Carrie Jennings, Research and Policy Director

FRESHWATER SOCIETY

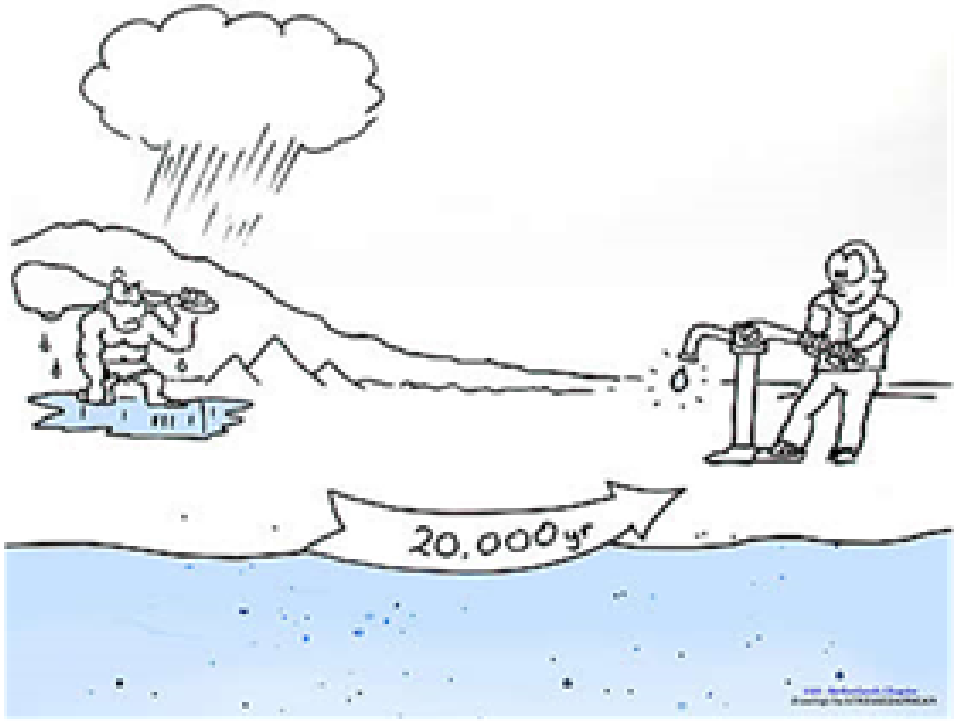
Reduce, Reuse, Recharge

1. Provide groundwater trends to cities
2. Reduce barriers for reuse & recharge
3. Use CW Funds and leverage Federal $

What are *you* drinking?

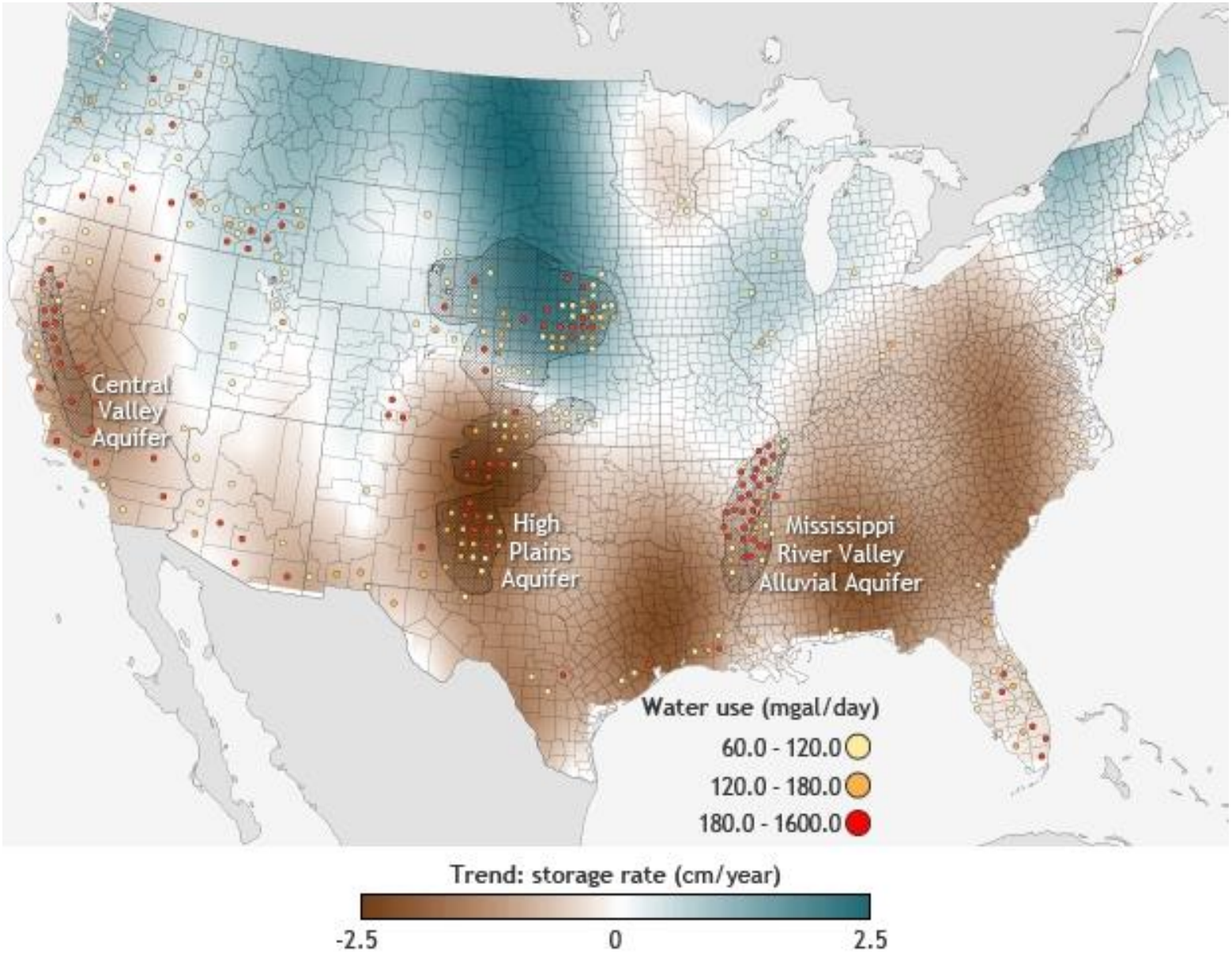
Is your groundwater:

