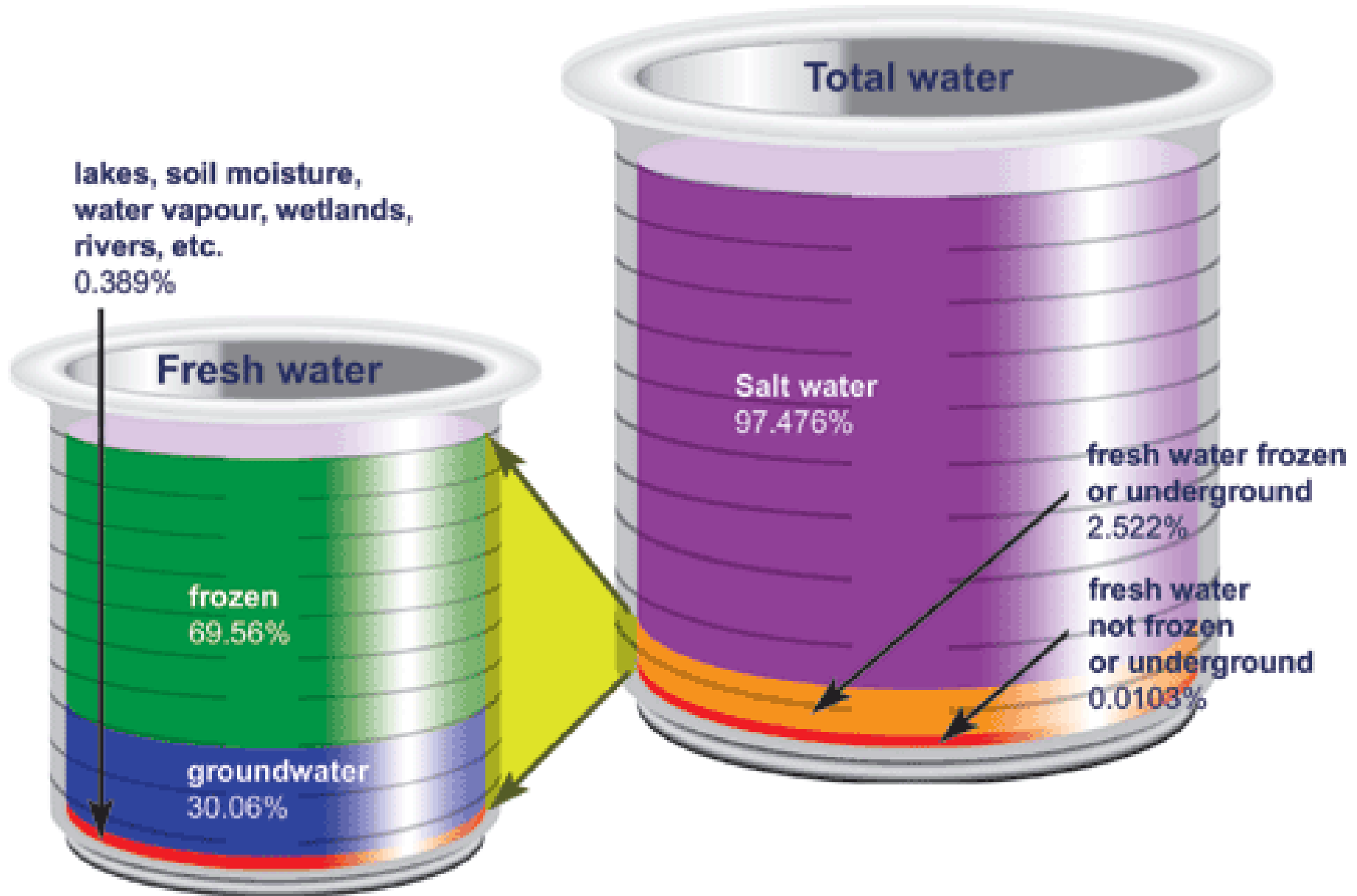


A Very Brief History of Water

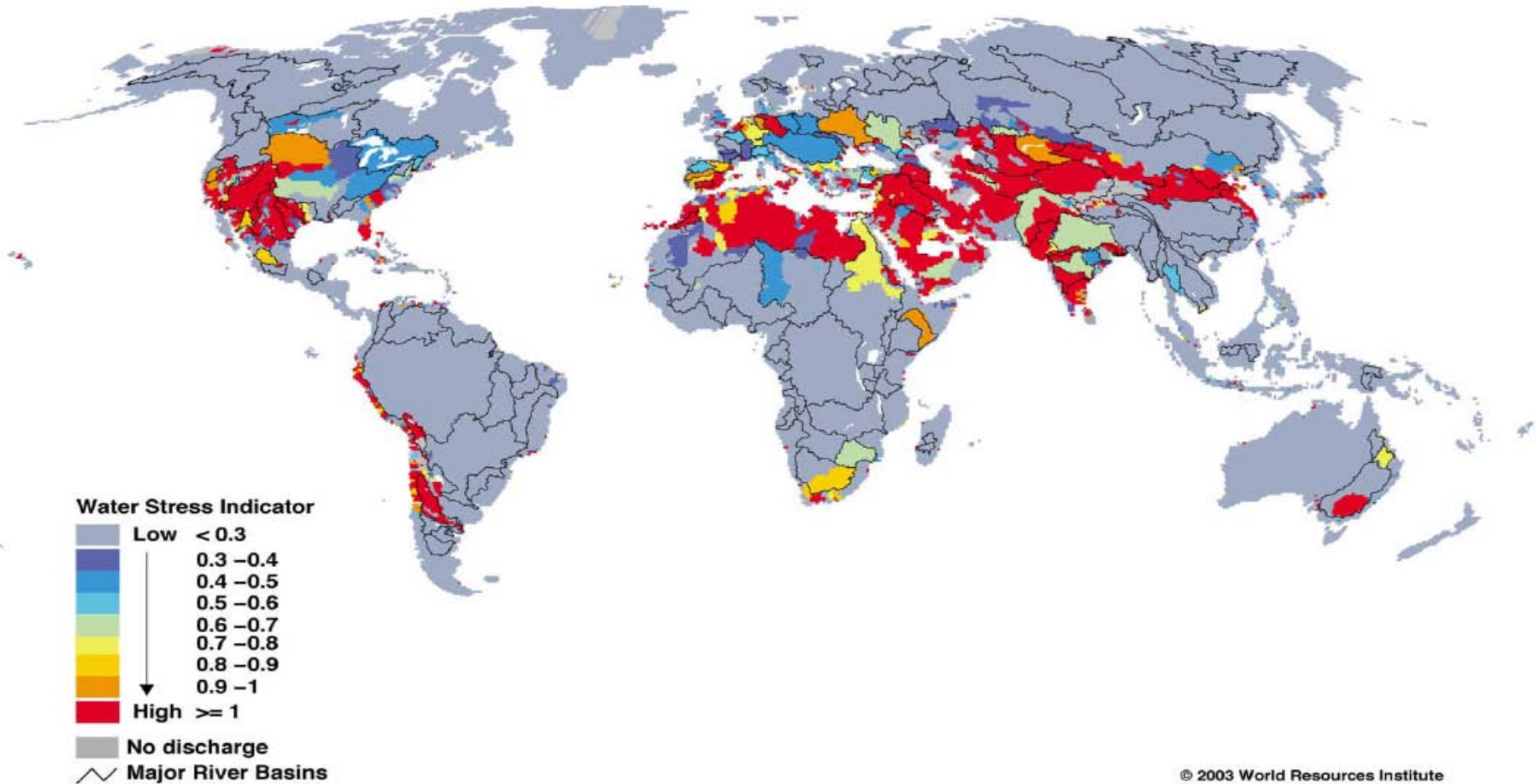




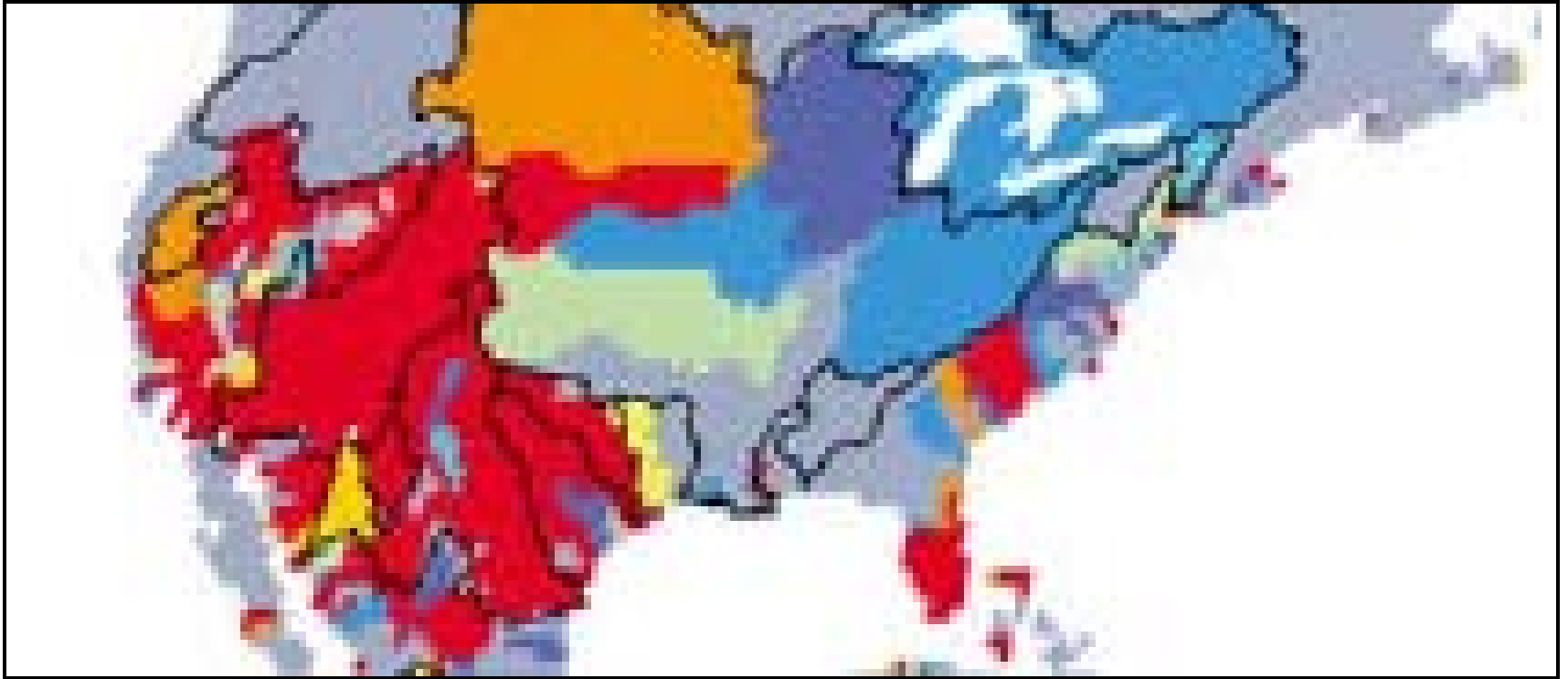
The world's water supply



Today's Water Issues



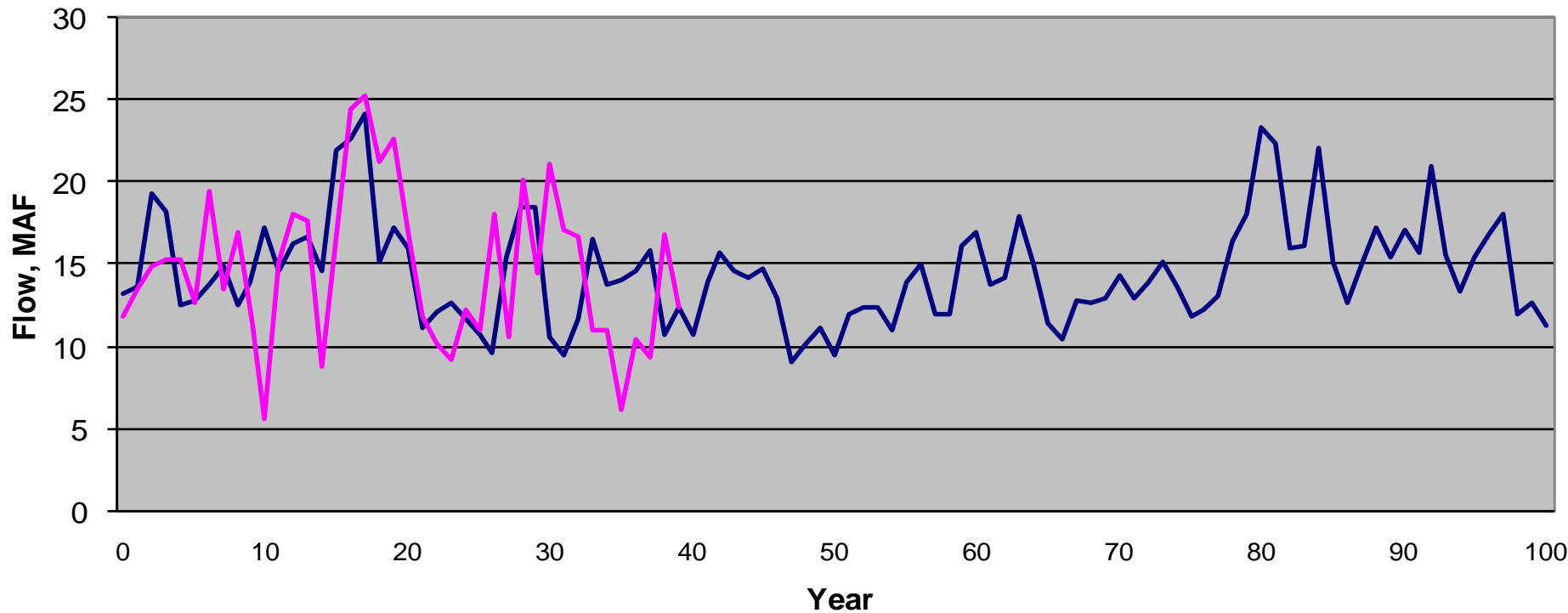
Water Issues in the U.S. Southwest



...the amount of water removed from the system puts the ecosystem at risk by tapping into the environmental water demand – that is, the amount of water needed to sustain the integrity of the ecosystem.

