Models	9,669	5,657	917
Percentage of Total	59.5%	34.8%	5.6%

Specification for High-Efficiency Lavatory Faucets

Water Efficiency Requirements

- The **maximum flow rate** shall be ≤ 1.5 gallons per minute (gpm) at a flowing pressure of 60 pounds per square inch (psi)

Performance Requirements

- Lavatory faucets and faucet accessories shall **conform to applicable ASME requirements**
- The **minimum flow rate** shall ≥ 0.8 gpm at a flowing pressure of 20 psi
- The product and/or product packaging shall be **marked** with the maximum flow rate

Considerations for Lavatory Faucets

Changes in the market

- At least four U.S. states and multiple municipalities have adopted regulations mandating a maximum flow rate of ≤ 1.5 gpm when tested at a flowing pressure of 60 psi.
- California requires lavatory faucets have a flow rate of ≤ 1.2 gpm or less.
- In a potential revision, should WaterSense consider additional reductions to the maximum allowable flow rate criteria?
- Should WaterSense consider modifying the minimum flow rate requirement (currently ≥ 0.8 gpm)?

Considerations for Lavatory Faucets

Potential Scope Expansion

- Should WaterSense accommodate other faucet types (e.g., kitchen faucets, metering faucets) by expanding the scope of the specification?
- What potential water efficiency and performance criteria should WaterSense establish for these other faucet types?
- WaterSense is interested in potential water savings estimates from each faucet type (i.e., kitchen, deck-mounted, metering,) that could be achieved from installing higher efficiency products in place of standard models

Specification for Showerheads

WaterSense Specification for Showerheads

- Released March 4, 2010
- Revised July 26, 2018 (Version 1.1)
- 178 manufacturer partners
- Approximately 8,100 labeled models
- Number and percentage of WaterSense labeled showerheads by flow rate:

Maximum Flow Rate	≤ 2.0 gpm and > 1.8 gpm	≤ 1.8 gpm and > 1.75 gpm	≤ 1.75 gpm and > 1.5 gpm	≤ 1.5 gpm and > 1.3 gpm	≤ 1.3 gpm
Number of Models	3,549	1,288	2,136	973	266
Percentage of Total	43.2%	15.7%	26.0%	11.8%	3.2%

Specification for Showerheads

Water Efficiency Requirements

- The **maximum flow rate** shall be ≤ 2.0 gpm

Performance Requirements

- Showerheads shall **conform to requirements in the applicable ASME standard**.
- The **minimum flow rate** tested at a flowing pressure of 20 psi must not be < 60 percent of the maximum flow rate
- The **minimum flow rate** tested at a flowing pressure of 45 psi and 80 psi must not be < 75 percent of the maximum flow rate
- The **minimum spray force** shall not be < 2.0 ounces of force at flowing pressure of 20 psi
- The **spray coverage** of the showerhead shall meet criteria included in the applicable ASME standard
- Showerheads and associated packaging shall be **marked** according to ASME A112.18.1/CSA B125.1, including the maximum flow rate marking

Considerations for Showerheads

Changes in the Market

- At least three U.S. states and multiple municipalities have adopted regulations mandating showerheads have a maximum flow rate ≤ 2.0 gpm when tested at a flowing pressure of 80 psi.
- California requires showerheads' flow rate to be ≤ 1.8 gpm
- In a potential revision, should EPA consider additional reductions to the maximum allowable flow rate?

Considerations for Showerheads

Health and Safety Impacts

- During the initial specification development, WaterSense considered whether reducing the flow rate would increase the risk of thermal shock or scalding
- Industry has since worked to harmonize the automatic-compensating mixing valve and the showerhead standards to address incompatibilities of these components and to ensure products are marked and packaged consistently to educate the purchasers/specifiers on these risks
- Could decreasing the maximum flow rate for showerheads result in additional concerns related to thermal shock or scalding?

