

Basics of Demand Forecasting

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Presentation Outline

- *Forecasting what?*
- *Trends and patterns*
- *External factors*
- *Information sources*
- *OWASA examples*
- *Tips to keep in mind*

Forecasting what?

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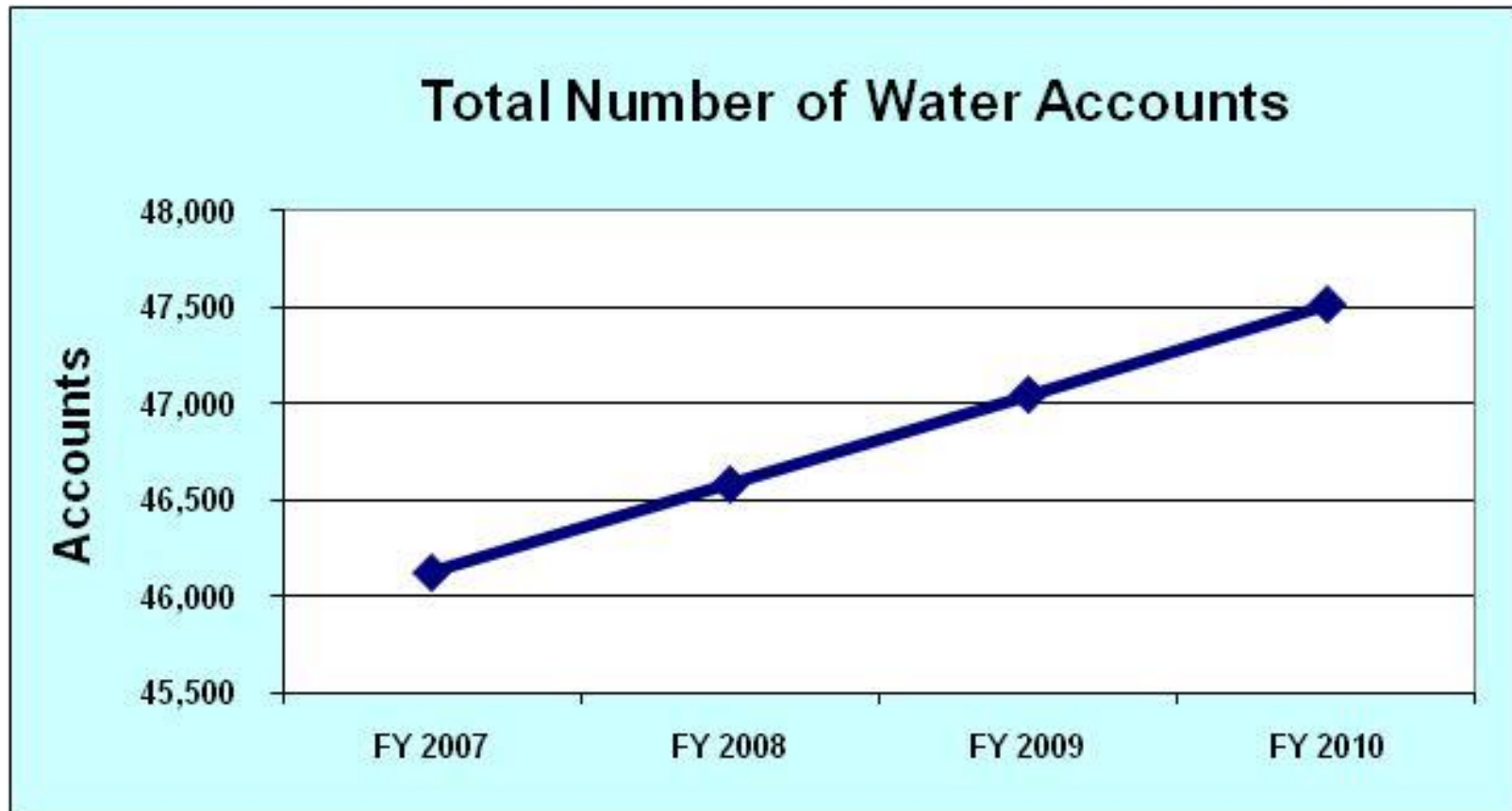
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Forecasting what?