We've Seen this Volatility Before

**Colorado River Flow
Medieval Climate Anomaly vs 1967-2006**

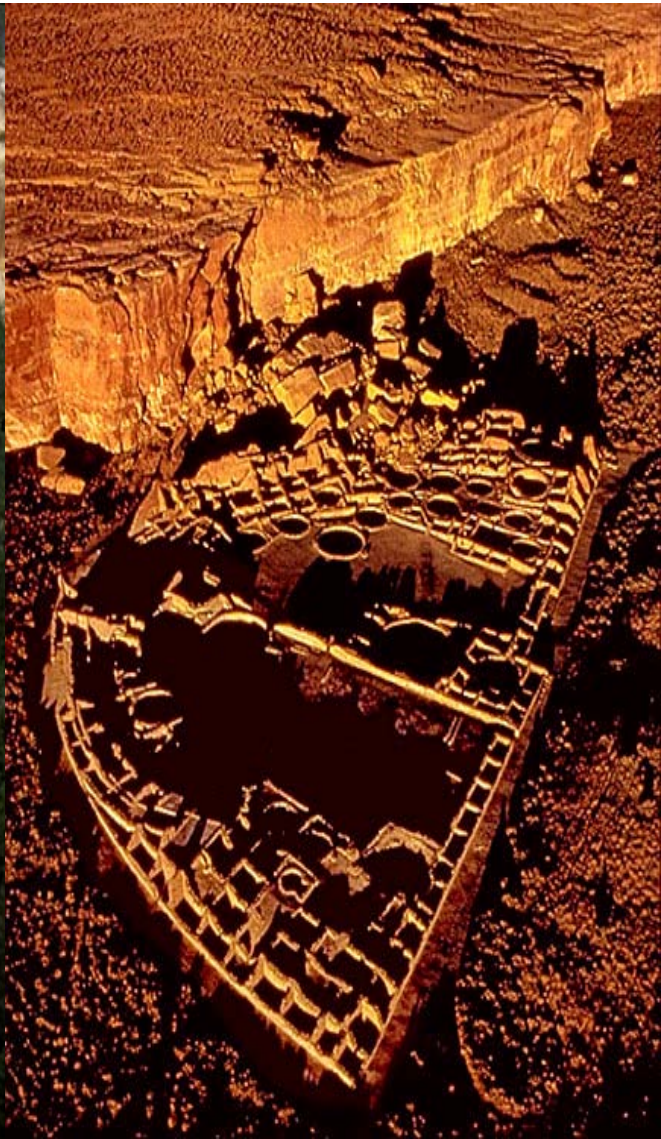


— Reconstructed Col Rvr Flows 1100-1200 CE — Measured Col Rvr Flows 1967-2006 CE

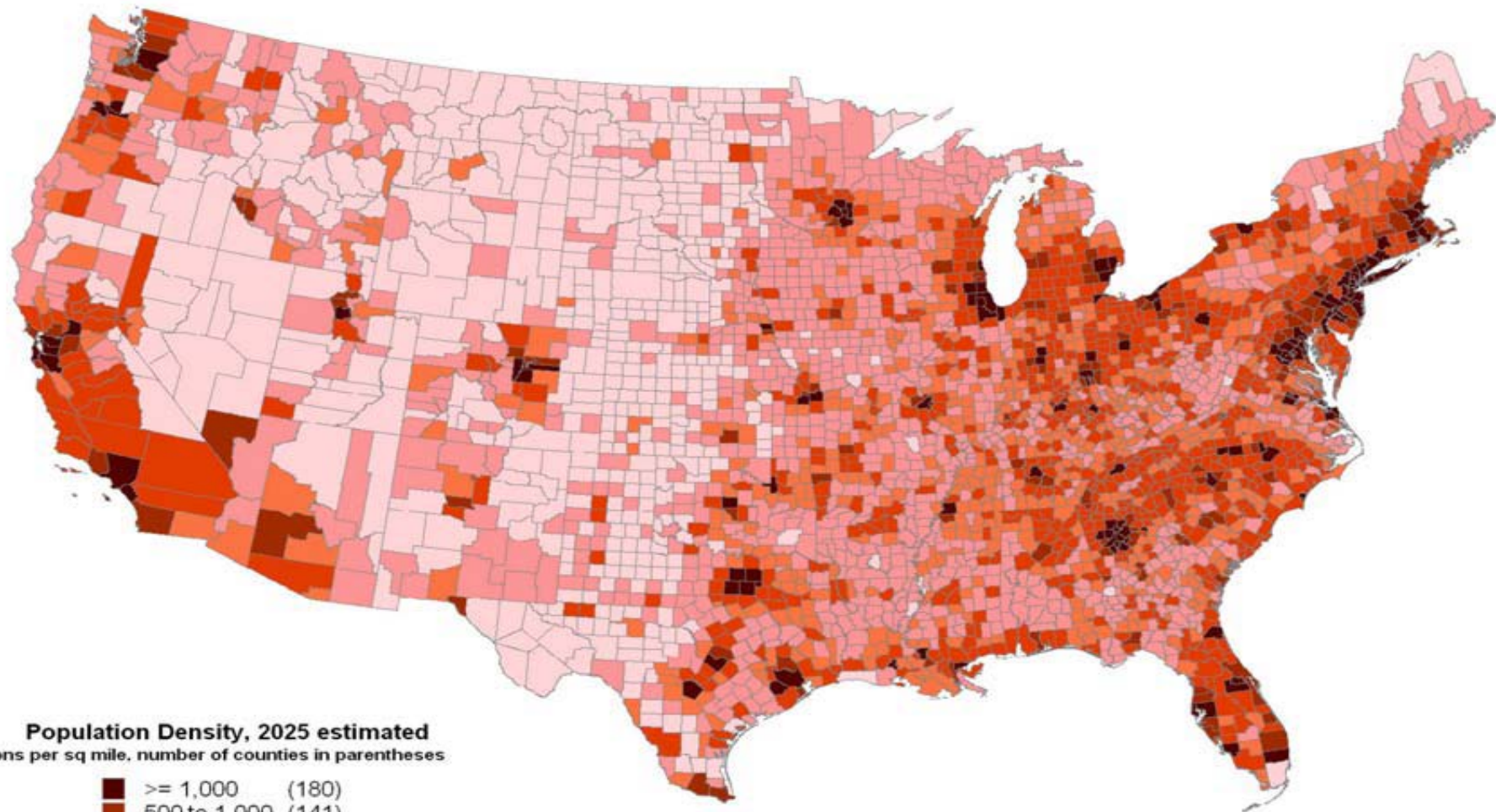
We've Seen this Volatility Before



And it ended badly...



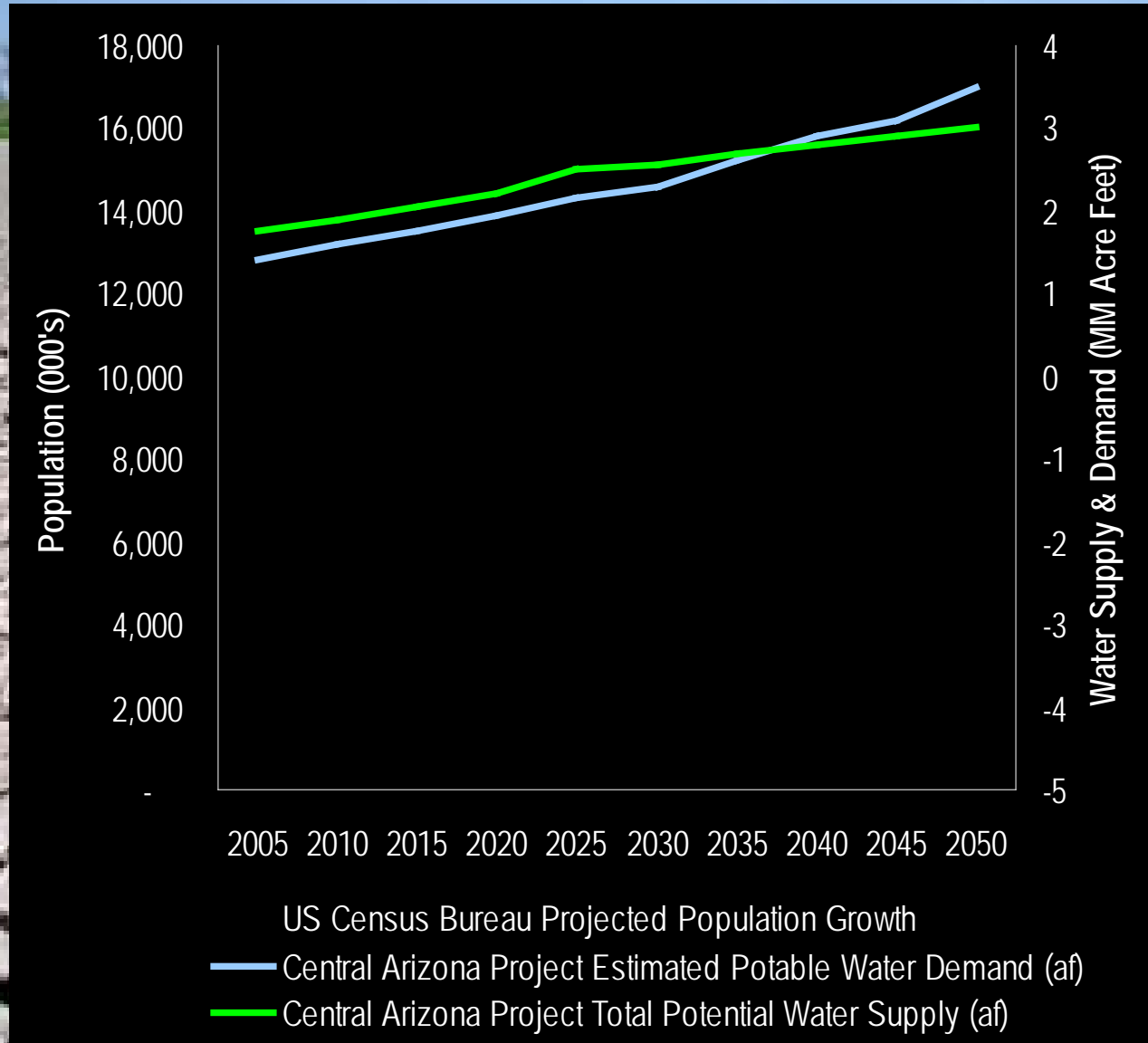
Population Growth vs. Total Potential Supply



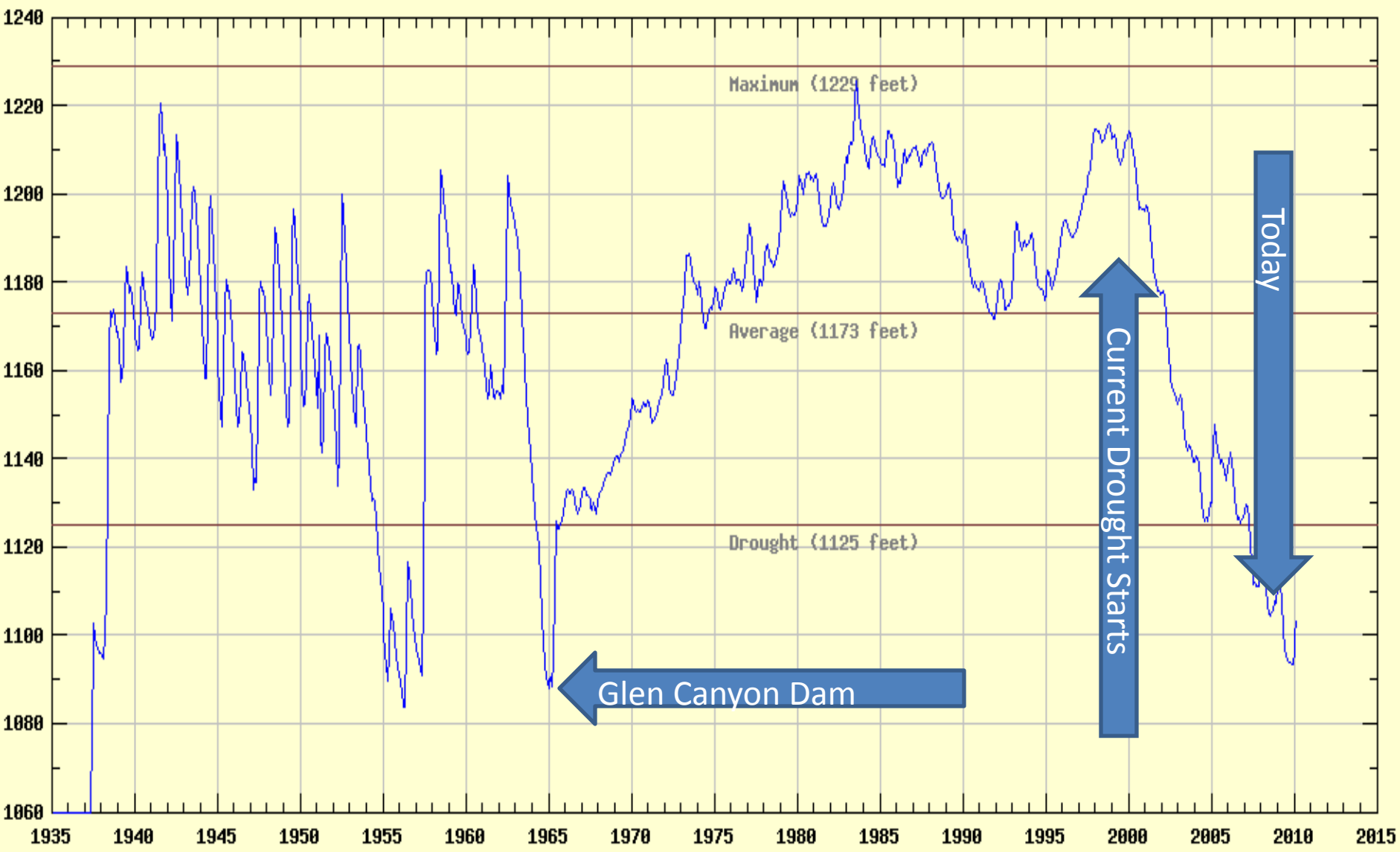
Population Density, 2025 estimated
persons per sq mile, number of counties in parentheses

