

Water Use at The University of Arizona

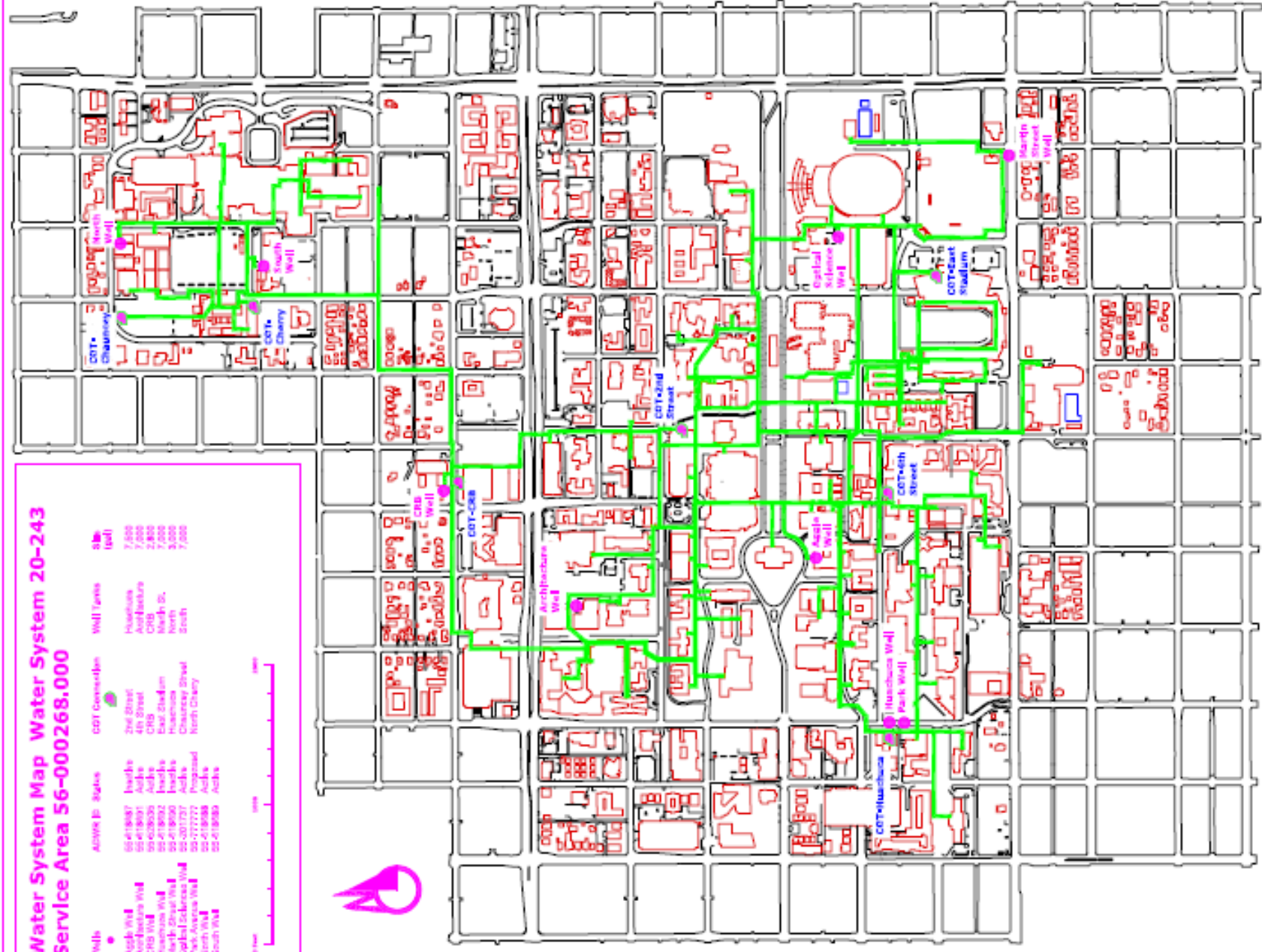
Sources, Uses, Costs, Challenges and Opportunities