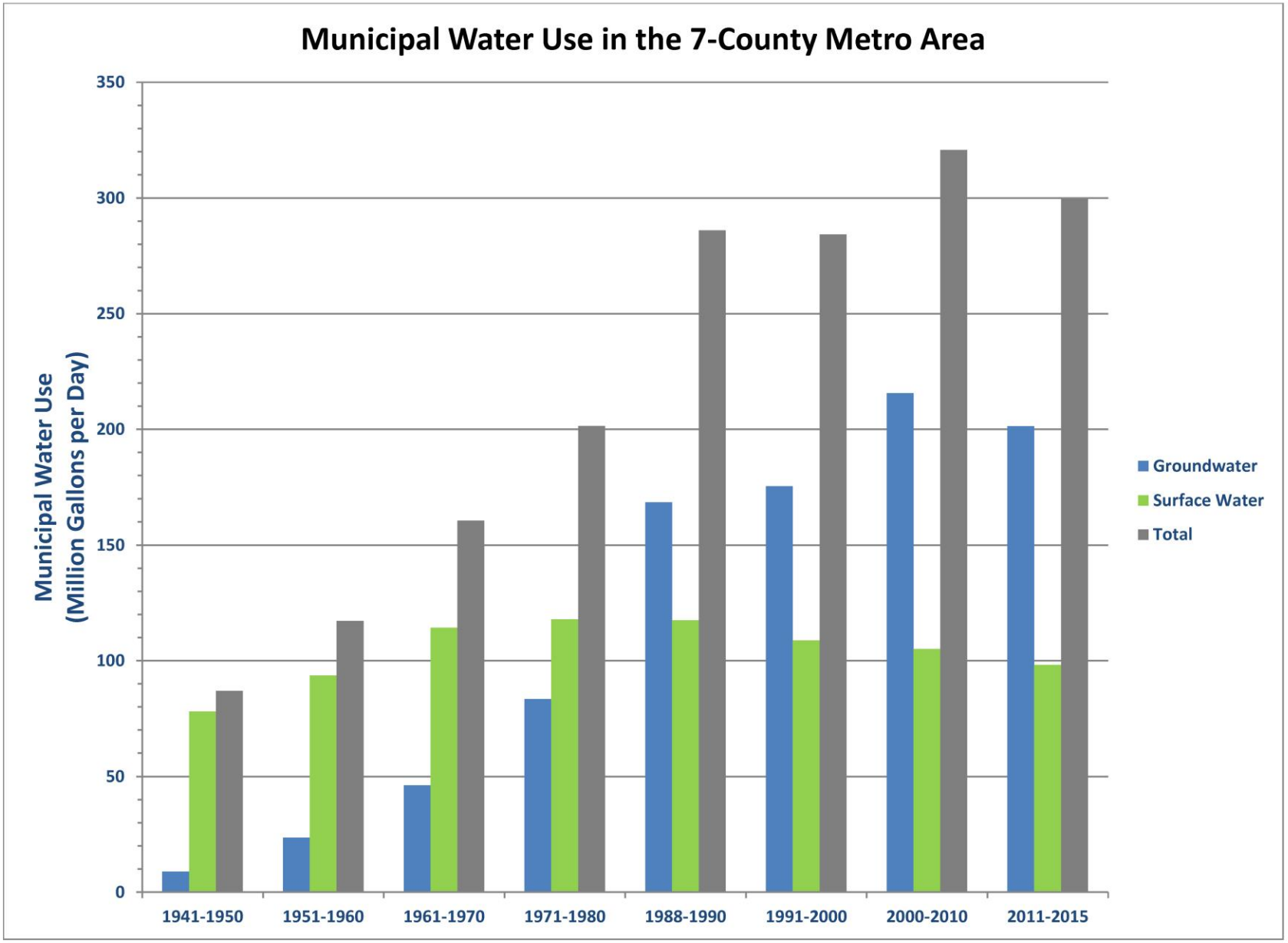
- Old?
- Young?
- Being replenished?
- Diminishing?