Dark Brown	>= 1,000	(180)
Dark Orange	500 to 1,000	(141)
Orange	100 to 500	(718)
Light Orange	50 to 100	(622)
Light Pink	10 to 50	(949)
Very Light Pink	0 to 10	(501)

Population Growth & Water Limitations



Lake Powell Elevation Levels





1999

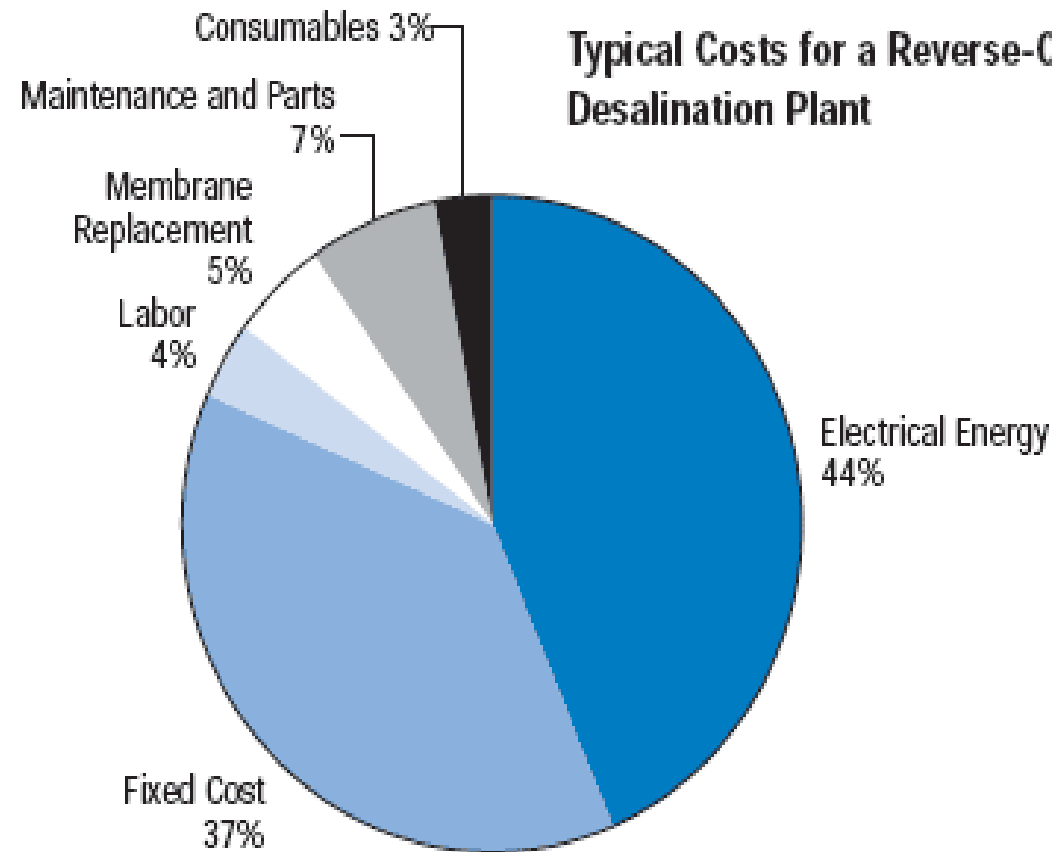
Desalination as Solution?

- “There has been no breakthrough in the cost of desalination. The gradual reduction in cost due to improvement in technology has been mostly offset by increased material and labor cost.”
 - Minister Abdullah Al Hussayen at the International Desalination Association conference in November 2009.



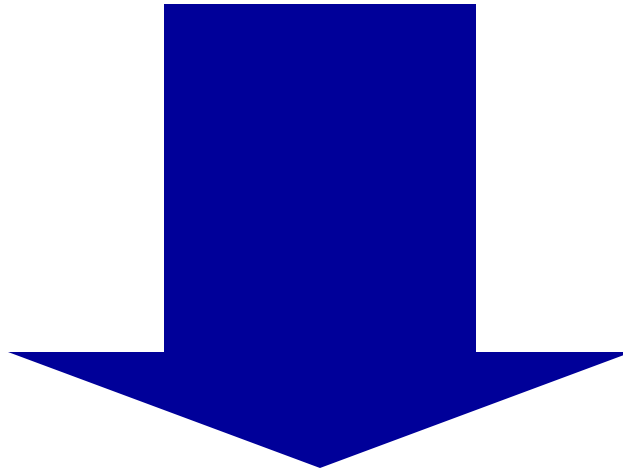
Saudi Arabia uses 1.5 million barrels of oil per day at its desalination plants

Typical Costs for a Reverse-Osmosis Desalination Plant



Paradigm Shifts

From Supply Side Management



To Demand Side Management

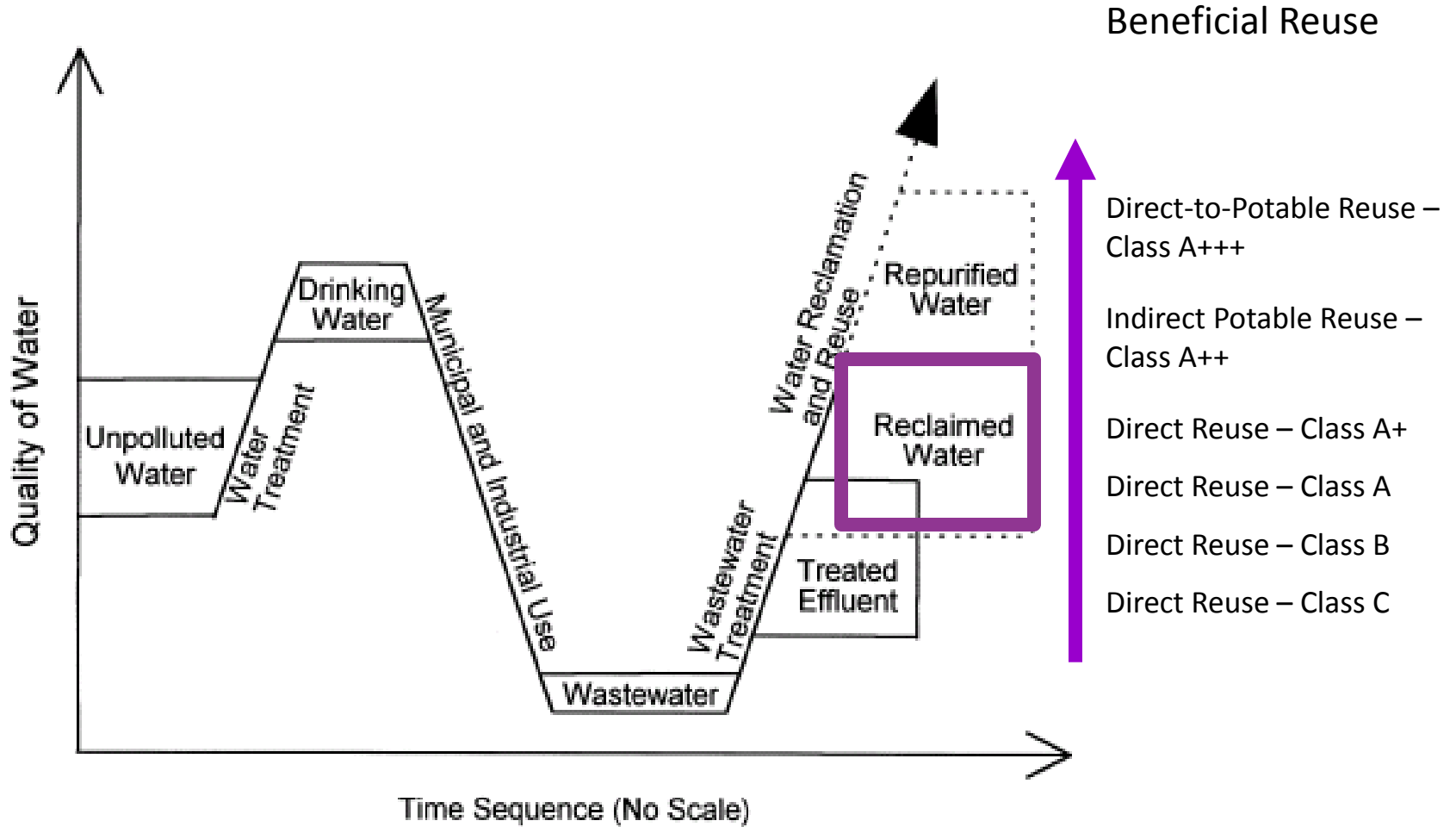
Global Water Intelligence, February 11, 2010

- **[The] “water crisis” is really about the political realization in many parts of the world that we cannot continue to live as if water availability were not a restraint on our activities.** It is a bit like coming to terms with the fact that Santa Claus does not exist. For years, politicians and engineers have worked to create the illusion that abundant water is part of nature’s bounty, wherever in the world it is required. It was easier to maintain the pretence of plentiful water in the past. .. The illusion is becoming much more difficult to maintain.