Mark Marikos – UA Facilities Management

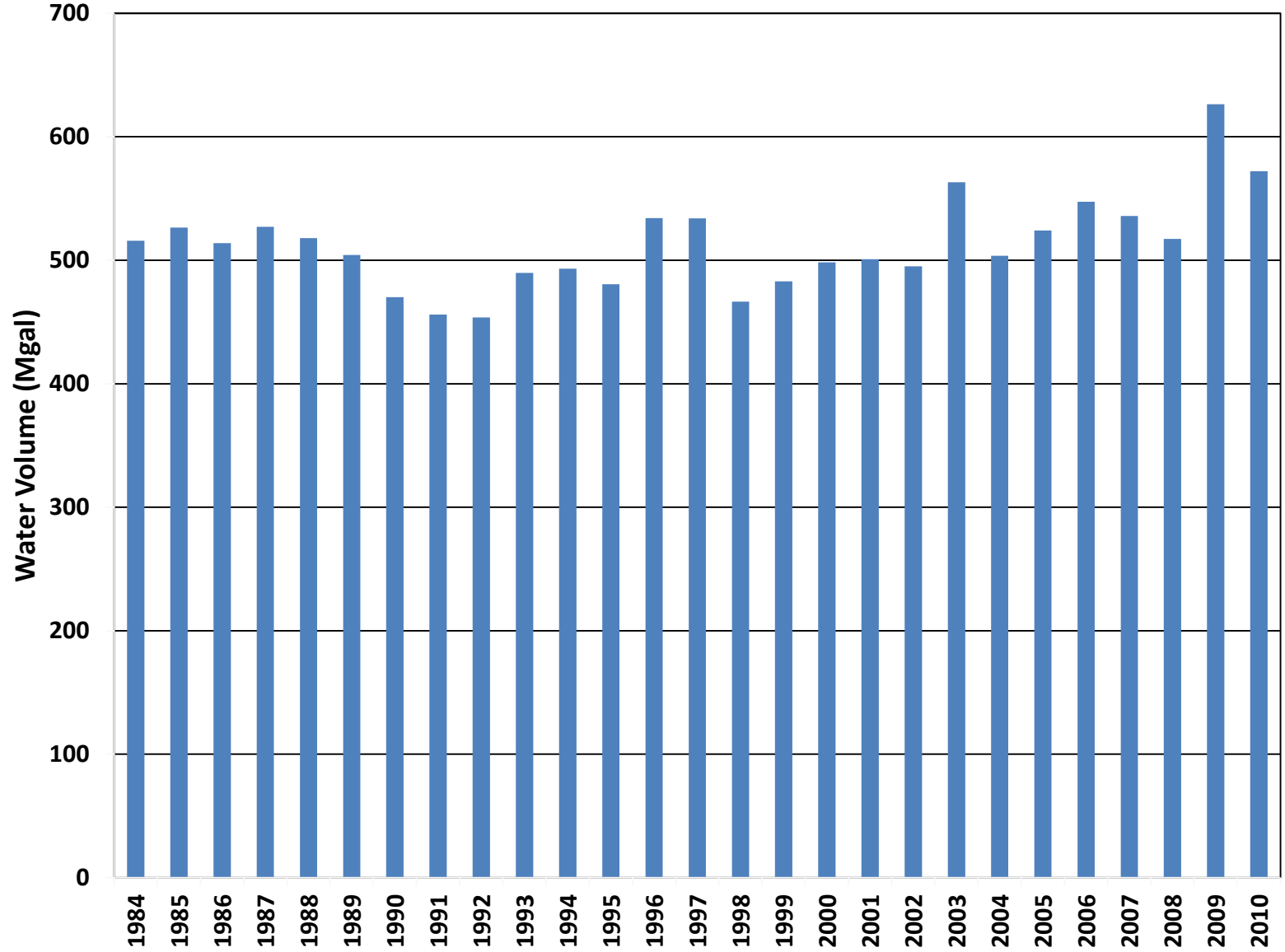
September 15, 2011 – WRRRC Brownbag

Water System Map Water System 20-243 Service Area 56-000268.000

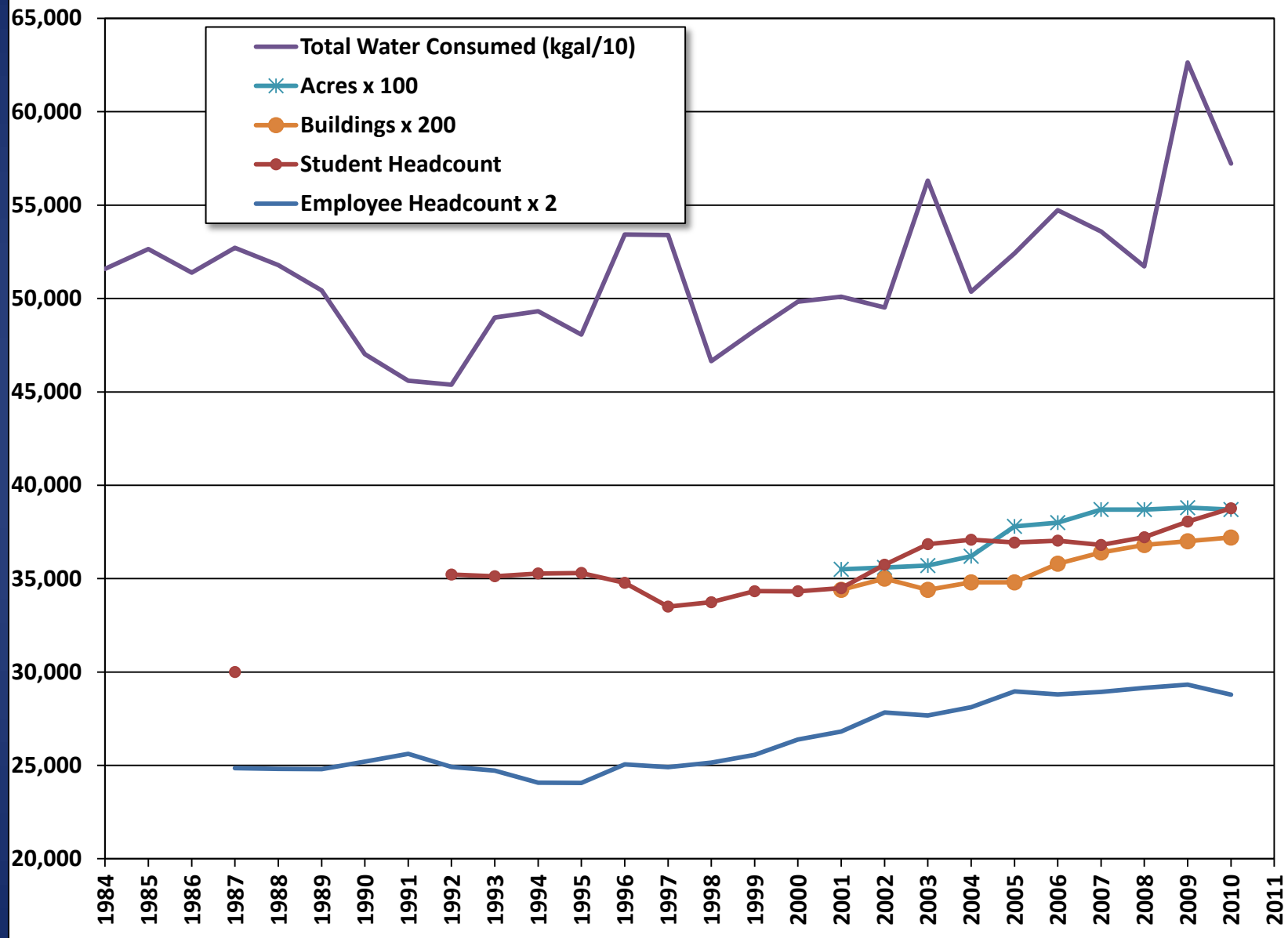
Wells	ACWS ID	Status	COT Generation	Well Types	Size (gpd)
Arch Well	55-418887	Inactive	2nd Street	Mechanics	7,500
Arch Well	55-418895	Active	Arch Street	Architecture	7,500
CRS Well	55-418935	Active	CRS	CRS	2,800
Huachuca Well	55-418932	Inactive	East Stadium	North St.	7,500
Mark Street Well	55-418930	Inactive	Huachuca	South	3,000
Optical Sciences Well	55-001737	Proposed	Chaunoy Street		7,000
Park Avenue Well	55-777777	Proposed	North Oakley		
South Well	55-418938	Active			