- *Total consumption (demand)*
- *Numbers of accounts*
(by type, meter size, etc.)

***Look for trends and patterns
in the data***

Total Number of Accounts

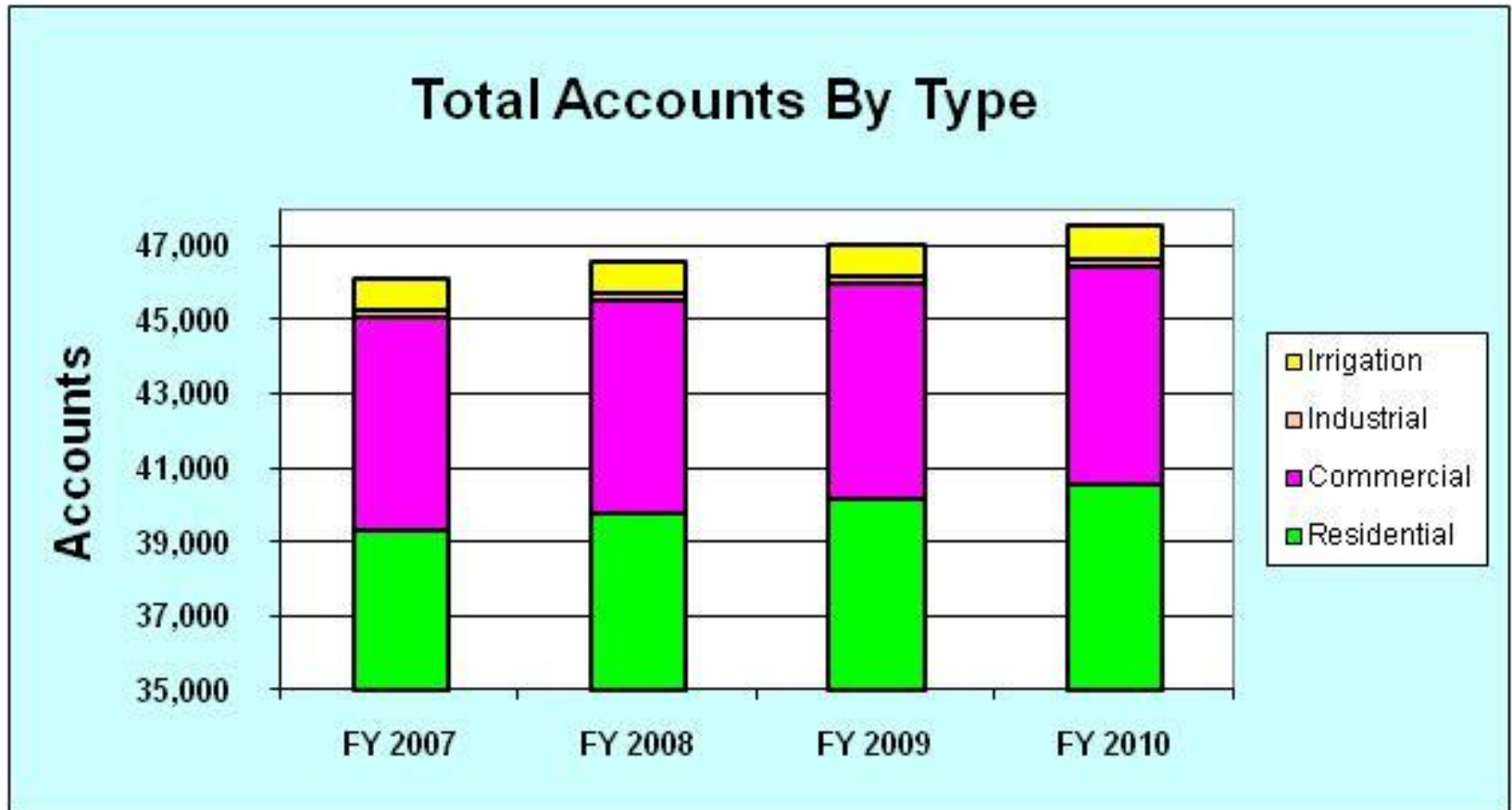


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- *Stable (and linear) increase of 468 accounts/yr ~1% growth*