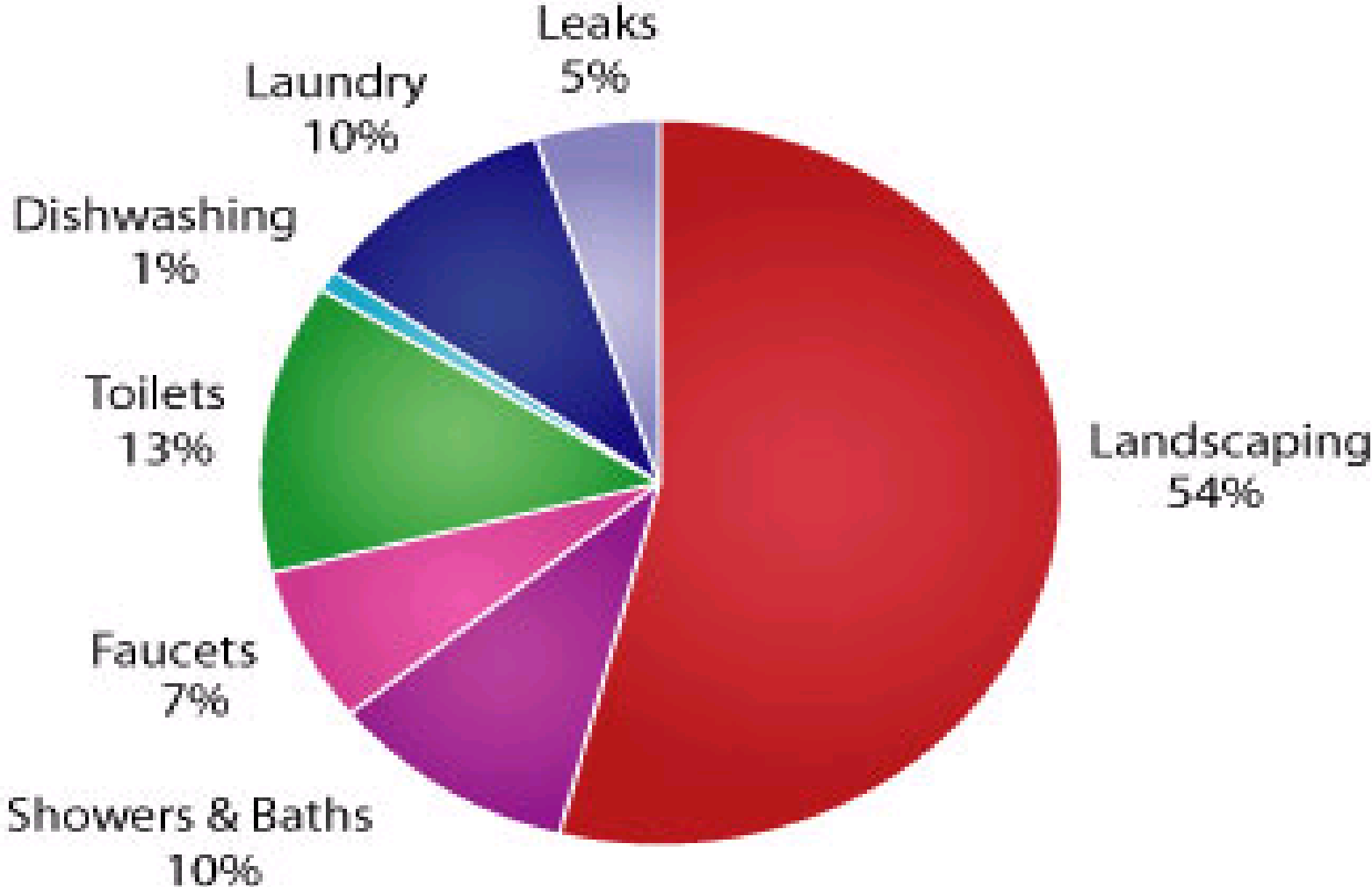
Water Reuse – Issues, Technologies and Applications

“The emerging paradigm of sustainable water resources management **emphasizes whole-system solutions to reliably and equitably meet the water needs of present and future generations.** Understanding the concepts of sustainable water resources management as a **foundation of water reclamation and reuse is of fundamental importance.** “