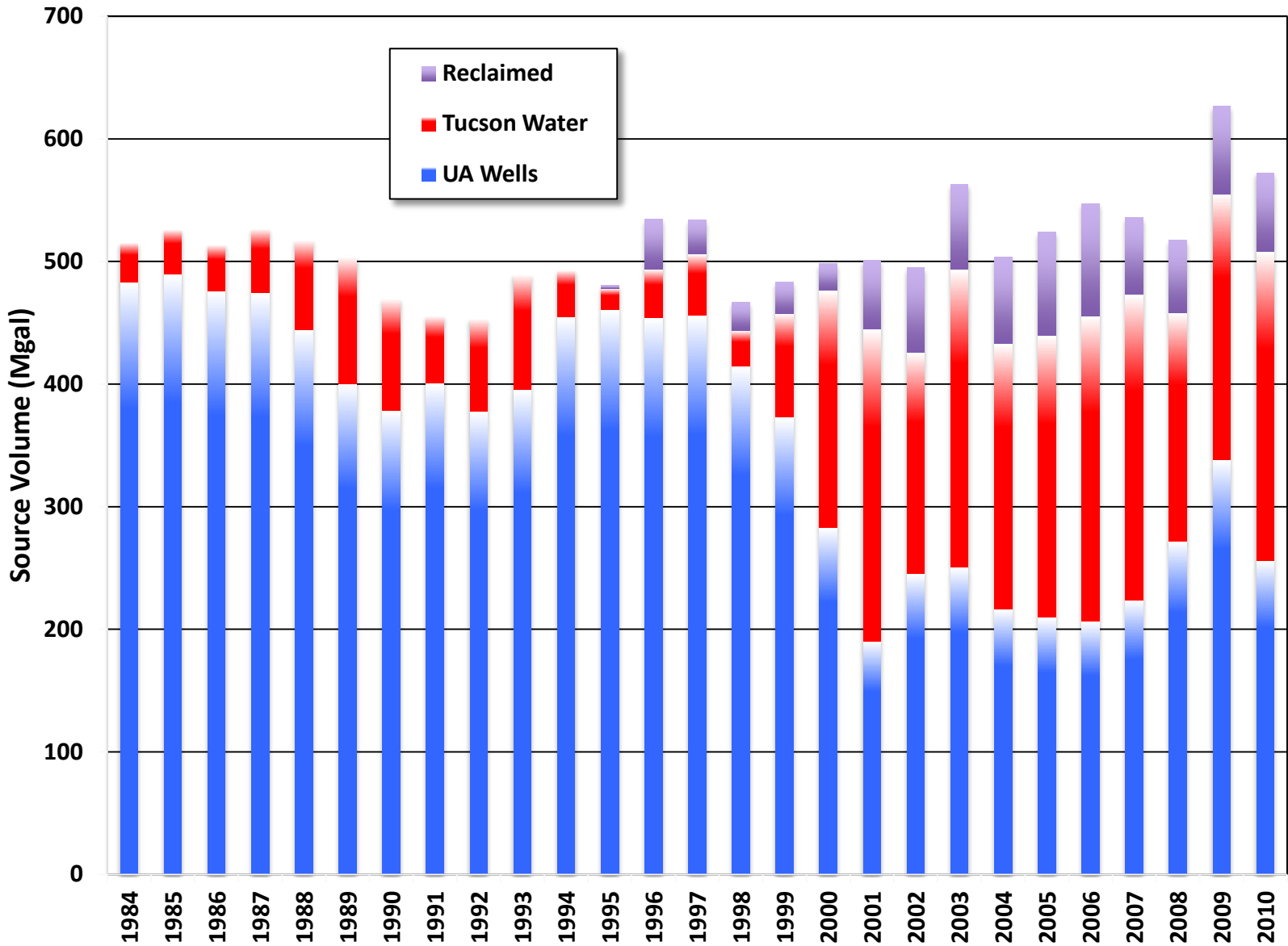
Historical Annual Water Use at the UofA



