

# This presentation premiered at WaterSmart Innovations

[watersmartinnovations.com](http://watersmartinnovations.com)



# Water Smart from the Start

## How to Integrate Land Use and Water Planning

Water Smart Innovations

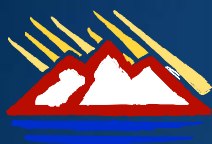
October 8, 2014

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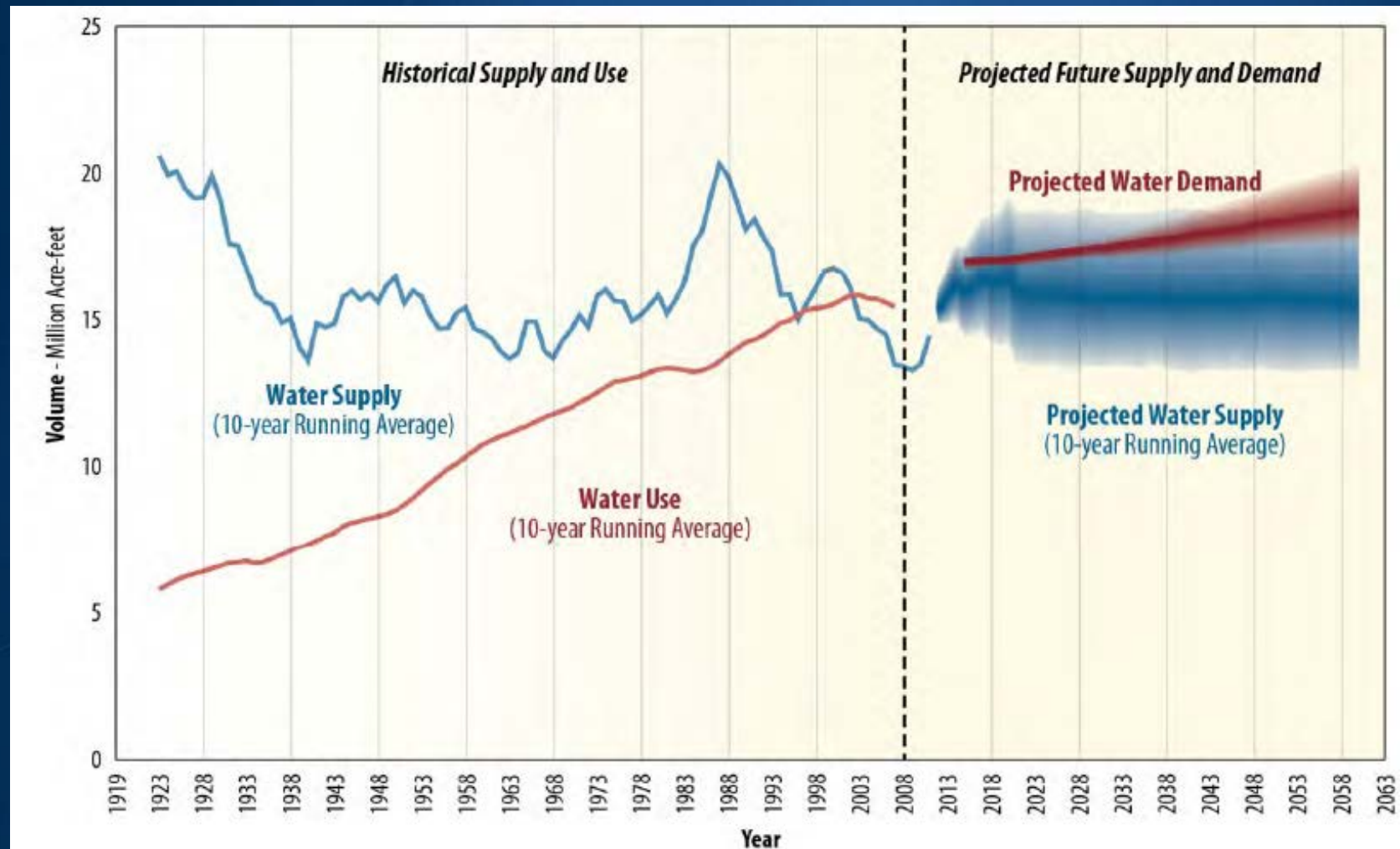
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**WESTERN RESOURCE**  
ADVOCATES

# Water Supply Gap – Colorado River



# Land Use Affects Water Use



Highlands Ranch



Stapleton  
(Redevelopment)

