



# *Economic Impact of Agriculture*



2011 ESS/SAES/ARD Meeting  
Estes Park, CO  
27 September 2011

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- ● ● | A Windshield Tour ...

- Regional Economics:

- What does irrigated agriculture mean to rural communities?

- Urban Households:

- What do the rate payers want?

- Farm Level Economics

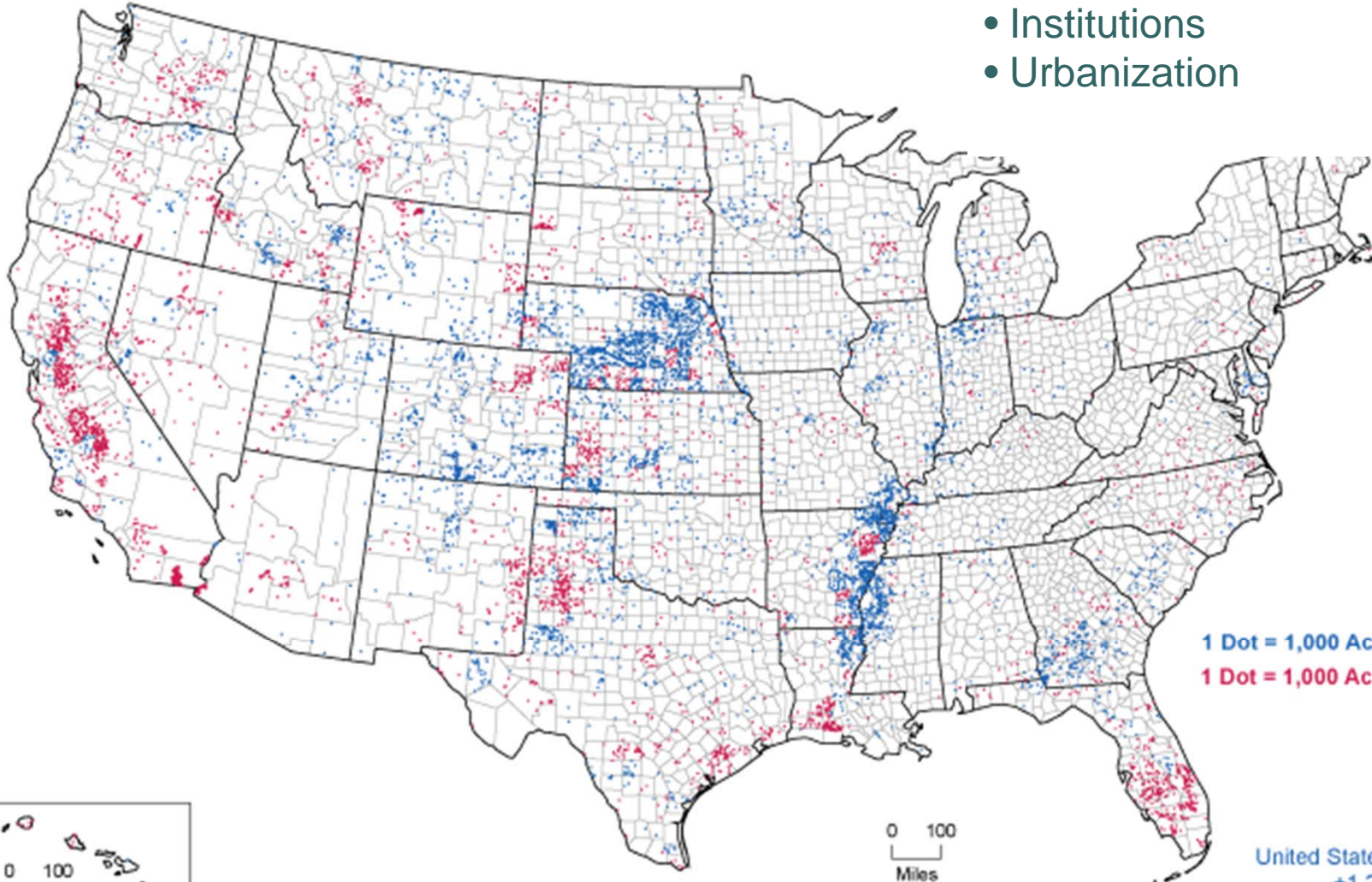
- What are some innovative approaches?