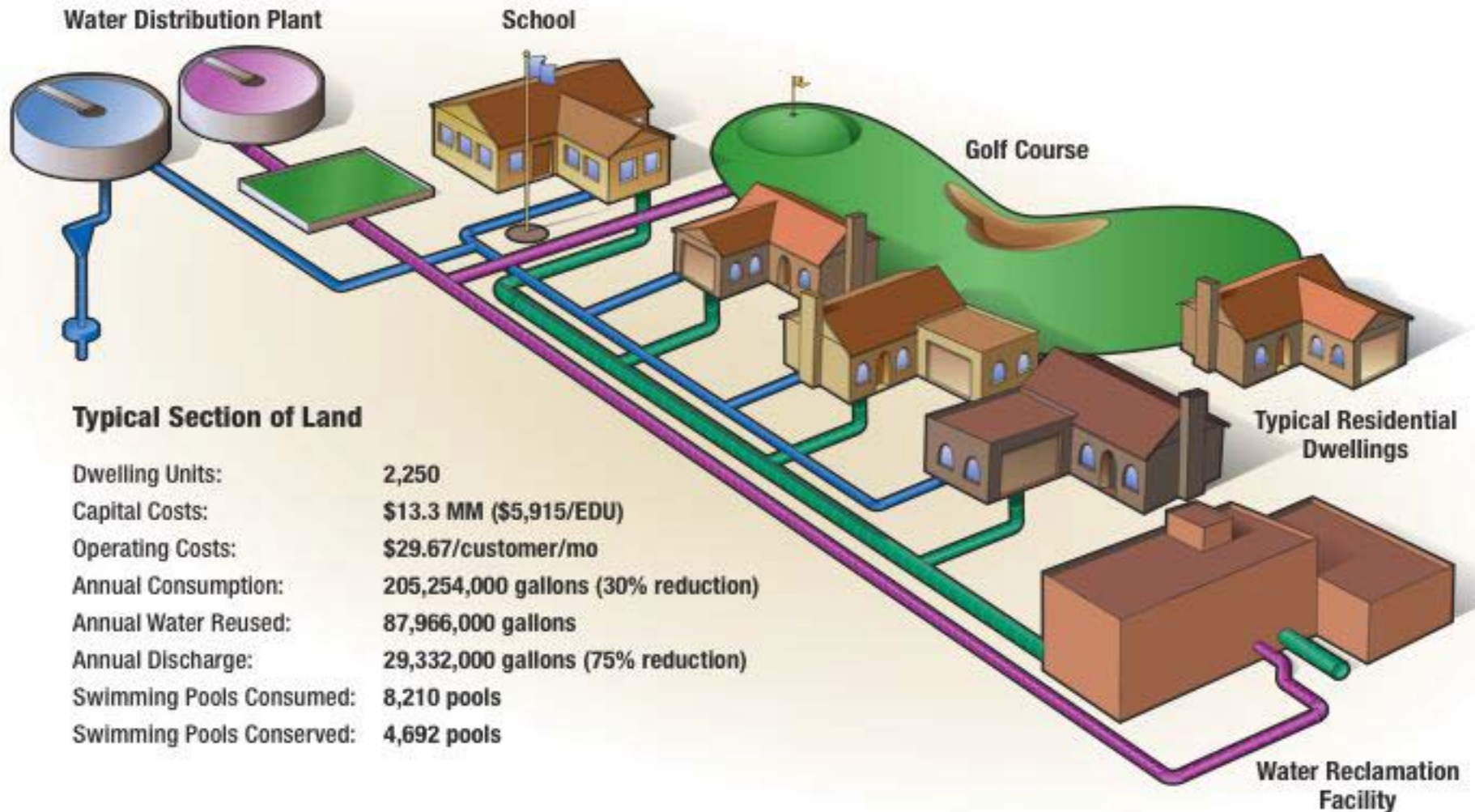
Water Reuse Levels



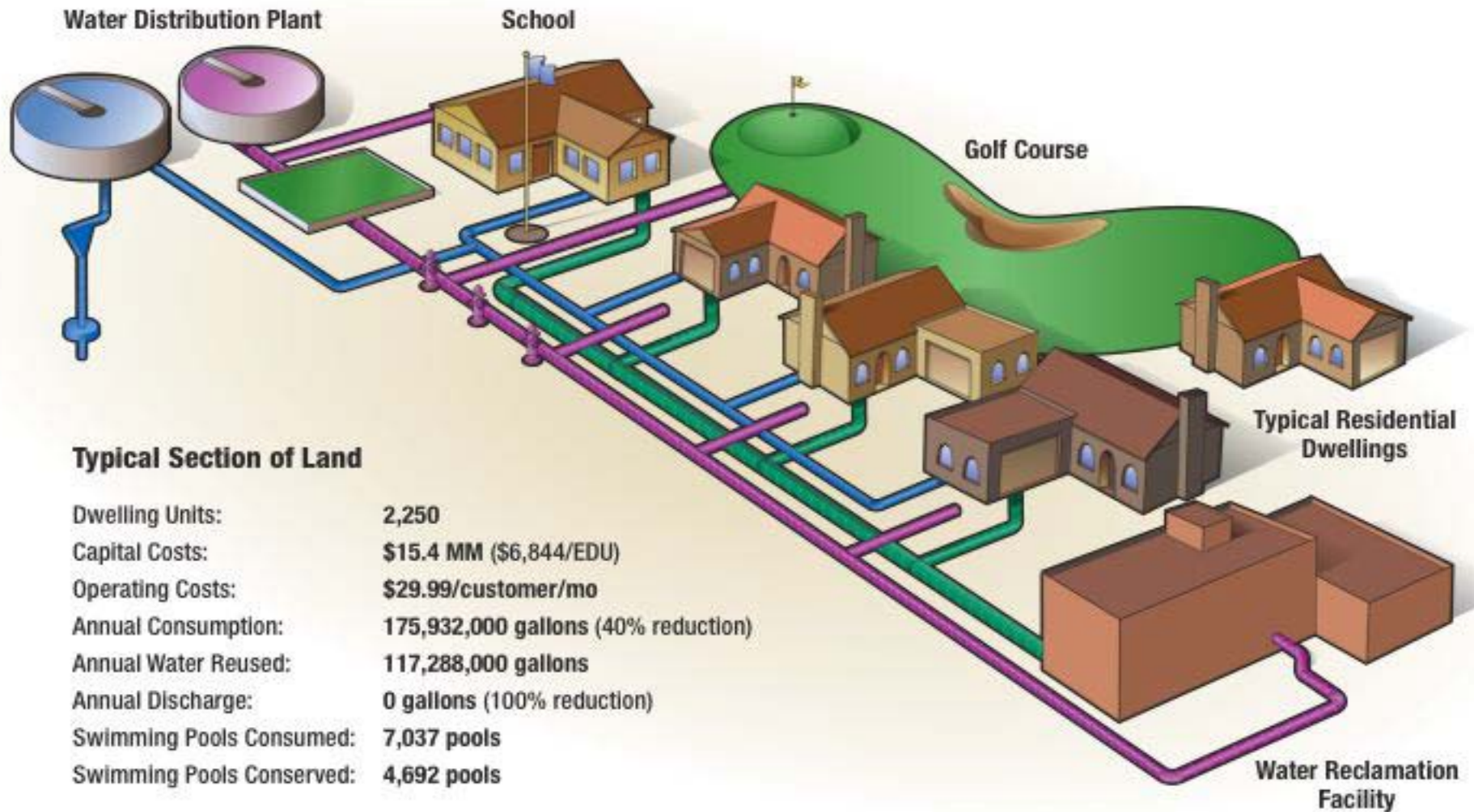
Single Family Residential Water Use



Basic Reclamation – 100% Ground Water



Advanced Reclamation – 100% Ground Water

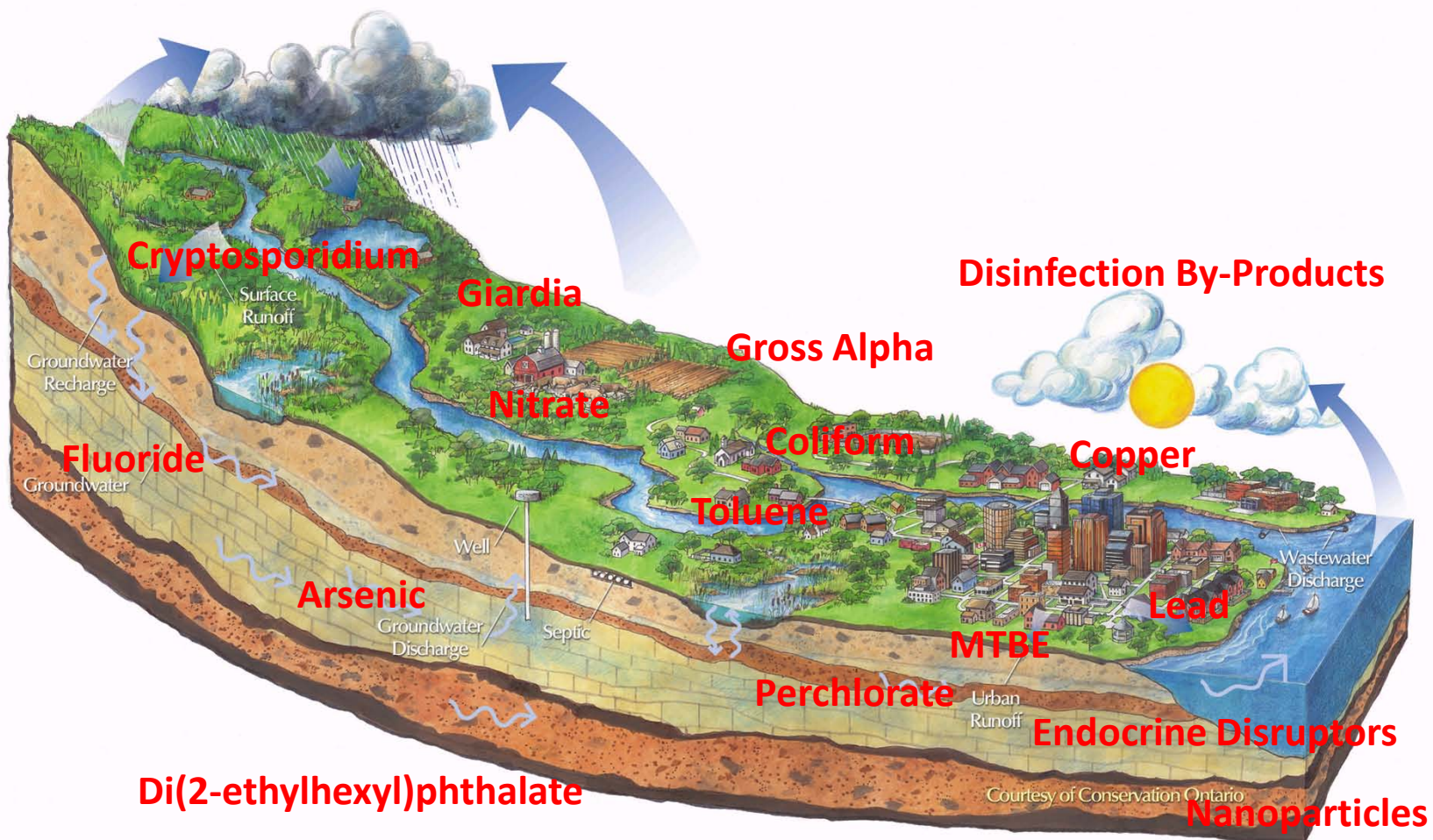


Doesn't It Cost Too Much?

Water Resource Scenario	No Reclamation	Basic Reclamation	Advanced Reclamation