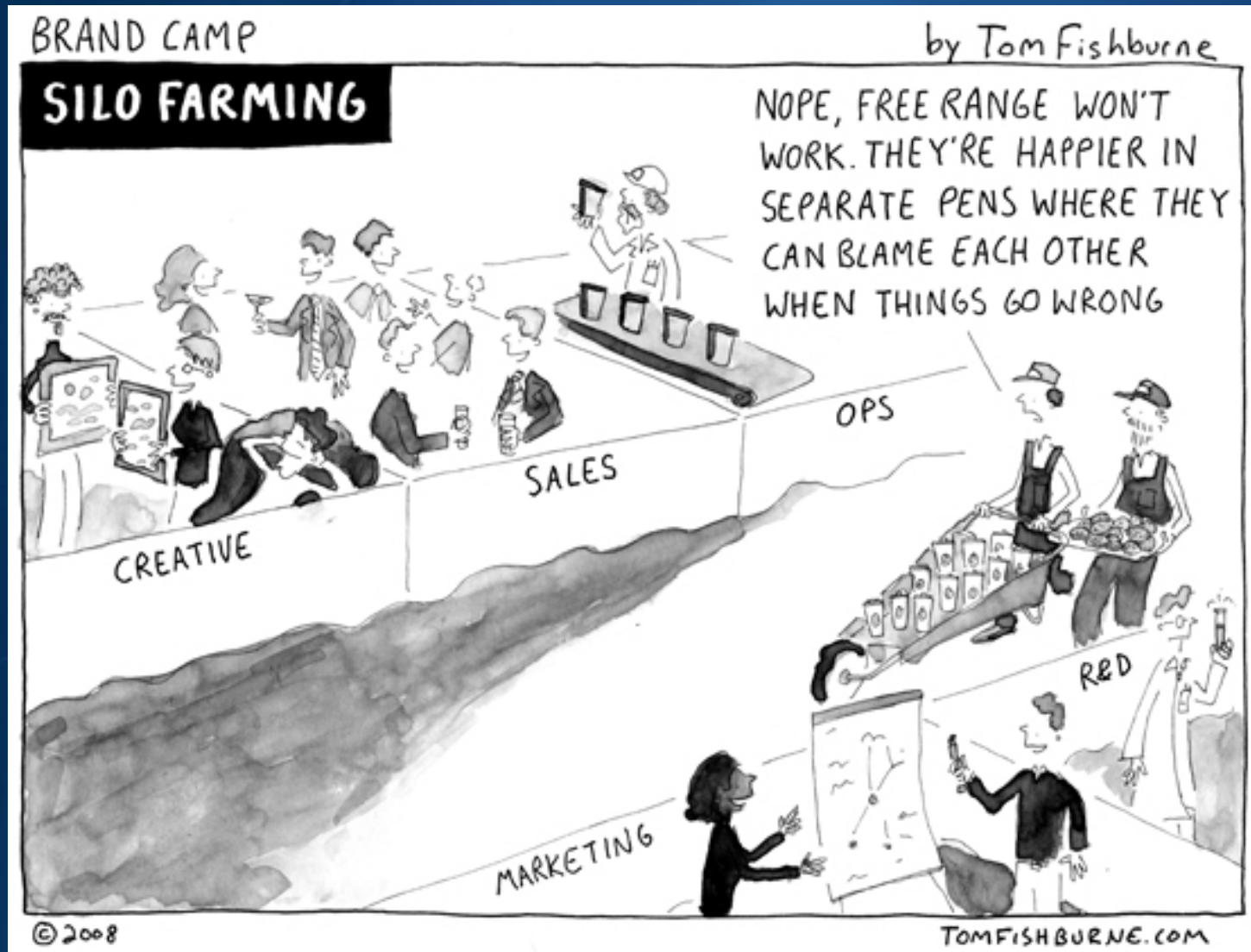


Glass House  
(Downtown)

