



# The Power of Partnerships: Portland Water Bureau's Water House

**Anne Hill—Portland Water Bureau**



# Portland's Water System



From Forest to Faucet...the Portland Water Bureau delivers the best drinking water in the world





# Bull Run Watershed

## Harvesting Rainwater Since 1895

- **Ample Seasonal Rainfall.**
  - Average annual rainfall, 138 inches, with areas as high as 170 in.
- **Excellent water quality.**
  - No development
  - No glacial melt
- **Gravity Flow from source to the city.**
  - Over 80% of the system is gravity flow
- **Protected watershed.**
  - 102 square mile drainage
  - Protected by federal law, restricted access
  - Jointly managed by the US Forest Service and the Portland Water Bureau.



# Portland Water Usage (2007-2008)

- Total Population Served = 879,900
- Winter System Production = 85 MGD
- Summer System Production = 135 MGD
  - (peak 180 MGD)
- Residential Per Person = 64 GPD
- Total Portland Usage = 20.9 BG
- Total Wholesale Usage = 14.6 BG (41%)

## Carbon footprint

2007 = 0.38 MT of CO<sub>2</sub>e per MG

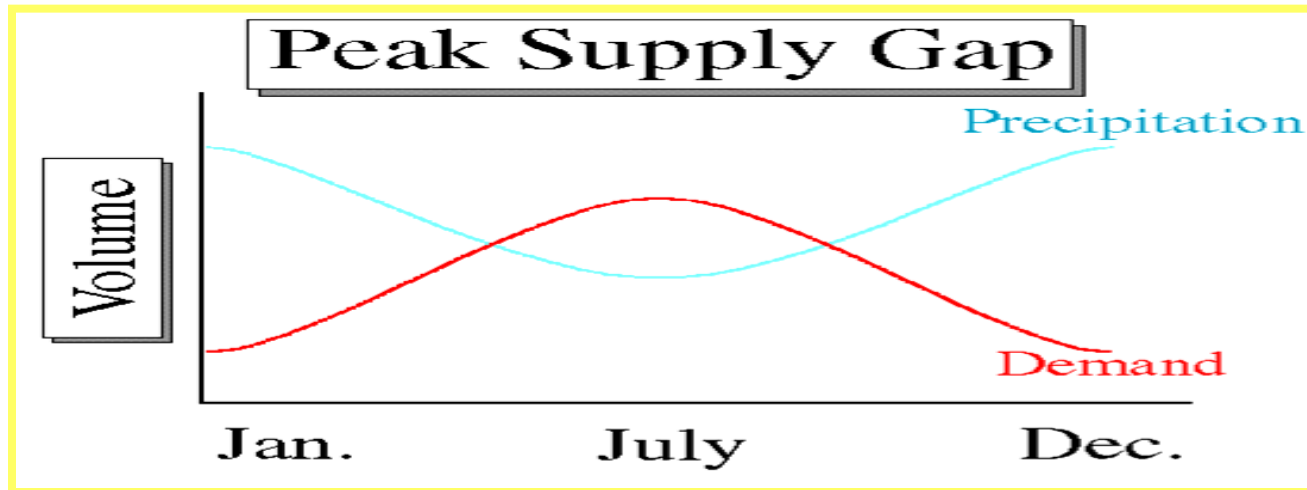
(1 cross country flight = 0.69 MT of CO<sub>2</sub>e)





# Water Conservation

- It doesn't rain *all* the time in Portland, summers are very dry.
- Increase stream flows for fish.
- Decreases need for future infrastructure expansion.
- Saves customers money.
- Climate change.
- Community values.





# Water House: Project Background

- Decommissioned well sites on surplus residential zoned property—12,500 sq. ft. vacant lot.
- Neighbors viewed recent flag lot infill development as ugly blight.
- Commissioner saw an opportunity to create a demonstration house instead of selling property to developer.





# Water House: Project Background

The Water House grew out of an opportunity to:

- Be a good neighbor;
- Build a showplace for green building; &
- Feature water conservation innovations.





# Water House: Sponsorships

Sponsorships central to Water House's success.

Project received in-kind technical assistance, verification, and promotional opportunities.

- **Earth Advantage Institute**— Nonprofit organization that works with the building industry to help implement sustainable building practices.