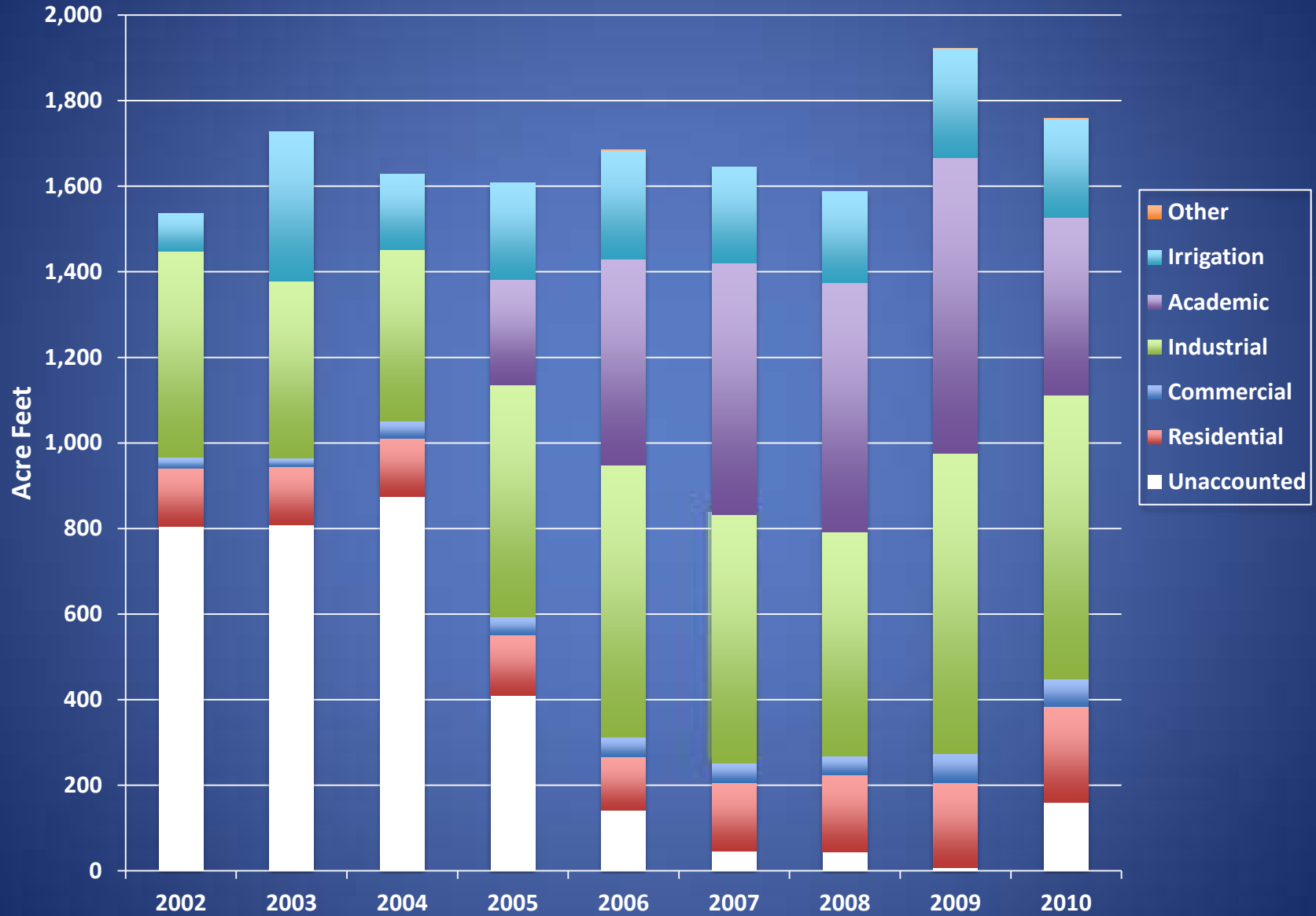
Water-Related Growth Metrics at the UofA