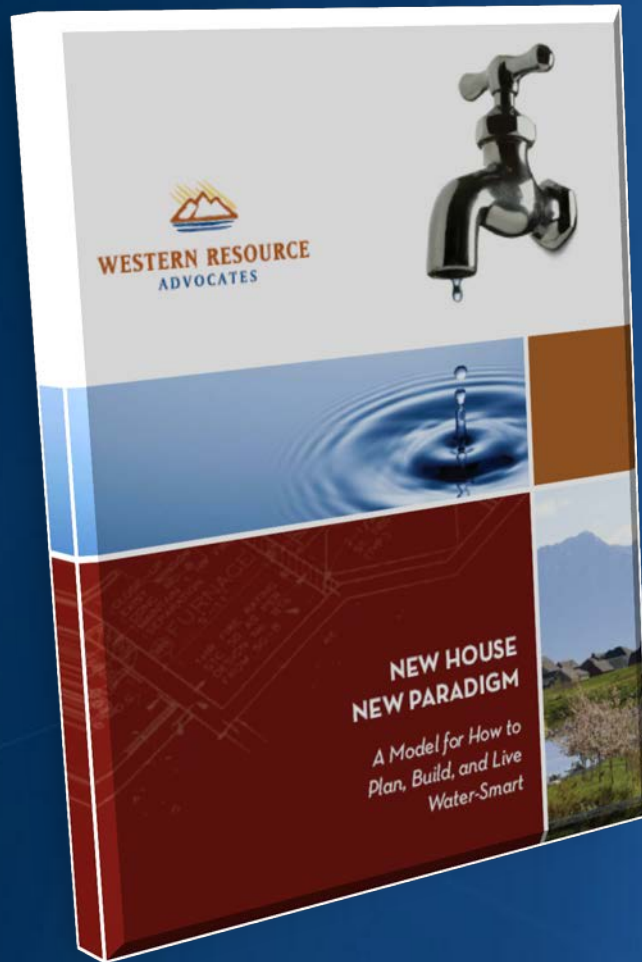




# Historical Paradigm



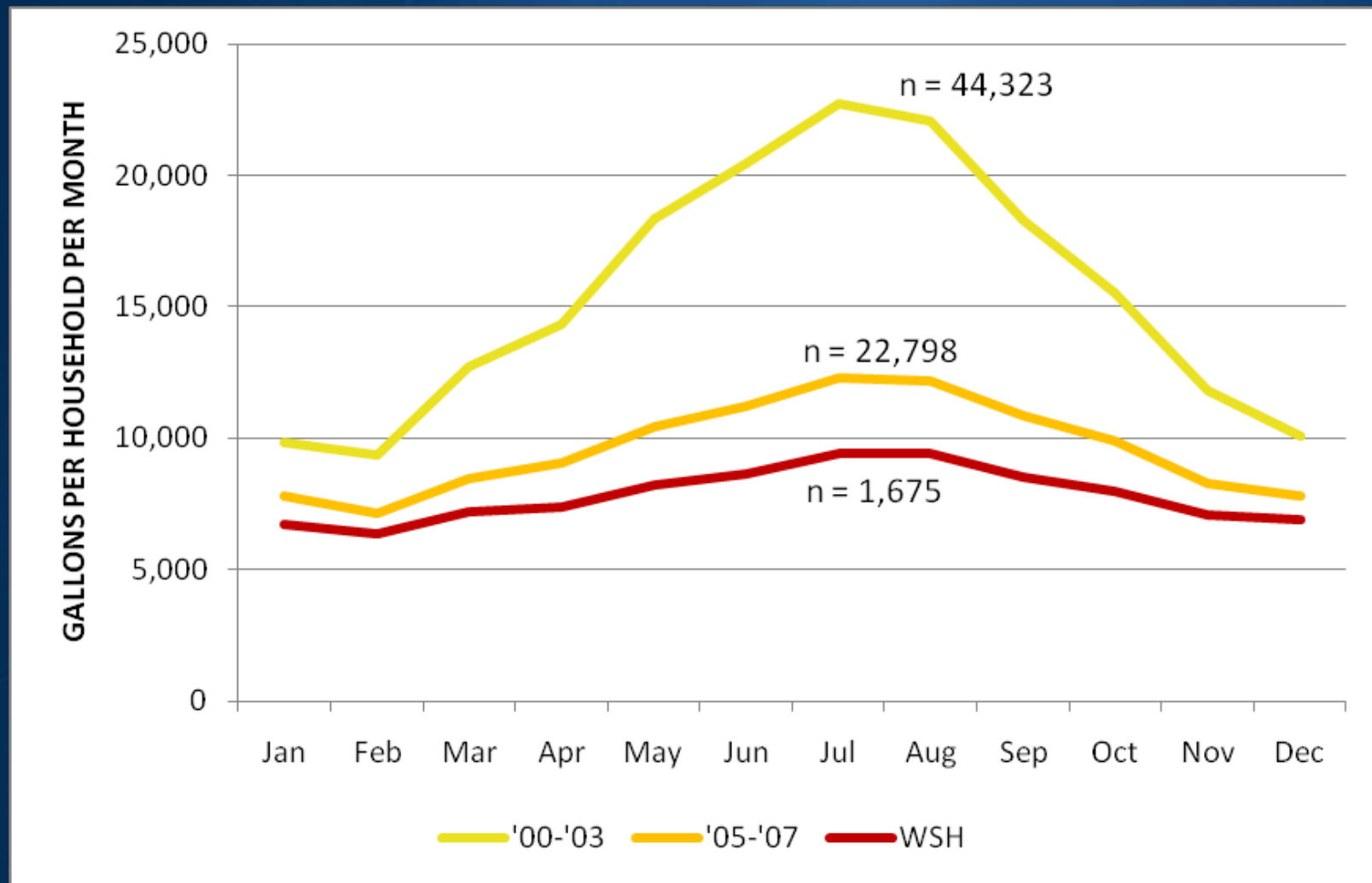
# New House, New Paradigm



- Integration of
  - smart planning,
  - green building, and
  - on-going programs
- Existing developments provide case-studies



# SNWA's Water-Smart Homes



Data courtesy K. Sovocool, Southern Nevada Water Authority, 2009.

# Water Use and Density

| 25,000<br>People  | Density |        |        |
|-------------------|---------|--------|--------|
|                   | Low     | Medium | High   |
| Single family     | 7,000   | 5,000  | 3,000  |
| Small multifamily | 2,000   | 3,000  | 4,000  |
| Large multifamily | 717     | 2,124  | 3,531  |
|                   |         |        |        |
| Water Use (AF)    | 3,141   | 2,828  | 2,514  |
| Difference (AF)   |         | 314    | 627    |
|                   |         | -10%   | -20%   |
|                   |         |        |        |
| Population        | 25,000  | 25,001 | 25,002 |





# Land Use Leadership Alliance Training Program (LULA)

- Educating local land use decision-makers on legal tools and techniques and collaborative decision-making to address complex land use issues



# Participants

- Water and Land Use Planners
- State and Regional Water Specialists
- Planning Commissioners
- City Managers
- City Councilors
- Developers



# Integration - Land Use Terms

- Comprehensive Plan
  - Community goals/aspirations for future development. Dictates public policy for transportation, utilities, land use, recreation, and housing. Big scale, long-term.
- Zoning Ordinances
  - Separate uses of land based on mapped zones. Often includes building height and lot coverage.
- Subdivision/Site Plan Regulations
  - Divide property into legal parcels. Establish position of streets, drainage, parking, utilities, landscaping, etc...



# Comp Plan (1 of 2)

## ■ Water Element!

### ■ Goal

- Absorb market demand w/o increasing total water use

