

TABLE 2.1: GREYWATER SOURCES, QUALITIES, AND QUANTITIES

Source Ease of replumbing	Quality Ways to improve quality	Quantity	Metric Quantity
<b>Sources with their own pumps</b>			
<b>Washing machine</b> <i>Easiest collection plumbing.            Getting washer lint out of septic            leachlines greatly extends their life.</i>	<b>Good.</b> Medium concentration of soaps, lint. Diapers can dramatically increase pathogen level. <i>Can be improved to excellent by using biocompatible cleaners.</i>	<b>Large:</b> 30–50 gal/load (10 gal for front loader). 1½ loads/week/adult, 2½/child. 85–100 gal/person/week	320–380 L/person/week
<b>Automatic dishwasher</b> <i>May be easily replumbed by a do-it-yourselfer.</i>	<b>Poor.</b> Low to high quantity of solids, depending upon degree of pre-rinsing. High salt and pH from conventional automatic dishwashing compounds; alternative cleaners don't clean well.	<b>Small:</b> 5–10 gal/load.	20–40 L/load
<b>Gravity flow sources</b>			
<b>Shower</b> <i>Requires professional replumbing.            May be impossible with slab            foundation.</i>	<b>Excellent.</b> Minimal concentration of soap and shampoo is of little concern. Contains pump-snarlring hair. <i>Use the least amount of soap and shampoo necessary. Use liquid soap to reduce sodium.</i>	<b>Large:</b> 20 gal/person/day for high flow shower; 10 for low flow. 70–100 gal/person/week.	76 L/person/day, 38 L/person/day, 260–380 L/person/week
<b>Tub</b> <i>Requires professional replumbing.            May be impossible with slab            foundation.</i>	<b>Excellent.</b> Same desirable qualities as shower, only more so.	<b>Variable:</b> 40 gal/adult bath, 25 gal/kid bath. <i>Use is highly variable.</i>	150 L/adult, 95 L/kid
<b>Bathroom sink</b> <i>Requires professional replumbing.</i>	<b>Good.</b> Concentration of soap, shaving cream, and toothpaste can be high. <i>Use liquid soap. Exercise discretion in choice and quantity of other products.</i>	<b>Small:</b> 1–5 gal/person/day. 7–35 gal/person/week.	4–20 L/person/day, 26–130 L/person/week
<b>Kitchen sink</b> <i>Requires professional replumbing.</i>	<b>Good but problematic</b> in delicate systems. High in nutrients, but also in solids, grease, and soap. <i>Despite low pathogens, many authorities consider kitchen sink water "blackwater" not worth trying to reuse. I like it, due to its nutrient value. It can be a design problem for systems, but is not a problem in soil. One workaround is to plumb only the rinse side of a double sink to the greywater system. Meat eaters can add a grease trap.</i>	<b>Large:</b> 5–15 gal/person/day.	20–55 L/person/day
<b>Reverse-osmosis water purifier wastewater</b> <i>May be easily replumbed by a do-it-yourselfer.</i>	<b>Excellent.</b> "Clearwater" with no suspended solids. Contains 25% more of the same dissolved solids as tapwater.	<b>Medium:</b> 3–5 gal/gal drinking water used. 13–21 gal/person/week.	50–80 L/person/week
<b>Water softener backwash</b> <i>May be easily replumbed by a do-it-yourselfer.</i>	<b>Very bad.</b> Water softener backwash is extremely high in salt (sodium chloride), harmful for plants. <i>Use of potassium chloride salt<sup>st</sup> instead of sodium chloride salt can raise quality to bad, but is still more of a disposal problem than a reuse opportunity.</i>	<b>Small:</b> 5% of indoor water use.	
<b>Softened water</b>	<b>Poor.</b> Softened water contains salt (sodium chloride), harmful for plants. <i>Potassium chloride<sup>st</sup> can be used instead, raising its quality to okay. The best thing is to disconnect the water softener.</i>	<b>All greywater</b> if softener is in use.	
<b>Toilet water</b> <i>Requires professional replumbing.            May be impossible with slab foundation.</i>	<b>Very bad.</b> High pathogens, suspended solids, and salt. Toilet water is blackwater, inappropriate for reuse in an ordinary greywater system. <i>In a system designed to address the solids and health issues, toilet water is very good (see System Selection Chart).</i>	<b>Medium:</b> 5–8 gal/person/day low flow; three times that for high flow. 60–135 gal/person/week.	20–30 L/person/day, 230–510 L/person/week

Notes: Leaks can add 5% or more to water use. Good strainers on drains can dramatically reduce solids.