Water Savings in Gallons/Year/Section	0	96,347,624 35% Savings	116,784,998 43% Savings
Additional EDU's Liberated @ 216 Gallons/EDU	0	1,222	1,481
Capital Cost per EDU	\$6,494	\$6,694 +3.1%	\$8,214 +26.5%
Consumer Billing per EDU/Month	\$83.19	\$80.99	\$85.94

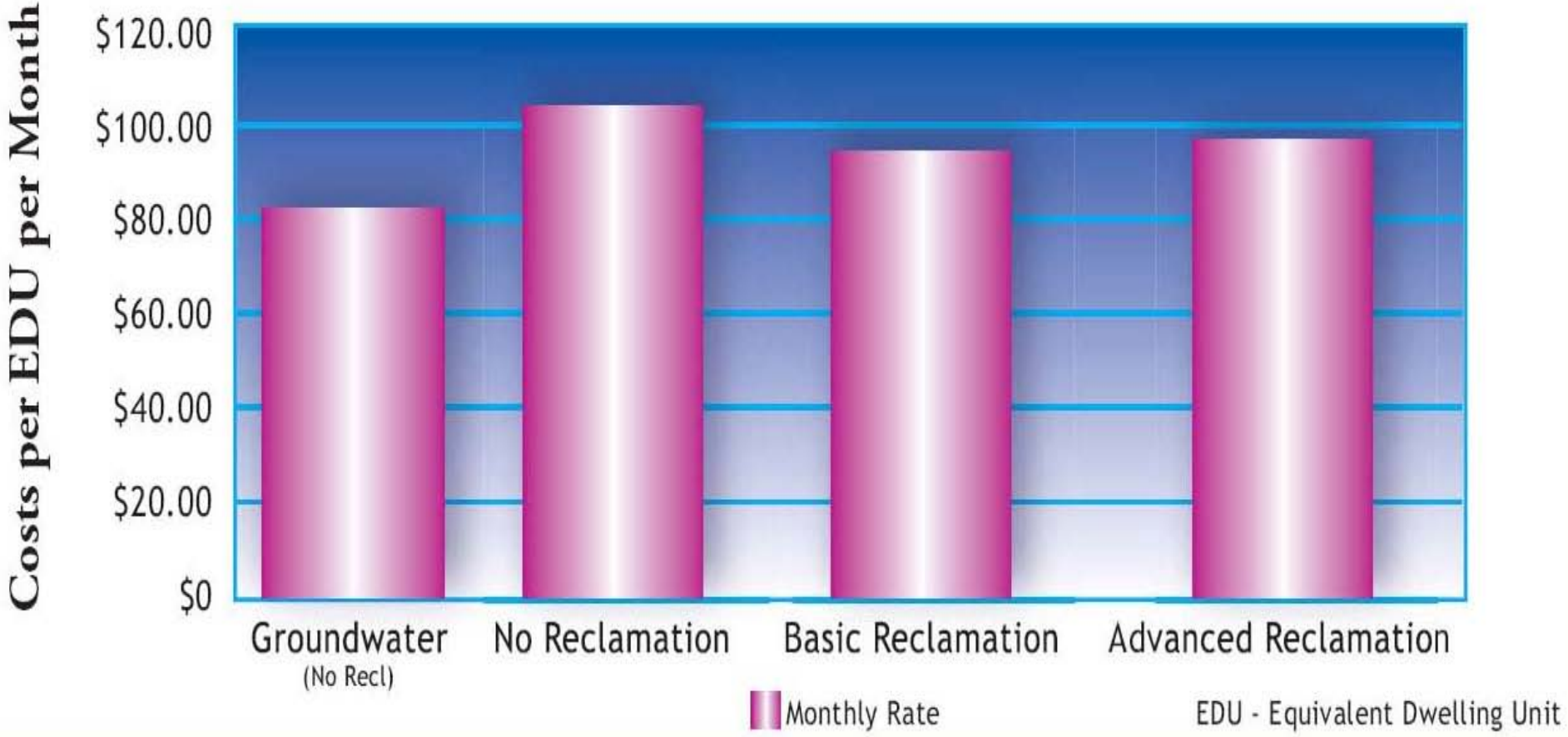
EDU - Equivalent Dwelling Unit • EDU/Mo - Equivalent Dwelling Unit Monthly