Accounts by Type

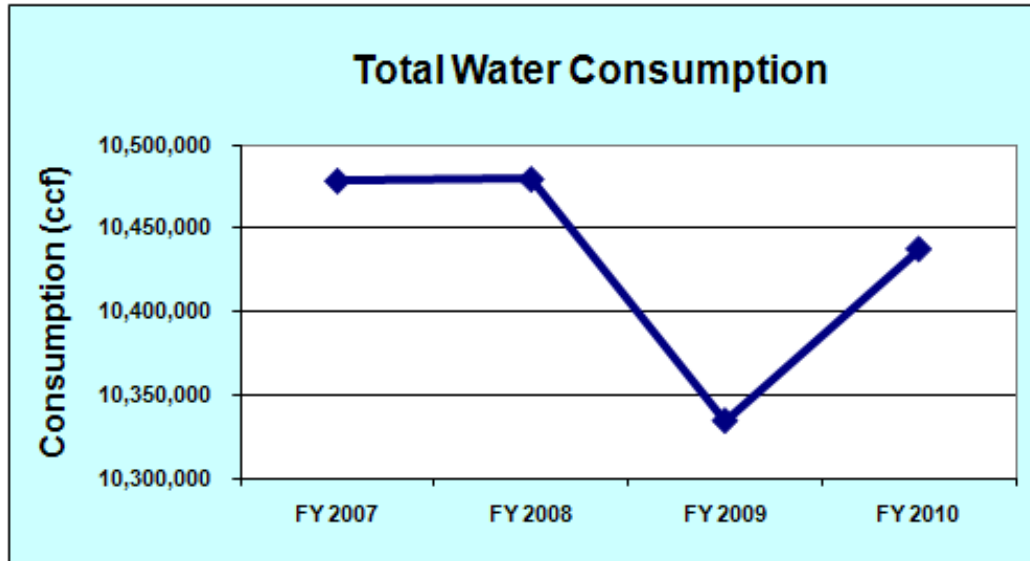


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