Questions and Discussion

Specification for Weather-Based Irrigation Controllers (WBICs)

Specification for Weather-Based Irrigation Controllers

- Released November 3, 2011
- More than 30 manufacturer partners
- Approximately 800 labeled models

Specification for WBICs

Water Efficiency Requirements

- **Irrigation adequacy** shall be ≥ 80 percent for each zone, as calculated in accordance with the eighth draft of the SWAT protocol modified by the specification
- **Irrigation excess**, calculated in accordance with the SWAT protocol modified by the specification, shall be ≤ 10 percent for each zone
- The **average of the irrigation excess scores** calculated across the six zones shall be ≤ 5 percent

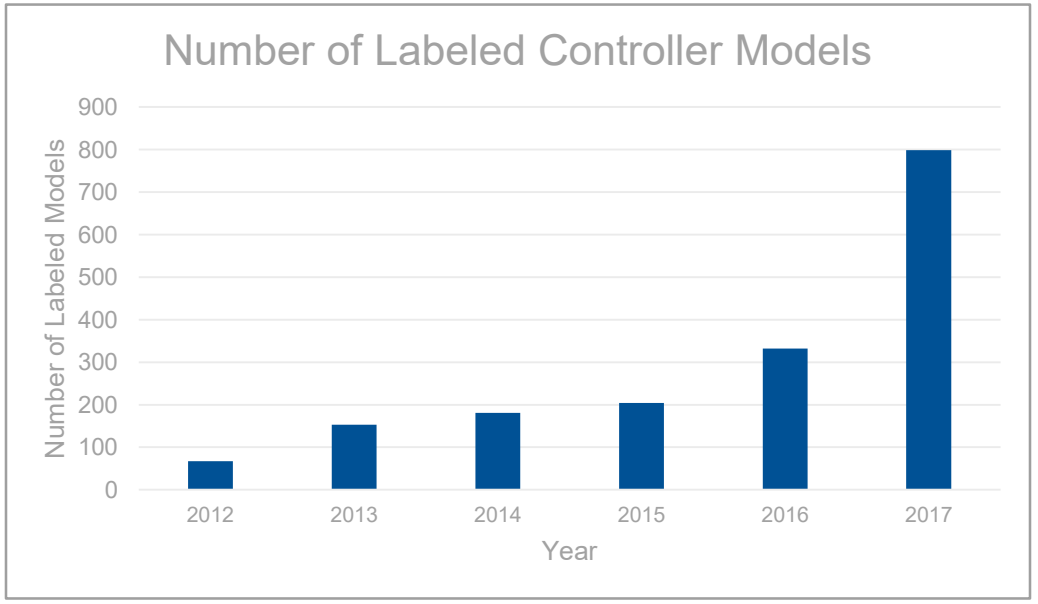
Performance Requirements

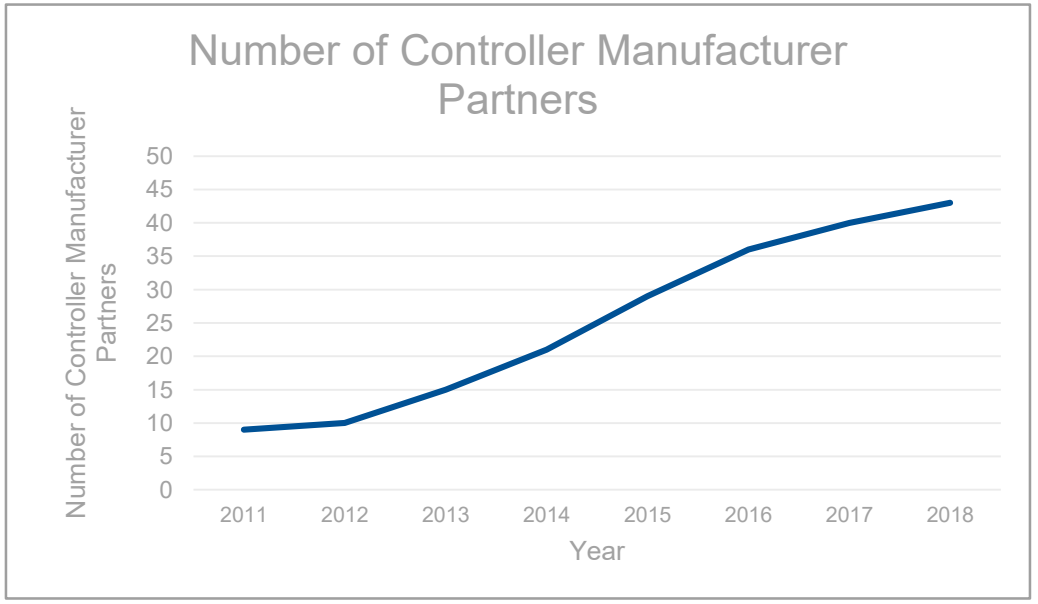
- The controller must **conform** to the supplemental capability requirements specified in the specification