Emerging Contaminants

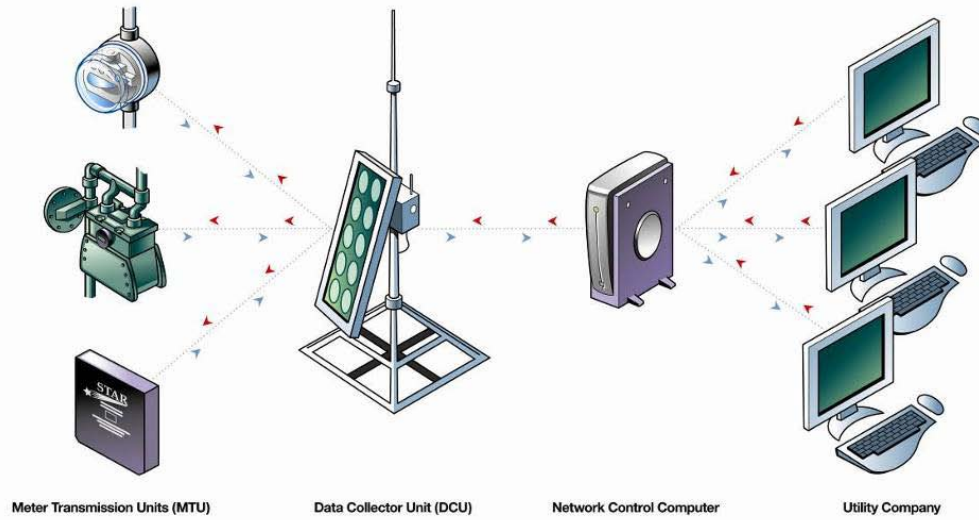


Emerging Contaminants & Reclamation

Customer Billing (per EDU per Month) Arsenic Treatment Scenario

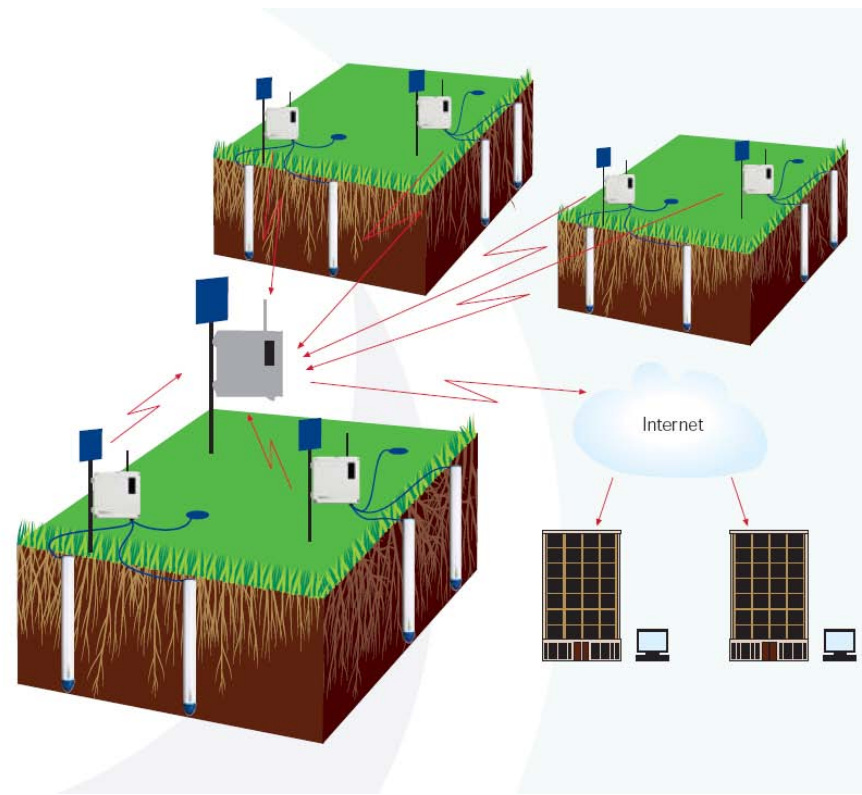


Global Green Billing



Real Information for Customers

Irrigation Moisture Sensors and Monitoring



Global Green Billing



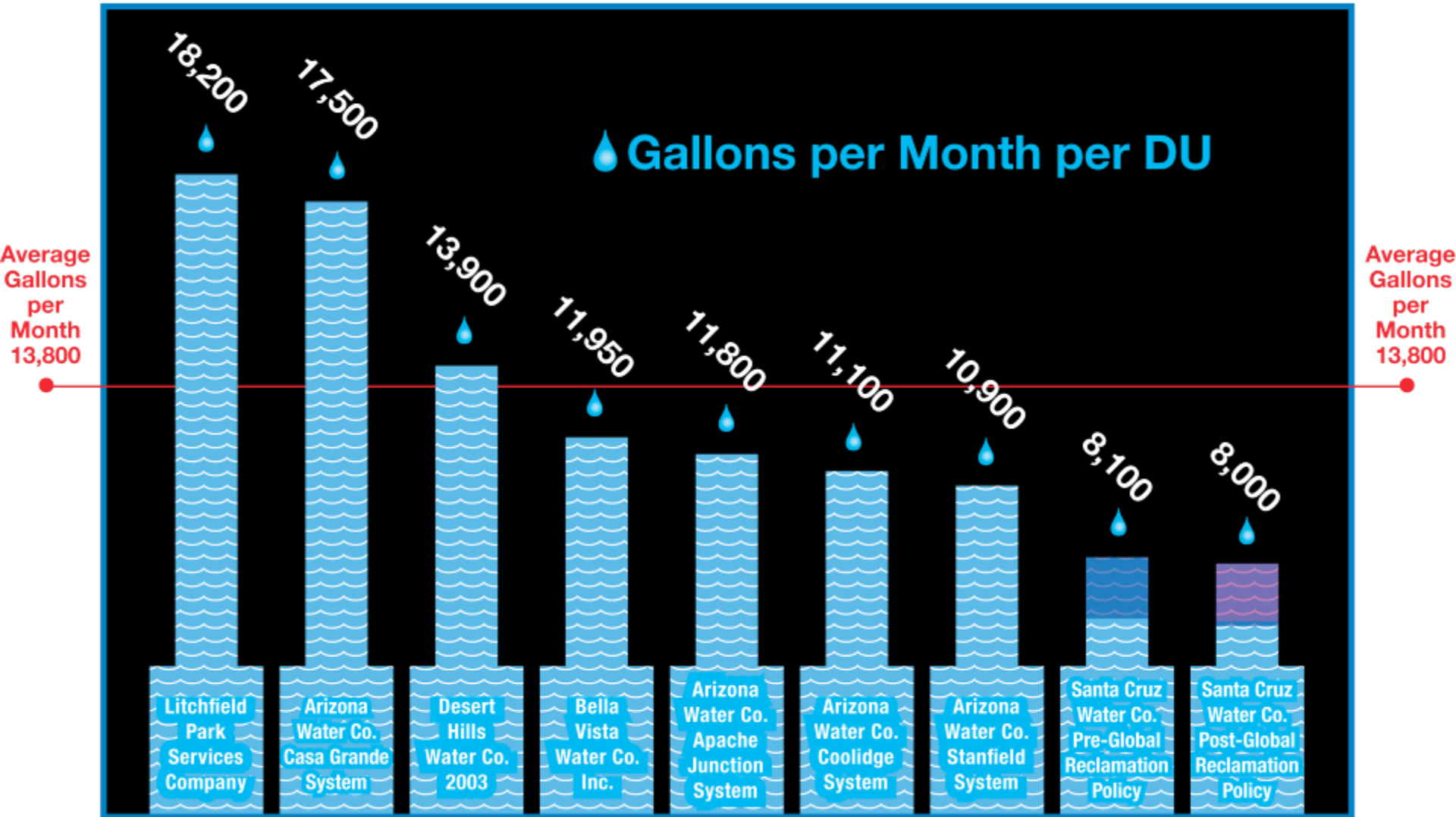
Save 4 Resources
With One Click

Real Information for Consumers

Household Water Use Compared to Neighbors and to Community



Average Monthly Groundwater Consumption per Customer



■ Residential Potable Consumption
 ■ Potable Water for Non-Potable Purposes
 ■ Non-Potable Water for Non-Potable Purposes