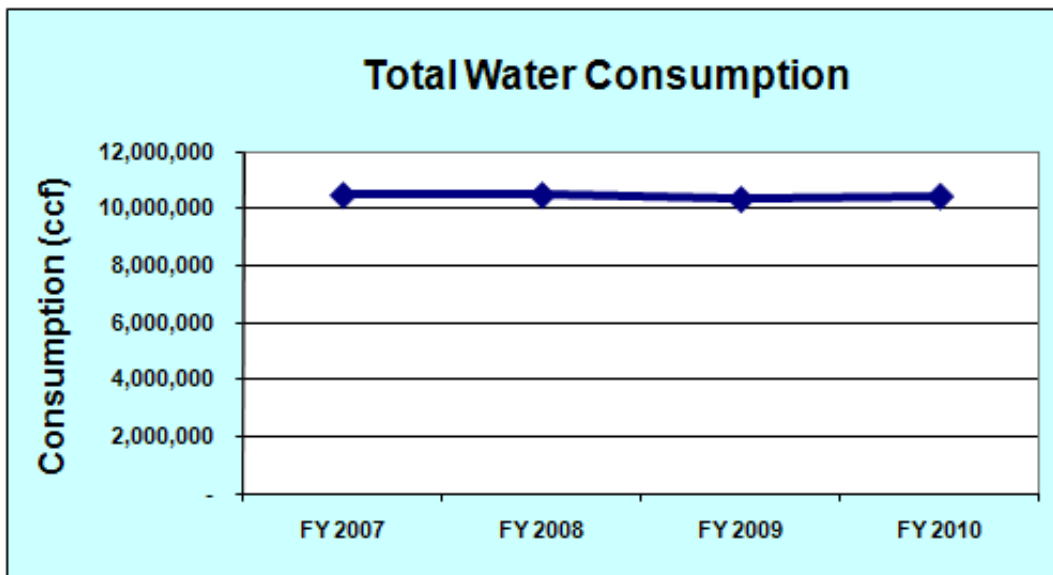
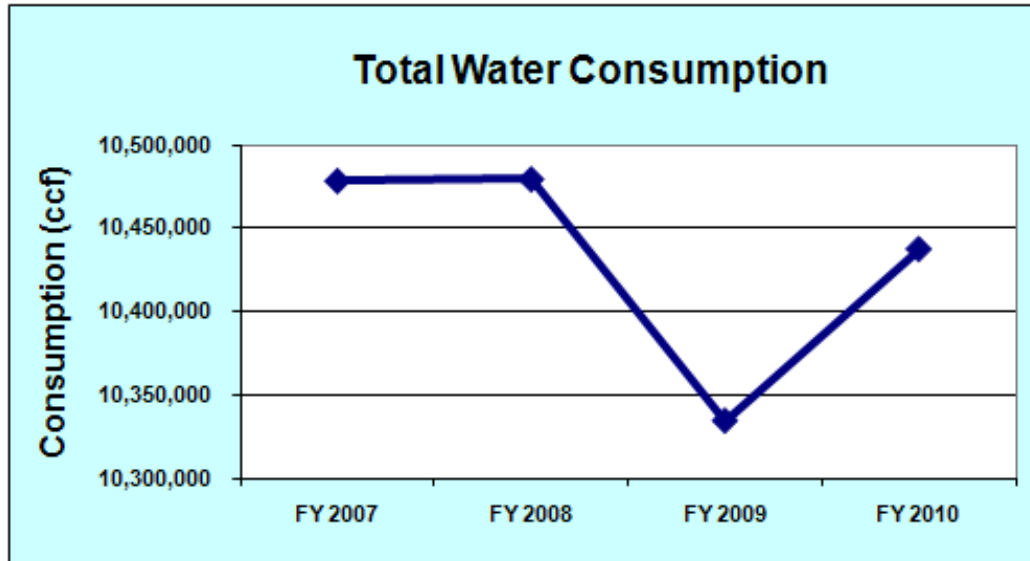
Observations from the data:

- *Growth in accounts appears to be uniform across all types*

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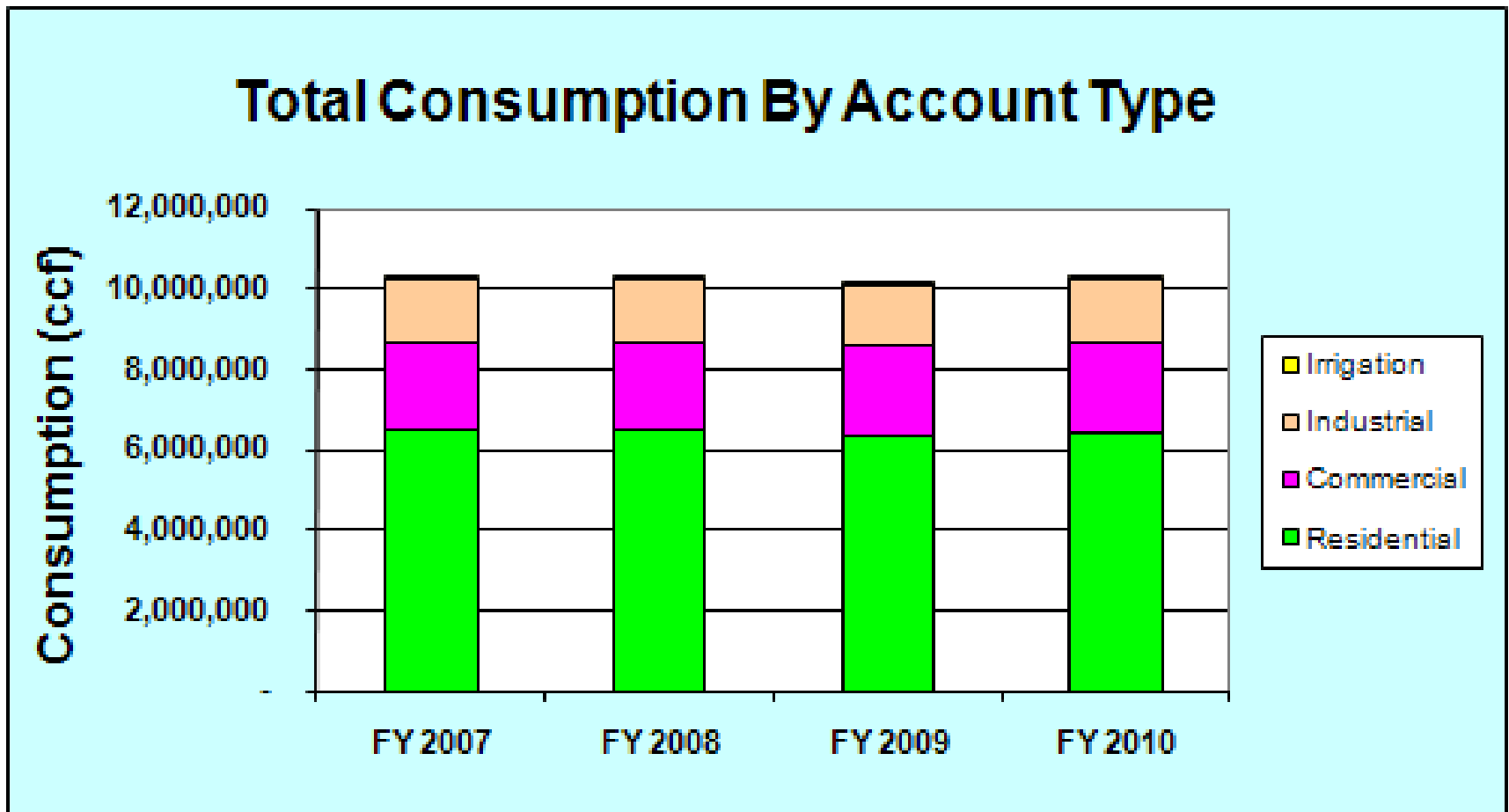