### ■ Objective

- Drop per capita use 15% in 15 years

### ■ Strategy

- Reduce indoor water use

### ■ Technique

- Incentivize replacement of toilets

## ■ Promote density





# Comp Plan (2 of 2)

- Incorporate Conservation Plan “by reference”
- Include data on water use per land use type
- Use same growth projections
- Urban growth boundary





# 20 Questions (27, really)

- Does your comprehensive plan contain a water element?
- Does water element identify water conservation strategies and implementation techniques?
- Is the water element consistent with the policies of your water provider?
- Does comprehensive plan quantify the water demand that would result from projected population growth?



# Zoning

- Denser Development (more du/acre)
  - Expand multi-family options
- Mixed Use Development
- Overlay Zones/Transit Oriented Develop.
- Infill (make it easy)
- PUDs are a "deal" so plug them full of conservation measures



# Subdivision/Site Plan

- Cluster Development (reduce lot sizes)
- Landscape Code
  - Plant list, turf limits, soil amendment, irrigation system reqs.
  - Landscape plan check
  - Irrigation plan check
- Avoid "scattered DNA"



# Water Techniques

- Incorporate land use in demand projections
  - Discuss land use as demand management strat.
- Demand-based tap fees
- Plumbing/Building Code
  - WaterSense or equivalent
  - Submetering
- Take the lead!
  - SNWA-led land use regulations
  - EBMUD service rules



# Post-LULA Work

- Aurora
  - Integrating LID/stormwater into lands. code
  - Determine water use per land use
- Arvada
  - Adding a water element
- AWWA *Journal* article – Sept 2014
- Land Use Manual – spring 2015





# What You Can Do

- Read your comprehensive plan
  - Use the 20 questions!
  - Look at zoning code
- Meet your planner
- Talk to your friends
- Use this presentation
- Develop water demands per land use
- Get involved



# Questions & Comments

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