Global Water Policy

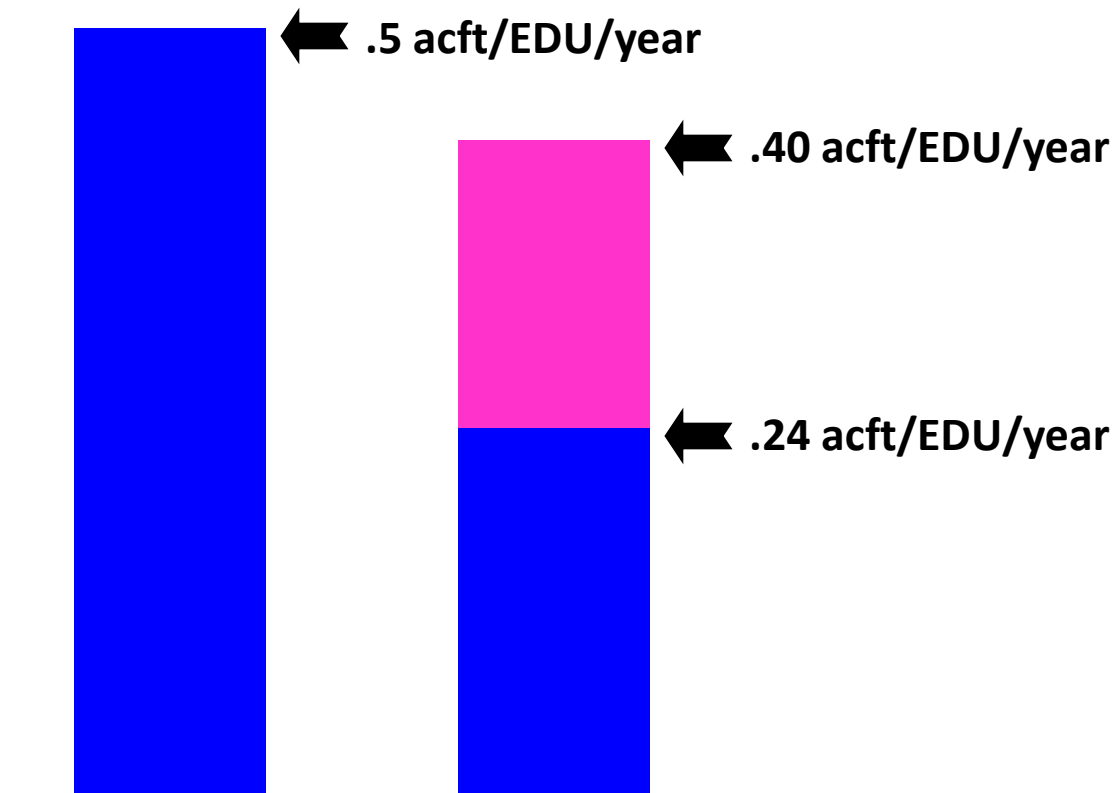
Status Quo

100%

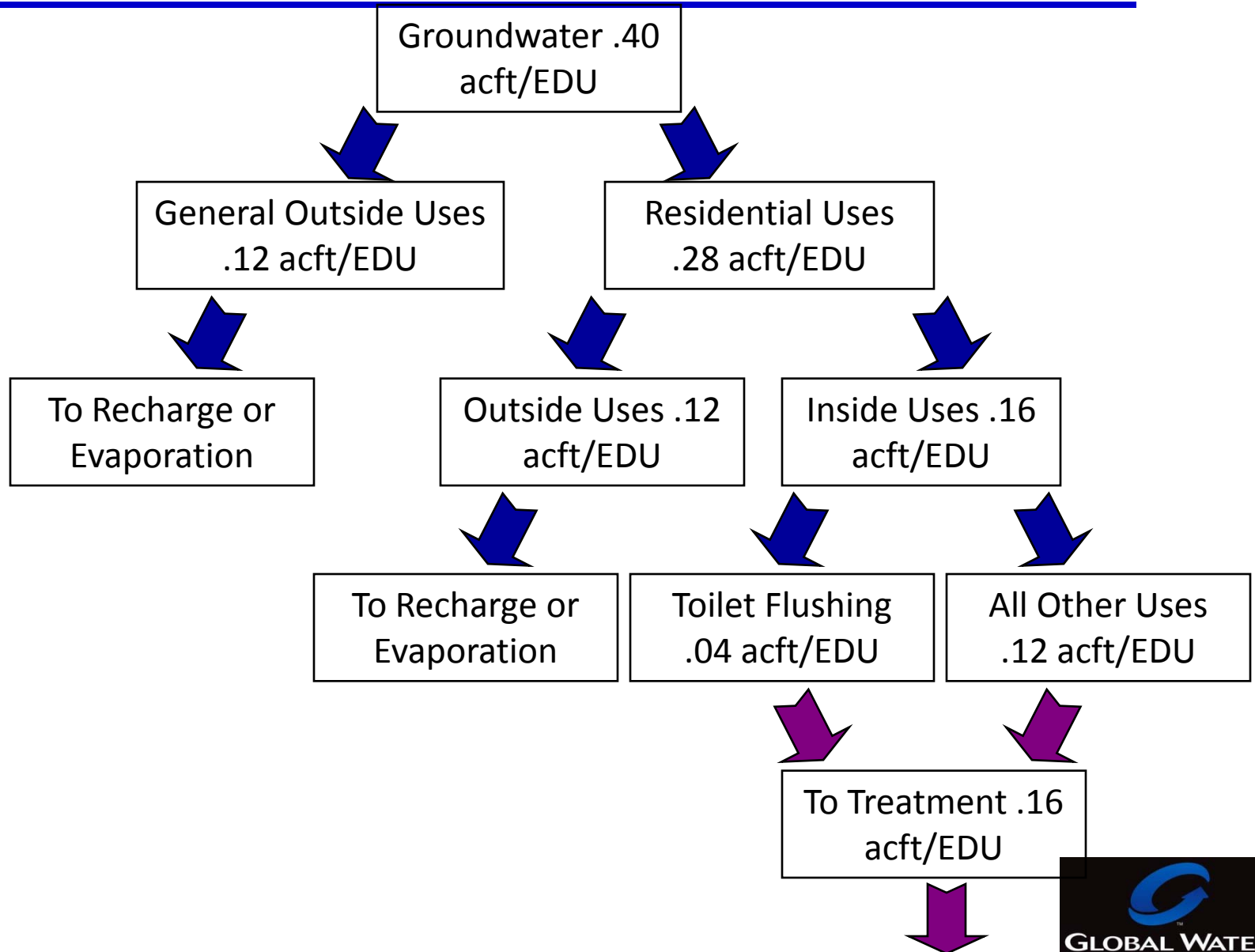
Global Vision

48%

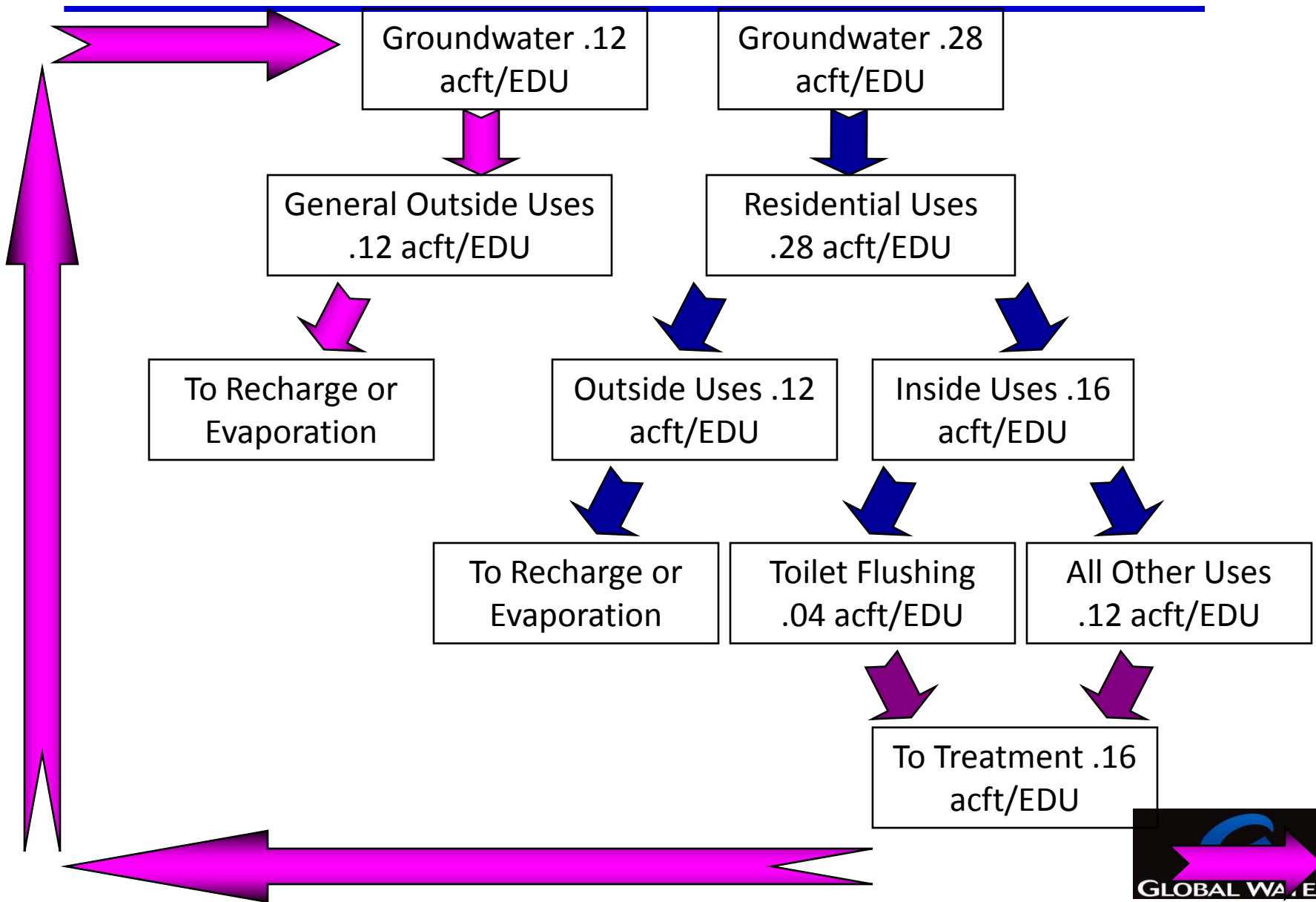
A 52% Planned Reduction
In Ground or Surface



Status Quo



Basic Reclamation



Advanced Reclamation