It took over 20,000 years for some of our groundwater to accumulate drop by drop. http://www.hydrology.nl/iahpublications/201-groundwater-cartoons.html

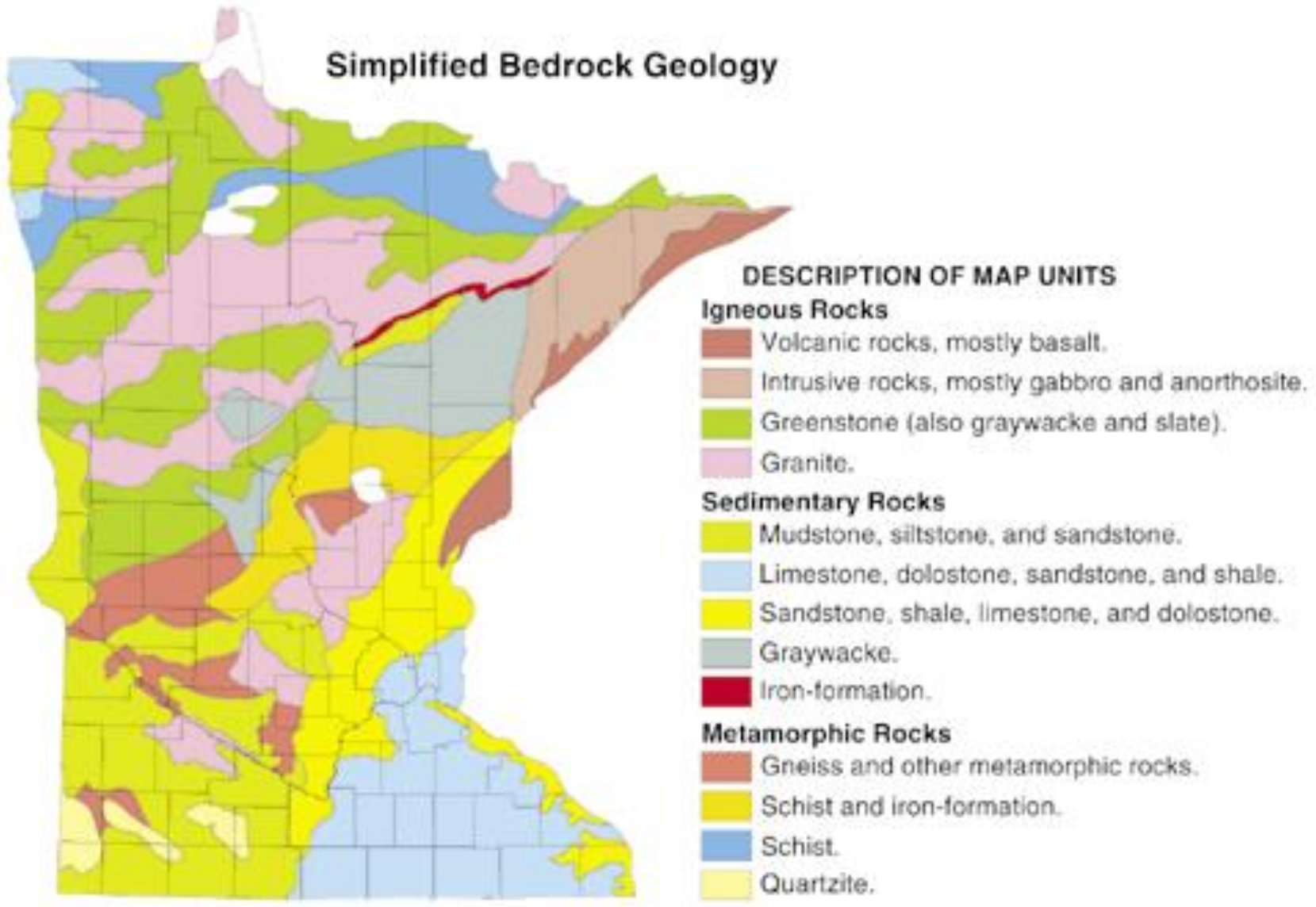
What are Minnesota's trends?