Considerations for WBICs

Changes in the Market

- There has been a significant increase in both the number of manufacturers and models of WBICs since the WaterSense specification was released in 2011
- How does the advent of new technologies in this product category fit within the current scope of this specification or affect how products within this category should be defined?





Considerations for WBICs

Planned Revisions to the Underlying Test Protocol

- The American Society of Agricultural and Biological Engineers (ASABE) is currently developing Standard X627 *Environmentally Responsive Landscape Irrigation Control Systems*, which incorporates modifications to the SWAT protocol included in the WaterSense specification, plus additional modifications
- WaterSense is actively participating in this standard development process and will consider adopting it by reference within a revised specification upon its publication

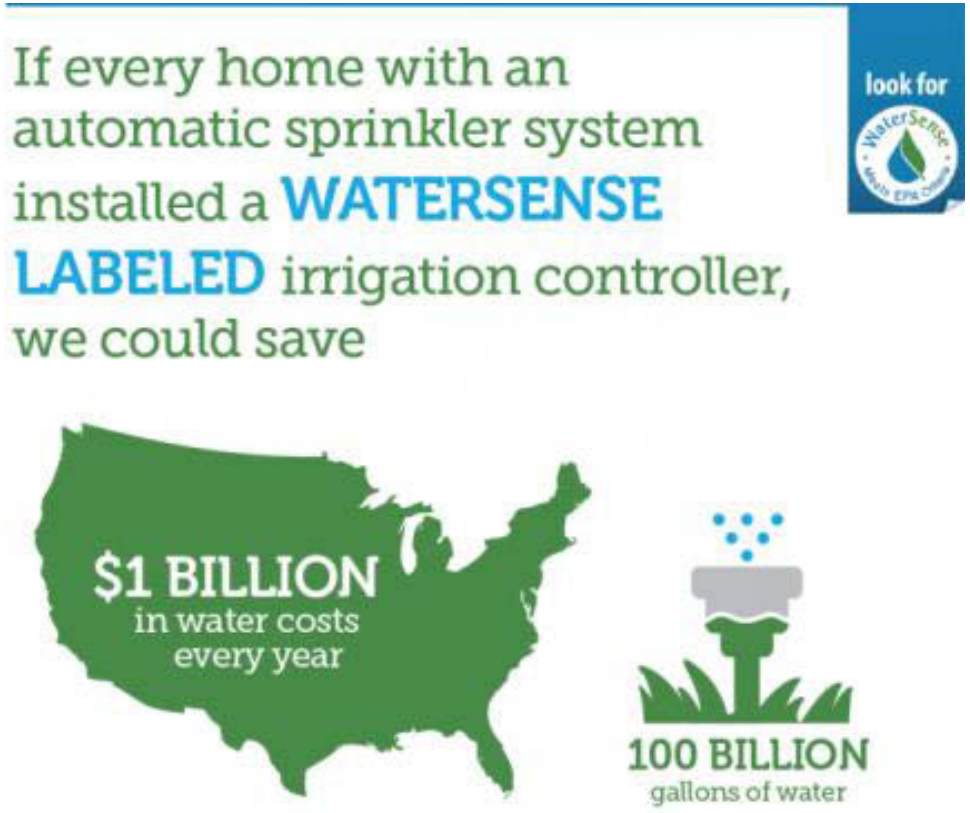
Water Savings Estimates

- Several water savings studies have been published for WBICs since the 2011 release of the specification, suggesting the program's water savings estimates could be updated to be more accurate
- WaterSense requests that stakeholders provide additional studies addressing water savings from WBICs