- **Energy Trust of Oregon**— Non profit organization offering cash incentives, information and services to help customers of Portland area utilities manage energy costs, increase comfort at home, improve productivity in the workplace and protect the environment.

- **Home Builders Association of Metropolitan Portland** —Trade association that has promoted, protected and advanced the home building industry since 1942.

- **Metro**—As the elected regional government for the Portland metropolitan area, Metro works with communities, businesses and residents to create a vibrant and sustainable region for all.







# Water House: Sponsorships

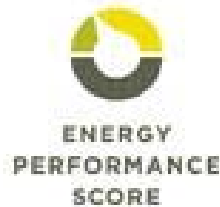
Partnered with the neighborhood association to select a home plan that was compatible with the neighborhood.

- **Mascord Design Associates**— Designed custom home for the property at cost.
- **Portland General Electric** — Through their distributors donated water heaters and HVAC equipment for the home.
- **Rivoli Design Interiors**— Donated services through the design phase.





# Water House: Sponsorships



Portland General Electric



Through these sponsorships, came over  
30 Water House partnerships.



# Water House: Thank You Partners!

\$15,000 +

- [Pratt and Larson](#)

\$10,000 - \$14,999

- [Fisher & Paykel](#)
- [Kohler](#)
- [Neil Kelly Cabinets](#)
- [Sapa Profiles, Inc.](#)
- [Daikin Mini Split Heat Pumps/Sun Glow Inc.](#)
- [Western Spray Foam](#)

\$5,000 - \$9,999

- [Basco](#)
- [Cascade Radon](#)
- [General Pacific/Convectair](#)
- [James Hardie Building Products Inc.](#)
- [Marlarkey Roofing / Ecoasis](#)
- [McGee Salvage](#)
- [Life Breath HRV & Comfort Solutions](#)

\$1,000 - \$4,999

- [Atrium Companies](#)
- [Cascade Lighting](#)
- [Craft and Design](#)
- [Ecohuas](#)
- [EcoMaids](#)
- [Evolution Paving Resources](#)
- [Gary's Vacuflo](#)
- [InFuez, Inc.](#)
- [Rheem/Marathon Water Heaters](#)
- [MetroPaint](#)
- [Overhead Door](#)
- [Phillips Lightolier](#)

Up to \$1000

- [Art by Marla](#)
- [Hobbs & Hopkins](#)
- [Joinery](#)
- [Perch Furniture](#)
- [Portland Nursery](#)





# Water House Specifications

- 3 bedrooms, 2 bathrooms (2,119 sq ft) & attached garage (436 sq ft).
- A 600 square foot guest house (Accessory Dwelling Unit) that includes 1 bedroom and bath.
- Earth Advantage Platinum certified
- Energy Star certified
- WaterSense certified





# The Water House: Water Conservation & Innovative Design

- Plumbing fixtures donated by Kohler
- Marathon hot water heater
- Structured plumbing
- Gray water system designed to allow for reuse for toilet flushing.
- Monitoring system will provide homeowner with real time statistics - info will increase water & energy consumption awareness
- Rain garden in front yard as design feature
- Pervious pavers for driveway and pathways





# Water House: 12 Month Showcase

Opened in January 2011, the Water House will be open for 12 months for public events, tours, and classes.





# Water House: 12 Month Showcase

## Events include:

- **Graywater Residential Homeowners**  
*Portland Water Bureau & Aqus*
- **Toilet Installation Workshop**  
*Portland Water Bureau, Kohler & Black Cat Plumbing*
- **Daikin Ductless Heat Pump Workshop**  
*Portland General Electric, Daikin & Sun Glow Inc.*
- **Ultimate Open House**  
*Portland Water Bureau, HBA, & Energy Trust of Oregon*
- **Rain Garden Installation Workshop**  
*Portland Water Bureau & Metro*





## Lessons Learned:

- Innovation is worthwhile.
- Don't be afraid to ask.
- Maximize your partnerships.
- We're still learning!







# Stay in Touch

Anne Hill –Portland Water Bureau

[www.portlandoregon.gov/water/waterhouse](http://www.portlandoregon.gov/water/waterhouse)

(503) 823-4807

[anne.hill@portlandoregon.gov](mailto:anne.hill@portlandoregon.gov)