0 200  
Miles



## Irrigated Land - Change in Acreage: 2002 to 2007

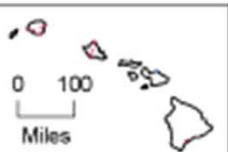
- Reductions in Irrigated Ag
- Declining Aquifers
- Institutions
- Urbanization



1 Dot = 1,000 Acres Increase  
1 Dot = 1,000 Acres Decrease

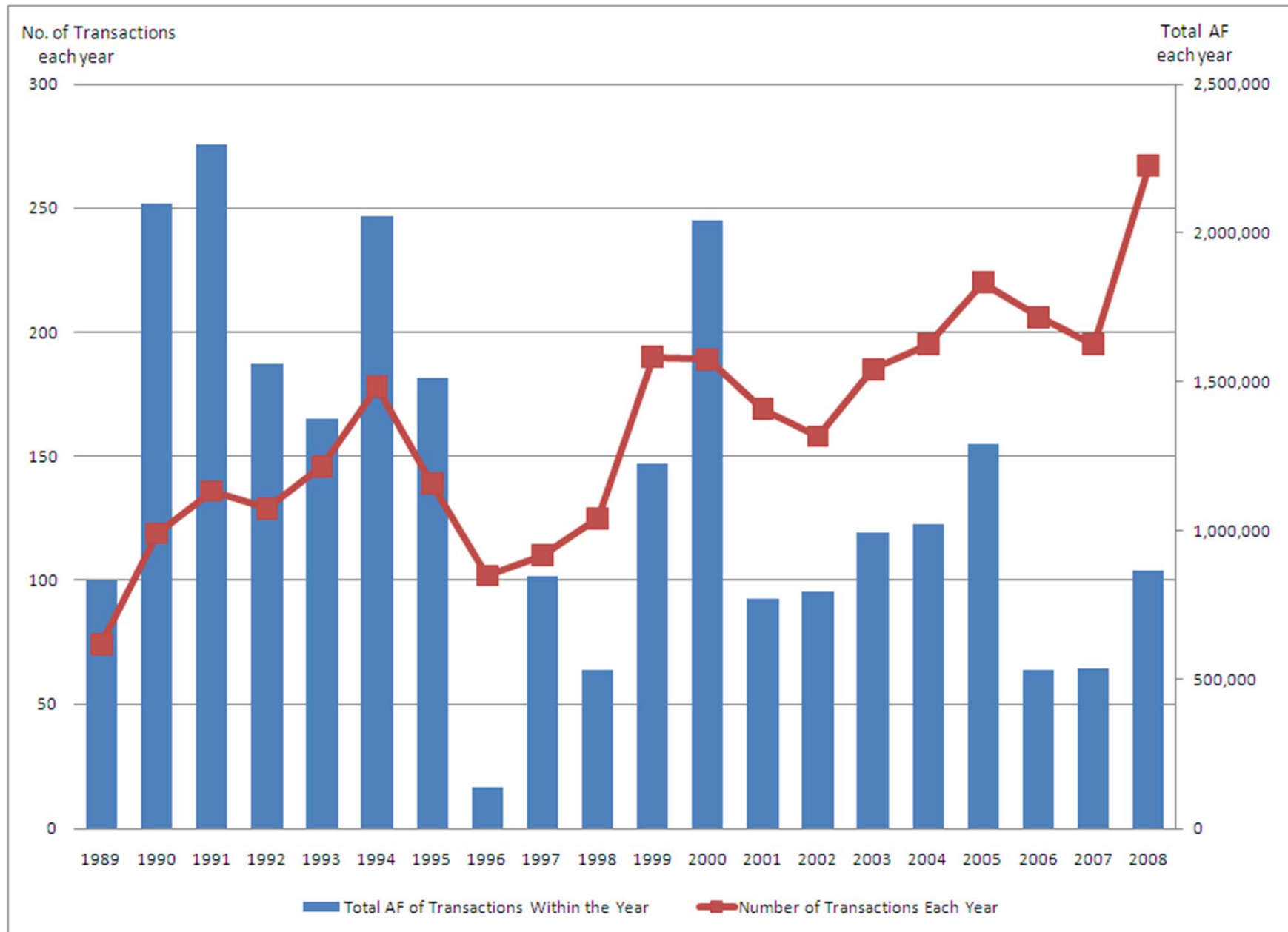
United States Net Increase  
+1,288,069

0 100  
Miles



0 100  
Miles

## Agriculture to Urban Water Transfers are Increasing ...



# Economic Activity per Acre

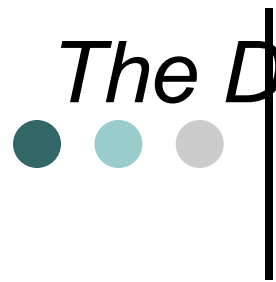
| <b><i>Region</i></b> | <b><i>Farm Gate Receipts Relative to Regional Sales<sup>a</sup></i></b> | <b><i>Economic Activity Generated per Acre of Irrigated Cropland</i></b> | <b><i>Representative Cropping Pattern</i></b> |
|----------------------|---|--|---|
| <b>Arkansas</b>      | 31 %  | \$428  | Forages                                       |
| <b>Republican</b>    | 37 %  | \$678  | Continuous Corn - Alfalfa                     |
| <b>Rio Grande</b>    | 48 %  | \$1,127  | Potatoes - Barley                             |
| <b>South Platte</b>  | 2 %   | \$690  | Corn – Alfalfa – Sugar Beets                  |

<sup>a</sup>Includes all production agriculture.

## Economic Activity: Irrigated Agriculture

- Direct Activity
  - Crop Sales (Gross Revenues)
- Indirect Effects
  - Fertilizer, Seed, Chemical Sales (but margins only)
  - Transportation
  - Real Estate Services
  - Ag Consultants
- Induced Effects
  - Wages Spent with Local Businesses
- When is generated economic activity high?
  - High value crops sold outside the region.
  - Revenues spent on locally produced inputs.
  - Local support industries use local labor and inputs.