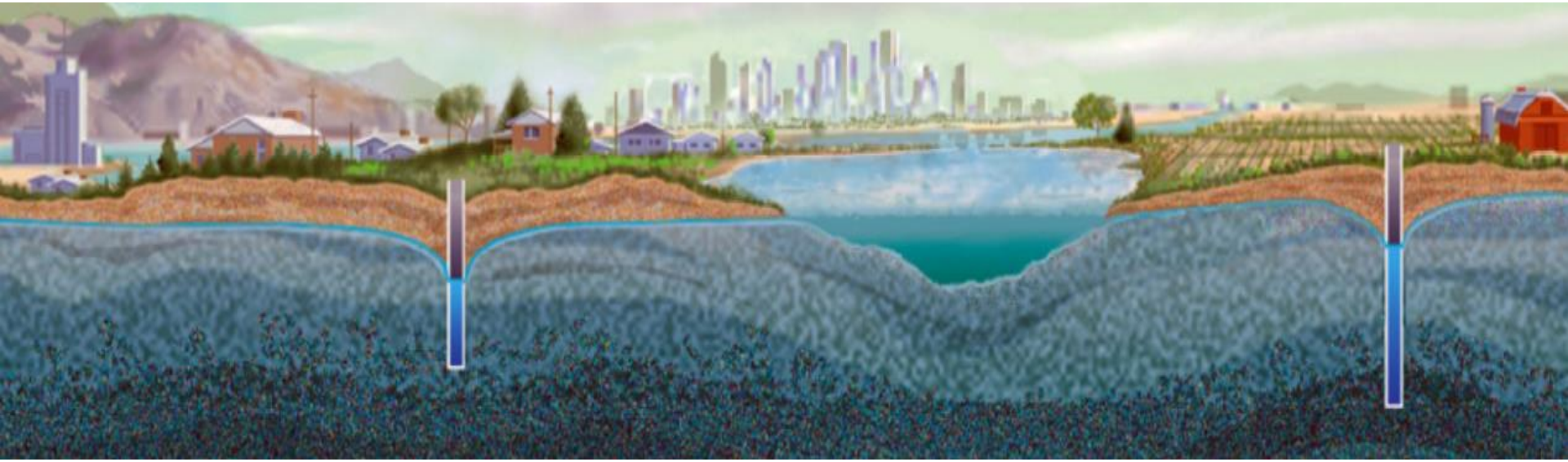

Municipal Water Use in the 7-County Metro Area
Municipal Water Use (Million Gallons per Day)
350
300
250
200
150
100
50
0
1941-1950
1951-1960
1961-1970
1971-1980
1988-1990
1991-2000
2000-2010
2011-2015
Groundwater
Surface Water
Total

Who else do you share your water with?

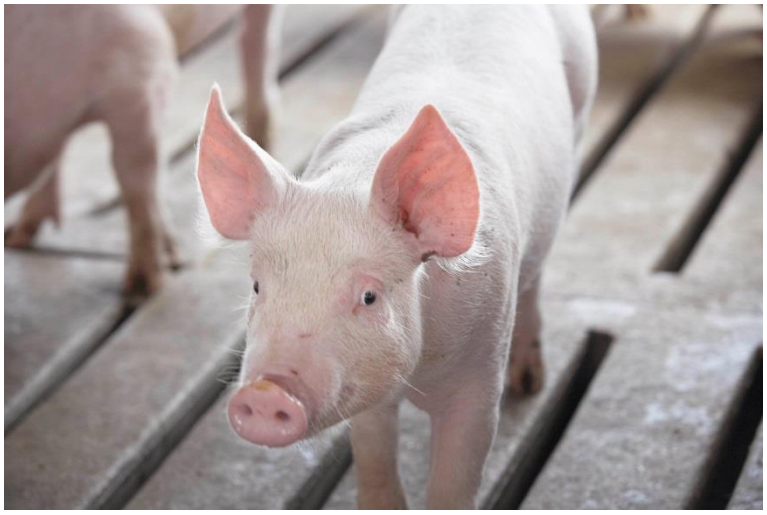
Who else do you share your water with?