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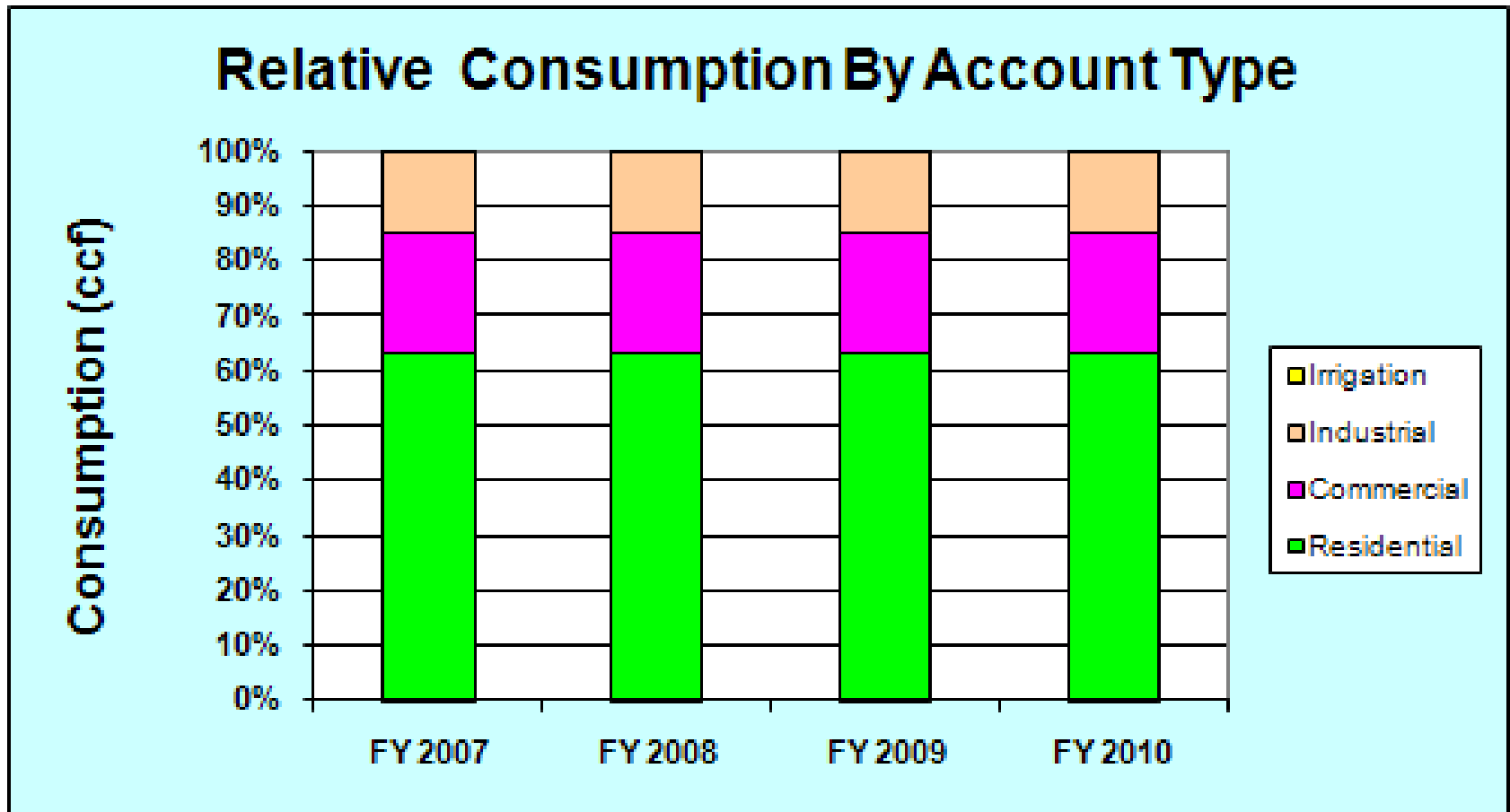
Observations from the data:

- *Total consumption has been essentially flat for the past 4 yrs*

Total Consumption by Account Type



Relative Consumption by Account Type



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- *Relative consumption by account type has not changed*

Summary of Observations:

- *Stable (and linear) increase of 468 accounts/yr ~1% growth*
- *Growth in accounts appears to be uniform across all types*
- *Total consumption has been essentially flat for the past 4 yrs*
- *Relative consumption by account type has not changed*

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- *Very slight increase (+468) in total accounts.*
- *No change in consumption, assume rebound to level of first two years.*

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- *Special economic development initiatives?*

Information Sources

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Use local data whenever possible, especially from local planning, zoning, and inspection departments:

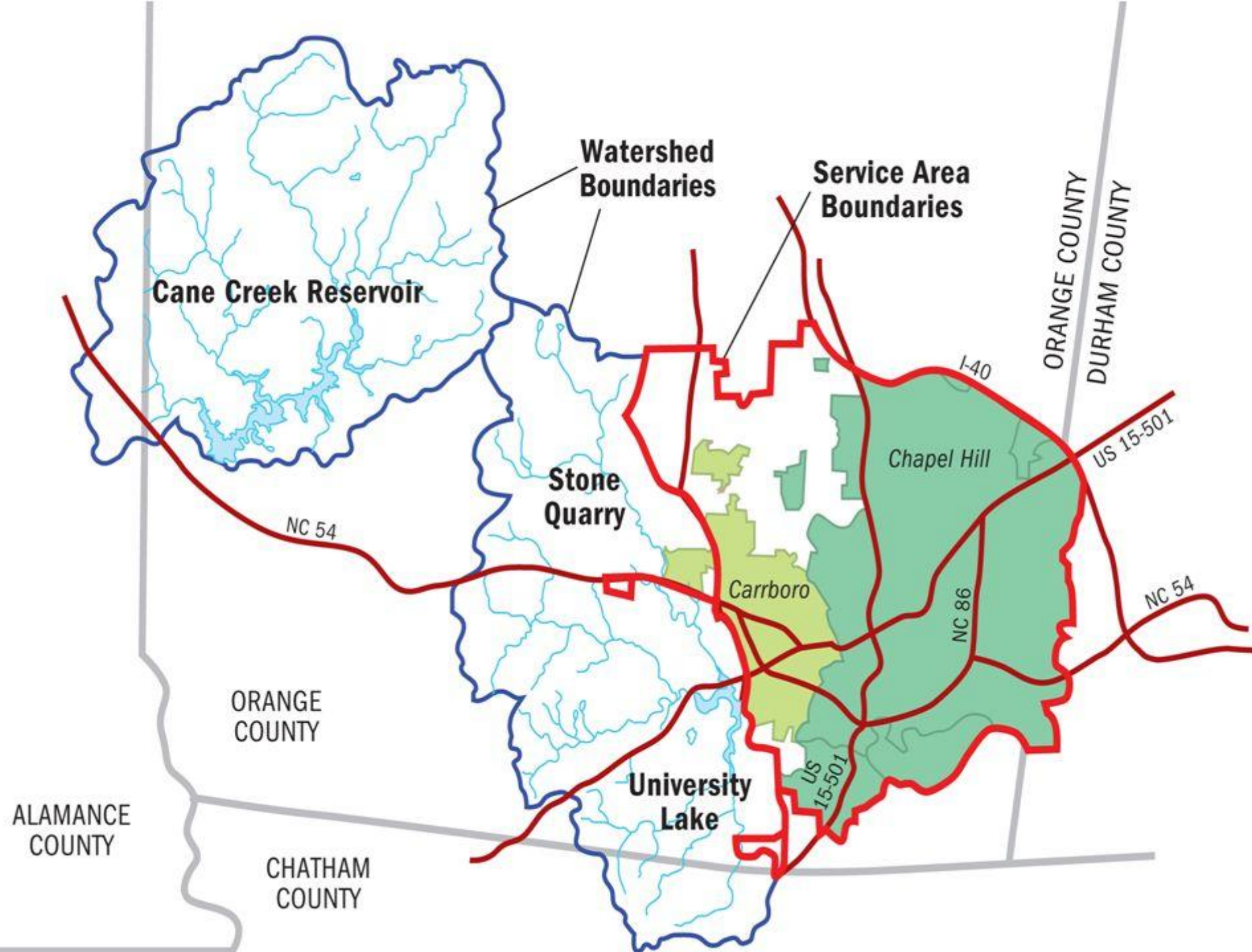
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- *Comprehensive plans*
- *Buildout projections, transportation analysis zone (TAZ) data if available*
- *Building permit data*
- *Other?*

Some OWASA Examples

- *Service area boundaries*
- *Recent and long-term demand trends*
- *Anticipated effects of conservation and reuse*