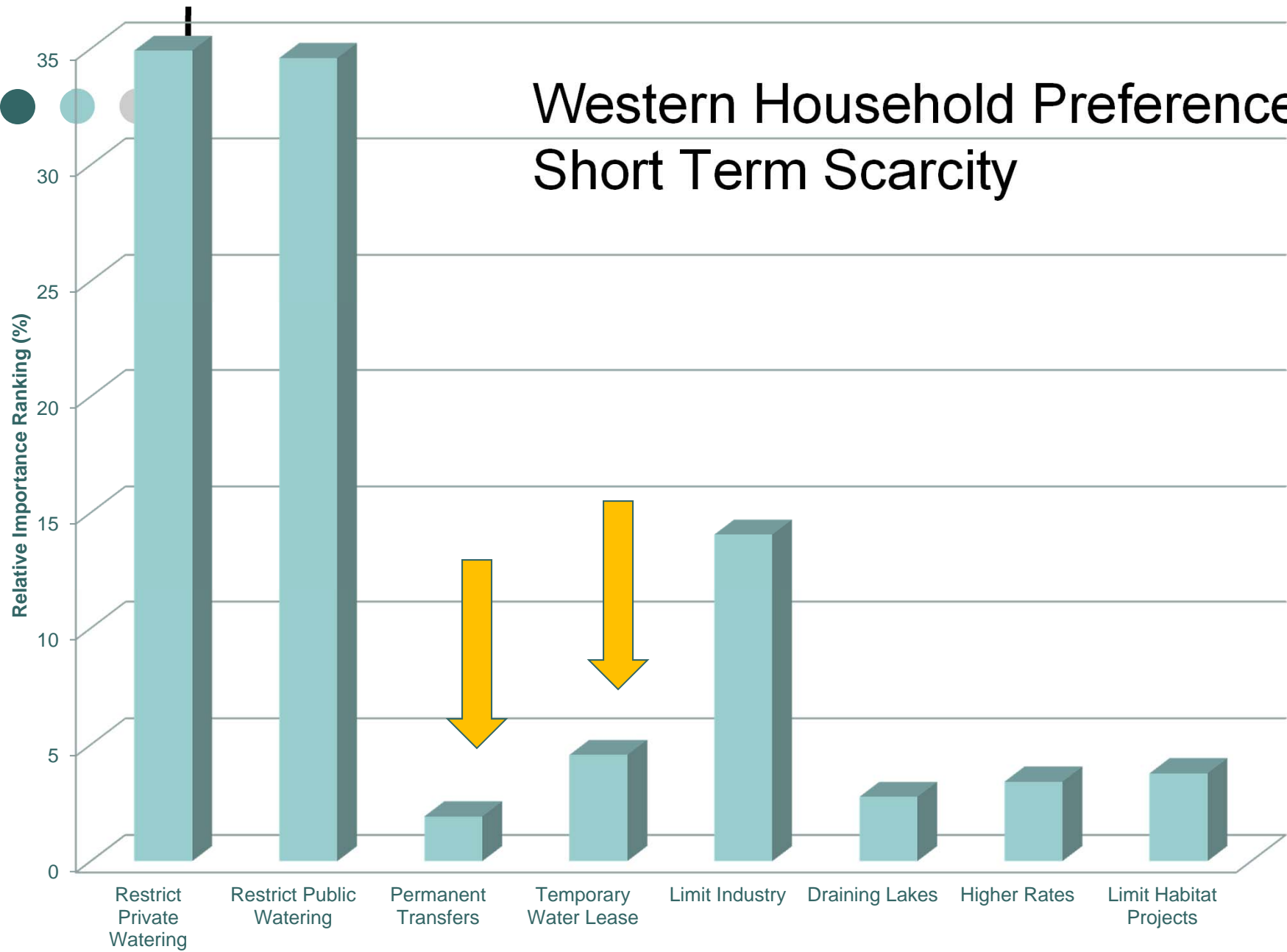
| <i>Region</i>       | <i>Economic Activity (\$/ac)</i> |
|---------------------|----------------------------------|
| <b>Arkansas</b>     | \$428                            |
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| <b>Rio Grande</b>   | \$1,127                          |
| <b>South Platte</b> | \$690                            |



# *The Demand Side of the Equation: What Do Households Want?*

- What are municipal households' perceptions of scarcity and water use in the West?
- What strategies do households rank as the “best” when setting priorities for meeting future needs?
- What are households willing to pay for?