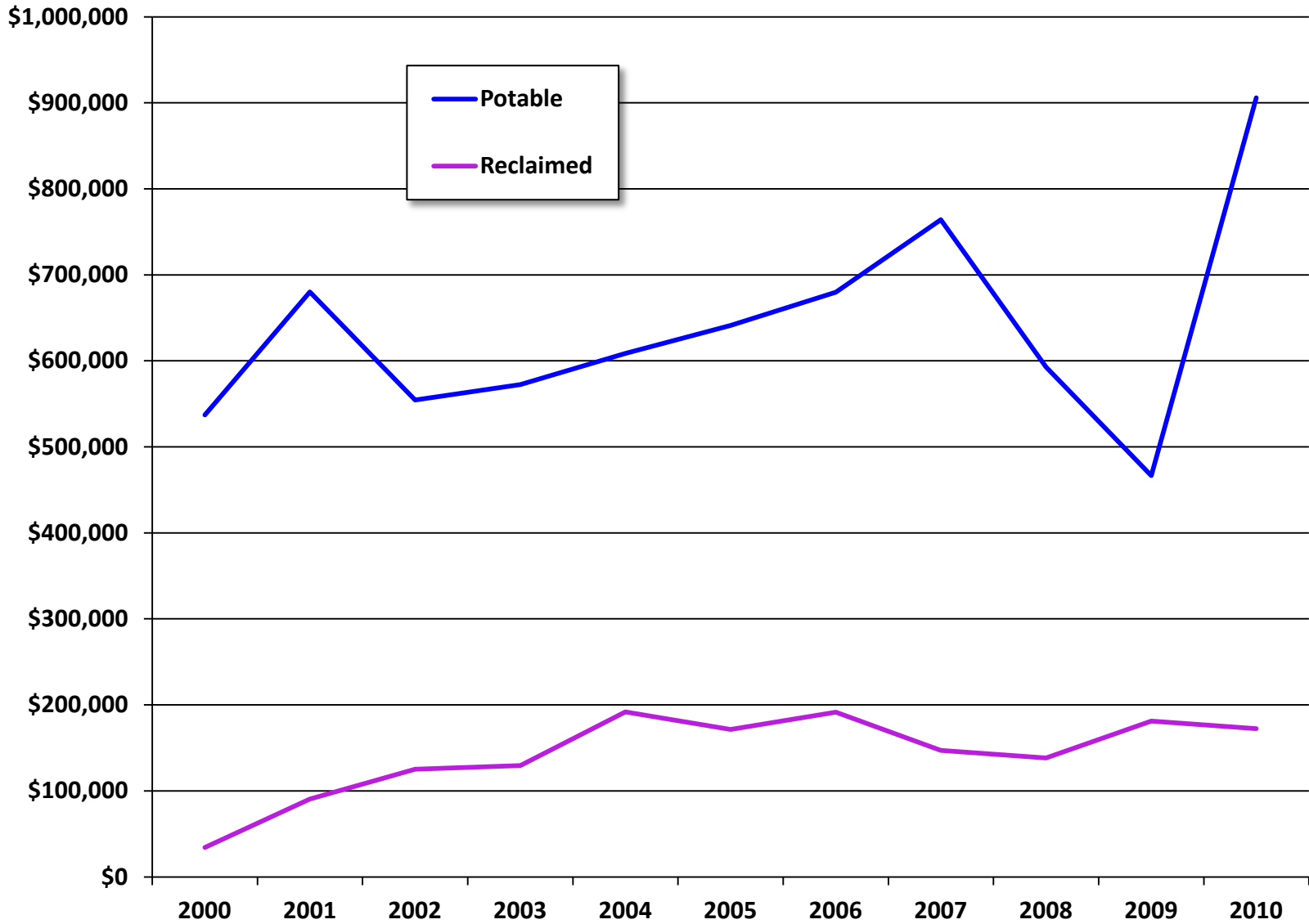
Water Sources at the UofA



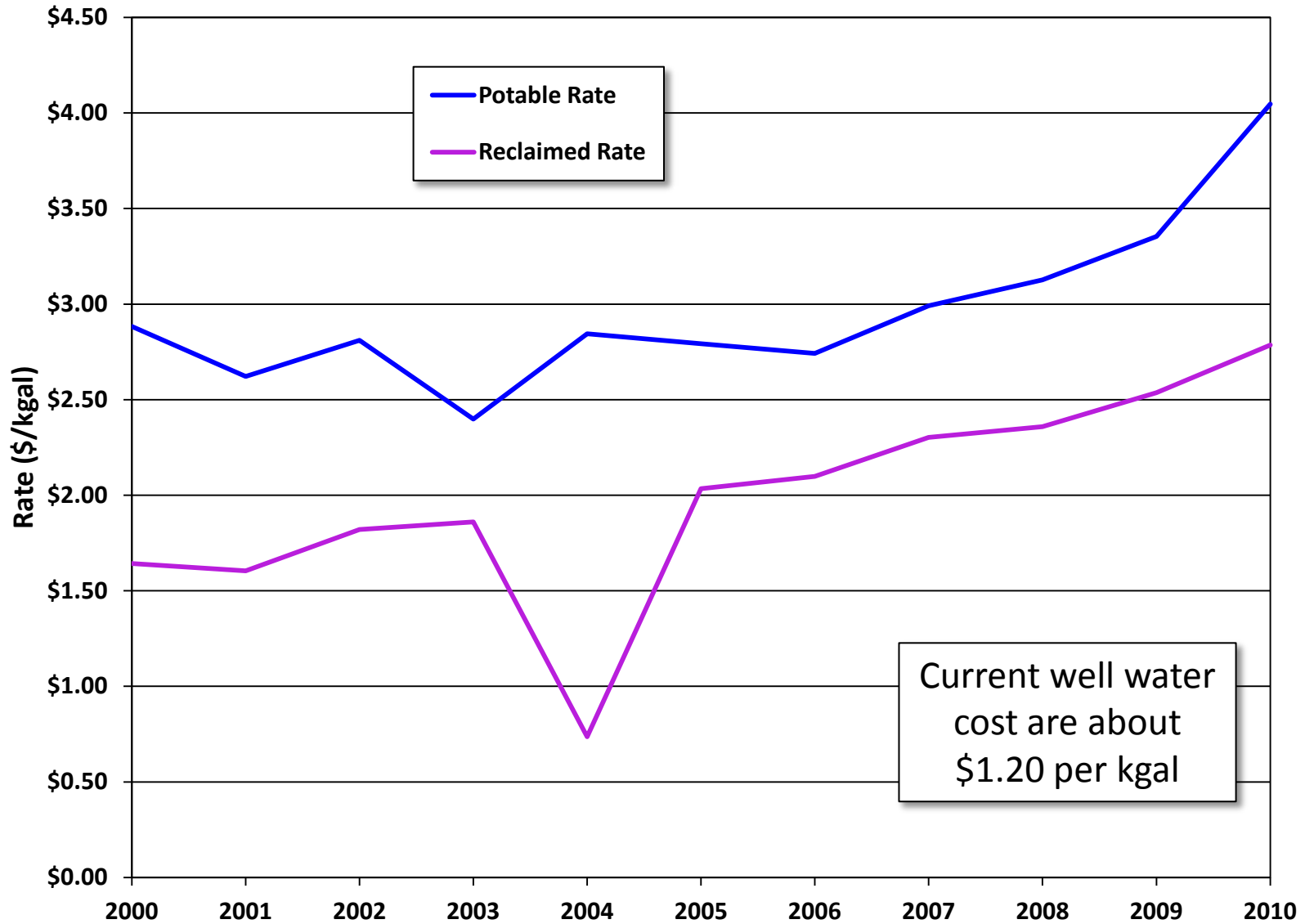
Uses of Water at the UofA



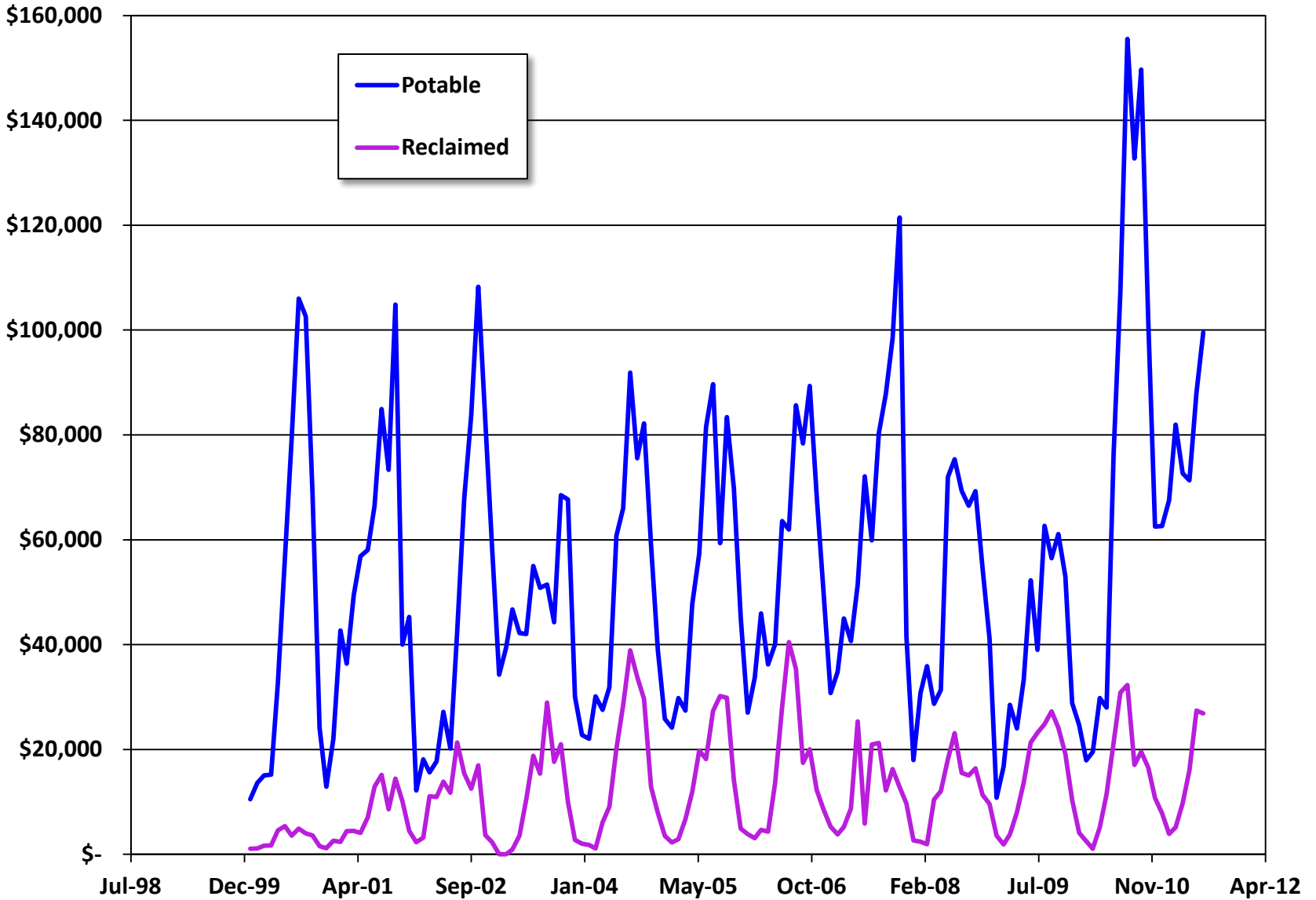
Annual Water Costs at the Uof A



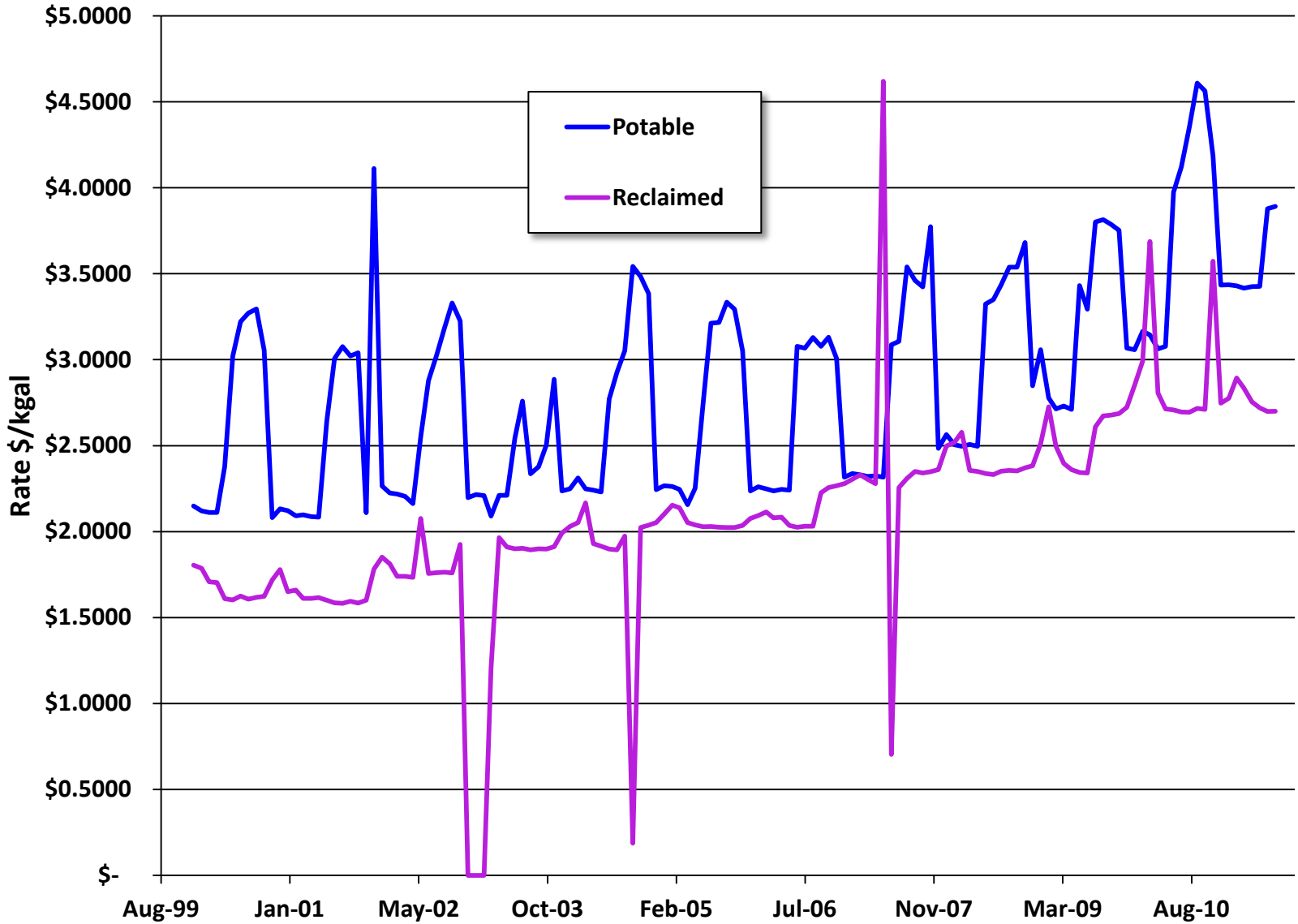
Average Annual Water Rates Paid by the UofA



Monthly Water Costs Paid by the UofA



Monthly Water Rates



Conservation Efforts

- Elimination of once-through cooling
- Chilled water system optimization
- Xeriscape
- Water harvesting
- Waterless urinals
- Reclaimed water irrigation
- Cooling tower nanofiltration
- Bottled water consumption (?? *Dubious* ??)

Challenges

- Campus growth
- Aging wells
- Climate change (?)
- Water quality
 - Potable – hardness, silica, warm water
 - Reclaimed – cycling up
- “Brown Water”
- No centralized control
- No storage

Opportunities

- Water harvesting to offset irrigation
- Potential water harvesting for other uses ?
- Recovery of building HVAC condensate
- Waste-water recycling ??
- Energy conservation = Water conservation
 - 1000 tons = 30 gpm evaporation