

Rainwater Harvesting etc.



Some questions to consider when choosing among water conservation alternatives



Deep thoughts – with math

- RWH is undoubtedly a good option in some situations.
- In others – it may not be the best choice...
- Rainfall patterns in our area are very different from most of the country
- Size matters more here

Outdoor Water Use



7,256 gal

(average Portland household outdoor summer use)

80 gal/day/home



Outdoor Water Use



Tank Size (gal)	# of days water avail.*
55	< 1
1500	18
5000	62
6500	81
10,000	125

* Unless significant rainfall occurs during summer



Outdoor use for irrigation

- 7,000-8,000 gallons used per summer average (veggie & fruit production more like 10,000)
- Little or no summer rainfall during irrigation season most years (very different...)
- Water Savings:
 - 1000 gal tank 10-15%
 (19 rain barrels)
 - Drip irrigation 30-40%
- (or do both!)

Irrigation of vegetables – some back of the napkin math

- 10x10 vegetable garden needs ~15" water/yr
- If watering with a sprinkler you would use about 1,395 gallons to do that
- Conversion from sprinkler/hose watering to drip saves about 30% over sprinklers
- In this example drip delivers similar water savings to 400 gallons of water storage (7+ rain barrels)

If stormwater management is your goal - also consider a rain garden

- Inexpensive
- Returns rain to water table – mimicking natural hydrology of system
- Can be attractive and can provide some habitat depending on plant choices

Indoor Use



Use estimations (Fall/Spring/Winter)

- Average use in Portland:
132 gal/household (2.4 people)/day

1500 gal tank = 11 days of indoor use

3000 gal tank = 22 days of indoor use



Rainwater Harvesting System – sustainability considerations

- Embodied energy and water use in manufacture of tanks and other materials (“water footprint” of plastic 24 gal/lb?)
- Energy and materials to run the system if pump, filters etc
- Disposal (plastic tanks in landfills)
- Next owner?
- How do benefits compare to other conservation measures?



Is Rainwater Harvesting right for you situation?

- Jason Garvey - Owner of Portland Purple Water LLC
- Portland Purple Water is Oregon and Southern Washington's premier provider of Rainwater Catchment Systems. Portland Purple Water sells, builds and installs everything needed for your Purple Water System: filters, barrels, cisterns, pumps, first flush diverters and more.