# Western Household Preferences Short Term Scarcity



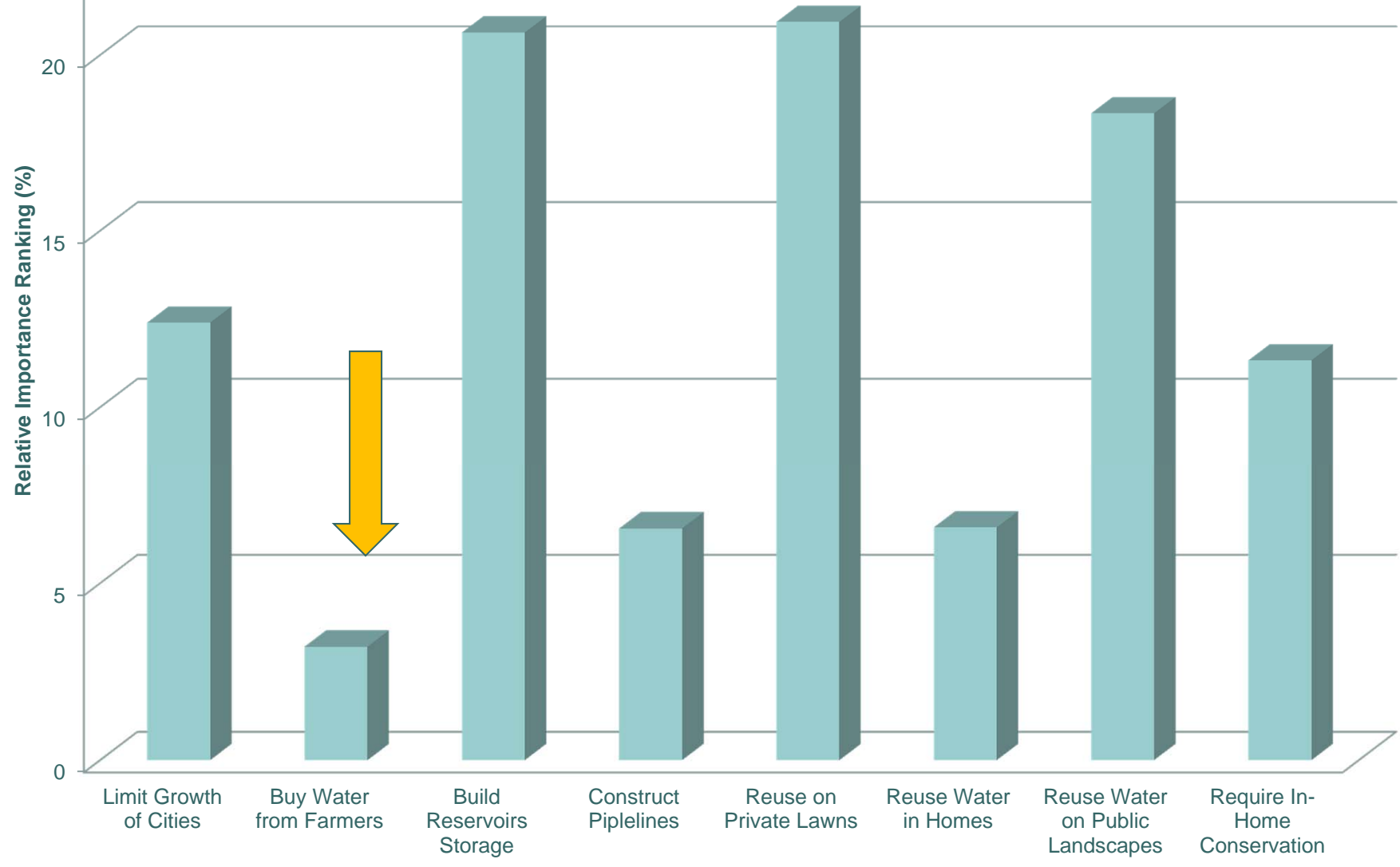


# Western Household Preferences

25

Long Term Needs

WTP = \$16/month  
in summer