What else do you share your water with?



Who needs groundwater?



Why throw money down the drain? Reduce, Reuse and Recharge


MPCA
DNR and MDH
DNR, MDH and DLI
MPCA and DNR

Curr[illegible]lations

Sources of Reuse Water	Roles of Regulato[illegible] a Reuse System				
	Source	**[illegible]Storage**	**Treatment**	**Distribu[illegible]**	**End Use**
Rainwater	*Not expli[illegible]*	[illegible]ulates the drainage or [illegible] from roofs and [illegible]ystems.	**MDH** has broad authority over drinking water quality and public health but nothing specific about evaluating the safety of reuse systems. **DLI** has water quality treatment requirements for rainwater.	**DLI** regulates [illegible] and drainage sys[illegible] **DNR** regulates if volu[illegible] collected/used >10,000 g[illegible] day or one million gallons [illegible] (some residential exceptions[illegible]	**MDH** regulates injection wells, has [illegible]ontrols on infiltration in vulnerable [illegible]WSMAs, ERAs, and some WHPAs. [illegible]quires backflow preventers to [illegible] cross-contamination with [illegible]ater sources.
Graywater	**DLI** [illegible]ing co[illegible] the d[illegible]ion of g[illegible]s as well as [illegible]g [illegible]l graywater [illegible] a variance. [illegible]ssues permits [illegible]0,000 gal/day.	**MPCA** [illegible] graywat[illegible] wastewater[illegible] technical requ[illegible] septic tanks, pum[illegible] trenches, seepage be[illegible] mounds, at-grade syste[illegible] **DLI** mandates that public se[illegible] and water be used if available, requiring a variance for graywater projects.	*[illegible] of standardized treatment, [illegible] DLI can set treatment [illegible]ts through variance.*	**MDH** requires graywater dispos[illegible] to be certain distances from wells[illegible] **DLI** requires graywater and backup systems to be separated through plumbing code for piping, make-up water, backflow provisions, cross connections, testing requirements, and setbacks.	[illegible]lved only if the end use [illegible] drinking water [illegible]uld apply. [illegible]ire a variance for [illegible]s. [illegible] discharge to surface [illegible] discharge (including [illegible] guidance on reuse.
Stormwater	*[illegible]lated*	**MPCA** provides guidance in capture and storage of stormwater in the Stormwater Manual.	**MD**[illegible]afety of com[illegible] installatio[illegible]	**DLI** regulates use within buildings (and has broad authority to regulate stormwater conveyance systems, but does not regulate [illegible]rigation systems unless combined [illegible] indoor use. [illegible]lates if volumes [illegible]ed >10,000 gallons p[illegible] [illegible]on gallons per y[illegible] [illegible]xceptions)	[illegible]njection wells and [illegible]nerable DWSMAs, [illegible]n WHPAs. [illegible]ckflow preventers [illegible]e with MDH well code [illegible]ss-contamination. [illegible]use within buildings [illegible]ariance. [illegible]es permits for stormwater [illegible]e and infiltration.
Wastewater	**MPCA** r[illegible]nd industria[illegible] wastewate[illegible] **County or City**[illegible] for volumes < 10,[illegible] **DLI** would require a [illegible] for all wastewater syste[illegible]	**MPCA** regulates the disposal of wastewater including specific technical requirements for [illegible]eptic tanks, pumps and [illegible]ersal in trenches, seepage [illegible]unds, or at-grade [illegible]blic sewer [illegible] wa[illegible]	*Lack of standardized treatment, though DLI can set treatment requirements through variance.*	[illegible]te[illegible] to [illegible] **MPCA** [illegible] industrial [illegible] waters, subs[illegible] **Metr**[illegible]y [illegible]districts [illegible]). [illegible]stewater piping [illegible]ngs and property lines.	[illegible]egulates discharge to surface [illegible]s and land discharge (including [illegible]gation), issues guidance on reuse. **MDH** applies drinking water standards to potable end uses; a variance would be needed for aquifer injection. **DLI** requires a variance for use in buildings, and upholds MPCA design requirements. **USEPA** involved in aquifer injection.

How can you help?

Reduce, Reuse, Recharge

1. Provide groundwater trends to cities
2. Reduce barriers for reuse & recharge
3. Prioritize CW Funds & leverage Fdl $$

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