Considerations for WBICs

Product Marking and Labeling

- WaterSense has received several inquiries from consumers and utility partners expressing confusion about controller packaging and labeling
- In July 2018, WaterSense issued technical clarifications related to this issue, published a compatibility list, and held a webinar last fall for manufacturers to help resolve the confusion
- WaterSense is interested in further investigating whether the definitions and packaging requirements for add-on, plug-in, and stand-alone devices are consistent with the needs and practices in the controller marketplace



Questions and Discussion

Future Product Categories

The *America's Water Infrastructure Act* includes other products and product categories that may be included under the WaterSense program:

- Irrigation technologies and services
- Point-of-use water treatment devices
- Plumbing products
- Water reuse and recycling technologies
- Landscaping and gardening products, including moisture control or water enhancing technologies
- Xeriscaping and other landscape conversions that reduce water use
- Whole house humidifiers
- Water-efficient buildings or facilities

Products in Development

EPA has issued NOIs to develop specifications for other product categories.

- EPA considers both technical and market factors in identifying product categories that are good candidates for a WaterSense product specification
- EPA needs data to demonstrate that these product categories meet the program labeling criteria

Pool Covers

Soil Moisture Sensors

Part 6

Timeline, Comment Deadline, and Future Stakeholder Meetings

Next Steps

- The *WaterSense Notice of Specification Review* can be reviewed at: www.epa.gov/watersense/product-specification-review
- Submit written comments or additional information and data to watersense-products@erg.com by **March 15, 2019 (extended from March 8)**
- EPA will review submissions and recent studies to inform its decision-making process

CBI Comments

- Confidential business information (CBI) comments can be submitted through EPA's contractor, ERG.
- Data claimed as CBI should be submitted as a hard copy, CD, or flash drive to:

  Eastern Research Group, Inc.
  Attn: WaterSense Helpline
  2300 Wilson Boulevard, Suite 350
  Arlington, VA 22201

Future Industry Webinars

WaterSense will hold industry meetings on specific product categories to discuss information received as a result of the *Notice of Specification Review*.

- **Lavatory Faucets and Showerheads:** Anticipated late April
- **Tank-Type Toilets and Flushing Urinals:** Anticipated in May
- **Weather-based Irrigation Controllers:** Anticipated in late May or early June

WaterSense will work with industry representatives to schedule these meetings.

Next Steps

- WaterSense will summarize information collected and issue a decision on whether to move forward with a specification revision for each product category by **the end of 2019**
- If a specification revision is needed, WaterSense will:
  - Identify existing data gaps, concerns, and next steps (as applicable) related to development of a draft specification
  - Provide opportunity for public comments prior to and following the development of the draft specification
  - Hold additional stakeholder meetings, as appropriate, before issuing a final specification

Specification Development/Revision Process

Product Research

- Evaluate product differentiation in the marketplace, availability of performance standards/specifications, water, energy, and cost savings potential, stakeholder support
- EPA's research and stakeholder engagement as part of the *Notice of Specification Review* are intended to fulfill this phase

← We are here

Notice of Intent

- Identify potential path forward and outstanding data gaps and research needs
- Invite participation and requests feedback/data from stakeholders
- EPA's issuance of a decision on whether or not to move forward with revising each specification by the end of 2019 will serve as the Notice of Intent

Draft Spec

- Invite public comment on proposed water efficiency and performance criteria for products that will be eligible for the WaterSense label
- A draft specification will be issued for any major specification revision.

Final Spec

- Provide final water efficiency and performance criteria for eligible WaterSense labeled products
- Establish third-party infrastructure for certifying products
- EPA will consider revisions to the *WaterSense Product Certification System* and will establish a reasonable transition period for products to comply with the revised specification

Next Steps

If a specification revision is needed, WaterSense will:

- Seek to work with appropriate, applicable, and relevant consensus standards as it makes changes to specifications
- Consider revisions to the *WaterSense Product Certification System* to establish requirements for transitioning to a Version 2.0 product specification
- Provide an appropriate transition time and plan prior to the applicable effective date of any specification revision

Questions and Discussion

Contact Us

General E-mail: watersense@epa.gov

Comment Submission E-mail: watersense-products@erg.com

Website: www.epa.gov/watersense

Helpline: (866) WTR-SENS (987-7367)