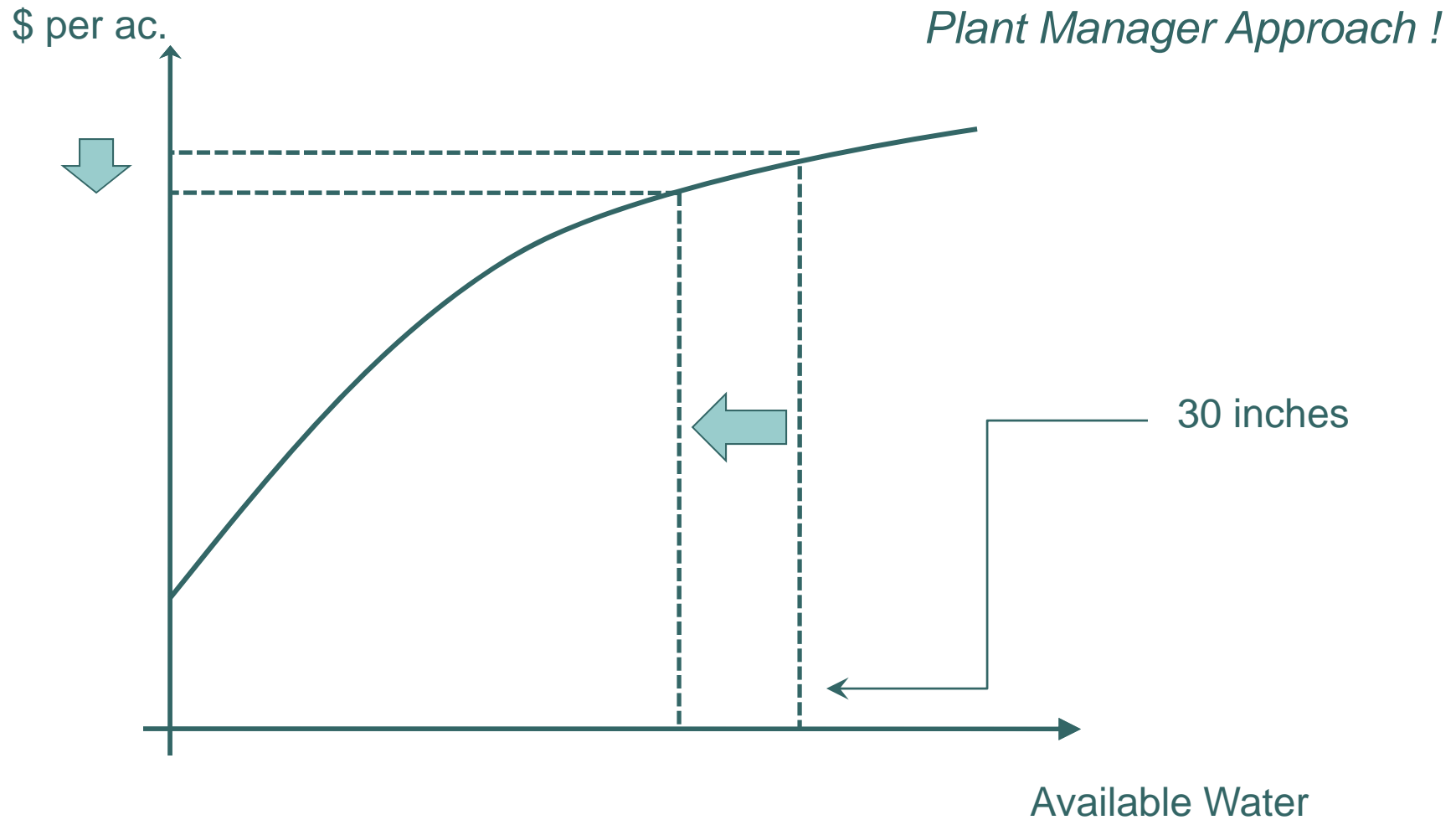
● ● ● | Farm Level Economics  
General vs. Plant Managers



The difference  
between doing  
things Right  
&  
Doing the Right  
things ....

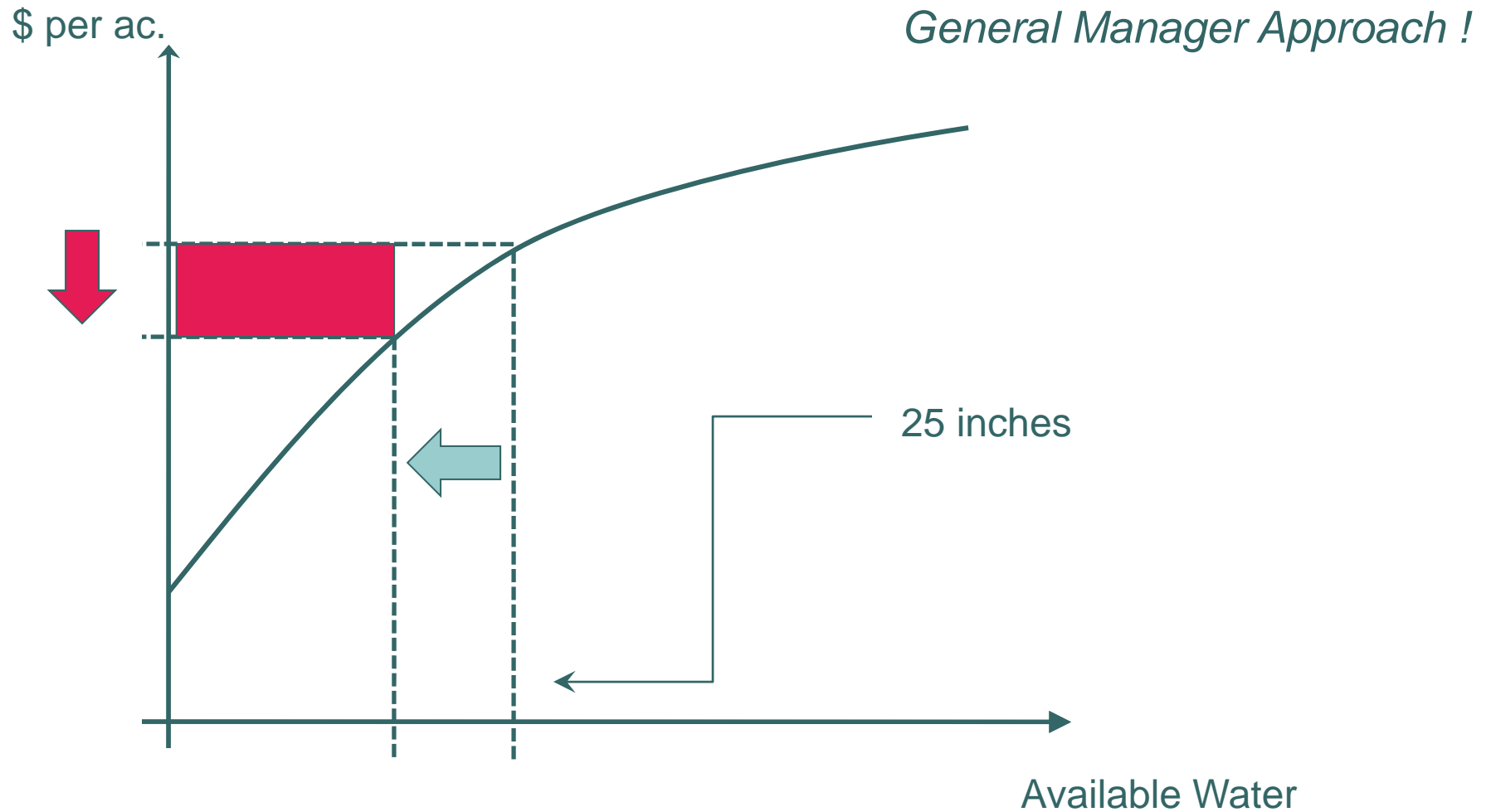


# Profit & Water: Specific to the Operation

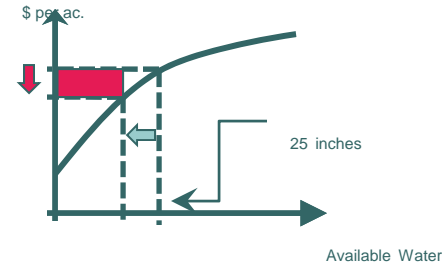




# Profit & Water: Specific to the Operation



# *Profit and Water: General Manager Approach*



## **Reduced Water Challenges**

- Scale of Operation
  - Turns (asset efficiency)
  - Earns (cost efficiency)
- Financial Limitations
  - Cash Flow
  - Balance Sheet
- Operational Risk

## **Reduced Water Opportunities**

- Opportunistic Farming
  - System Approaches
  - “Spreading” Water
  - Time Specific Management
  - Transition to Perennials
- Water as a Crop

● ● ● | Farmers and  
Future Water Supplies

Are farmers willing to  
do something other  
than buy and dry?





# Innovative Approaches

- Farm Conservation of CU
  - Deficit Irrigation and Dryland Rotation
- Innovative Institutions
  - LSP Water Cooperative
  - ‘Super Ditch’ in the Arkansas Valley
- Shared Infrastructure and Institutions
  - ‘One Stop Shopping’ for Projects
  - Economic Development Zones
  - Water Basin Approaches