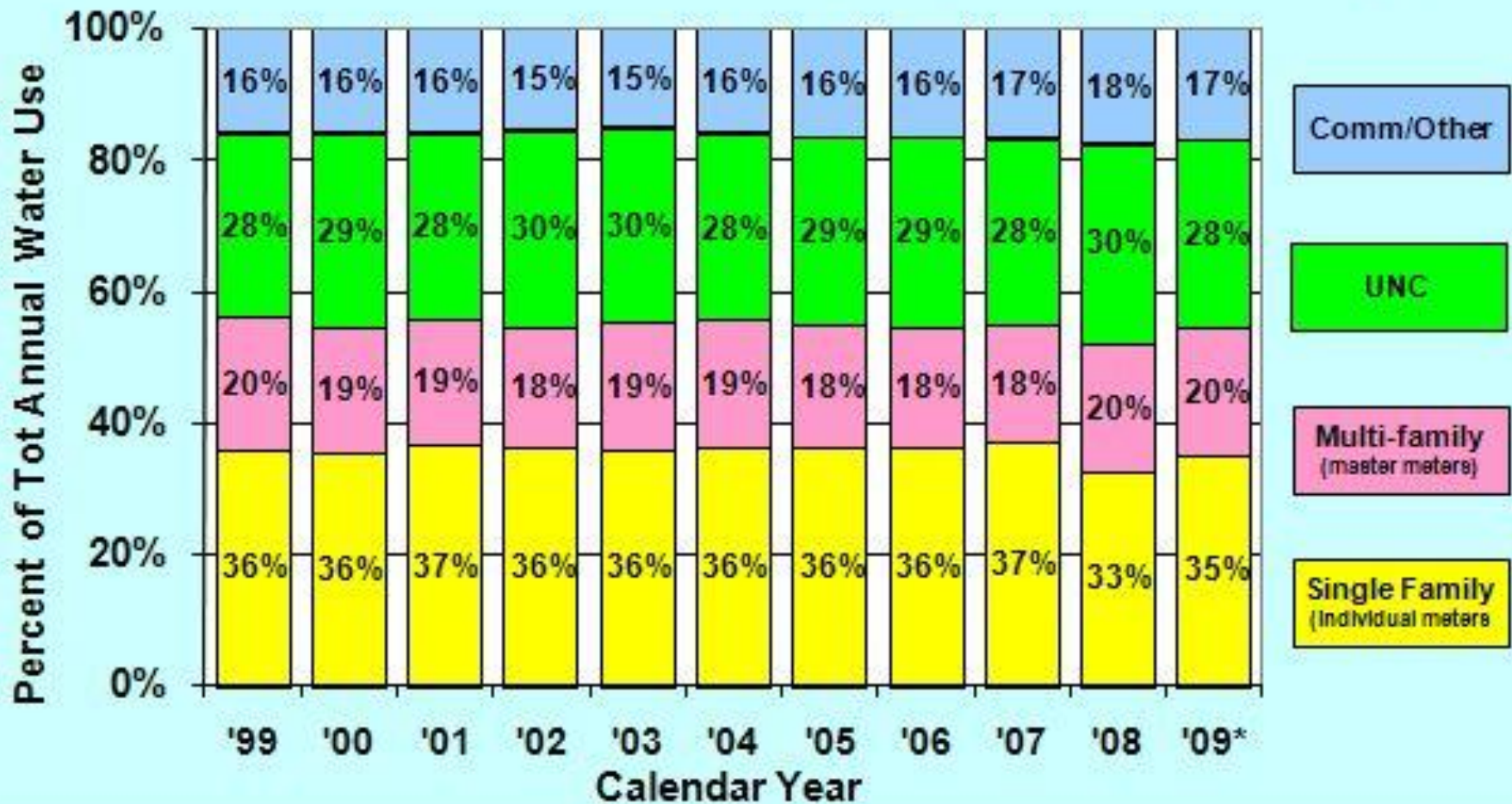


Water Use By Major Customer Group

- *Single family* 35%
- *Multi-family* 20%
- *UNC* 28%
- *Commercial/Other* 17%

No Change Among Major Groups

Figure 5. Percent of Total Use by Major Customer Group



Local Development Trends

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- *Shift toward smaller SFR lot sizes*
- *More infill and redevelopment, including tear-down*
- *Increasing proportion of new townhouse style attached housing*

- *Proposals for higher intensity mixed-use projects in Carrboro and Chapel Hill*

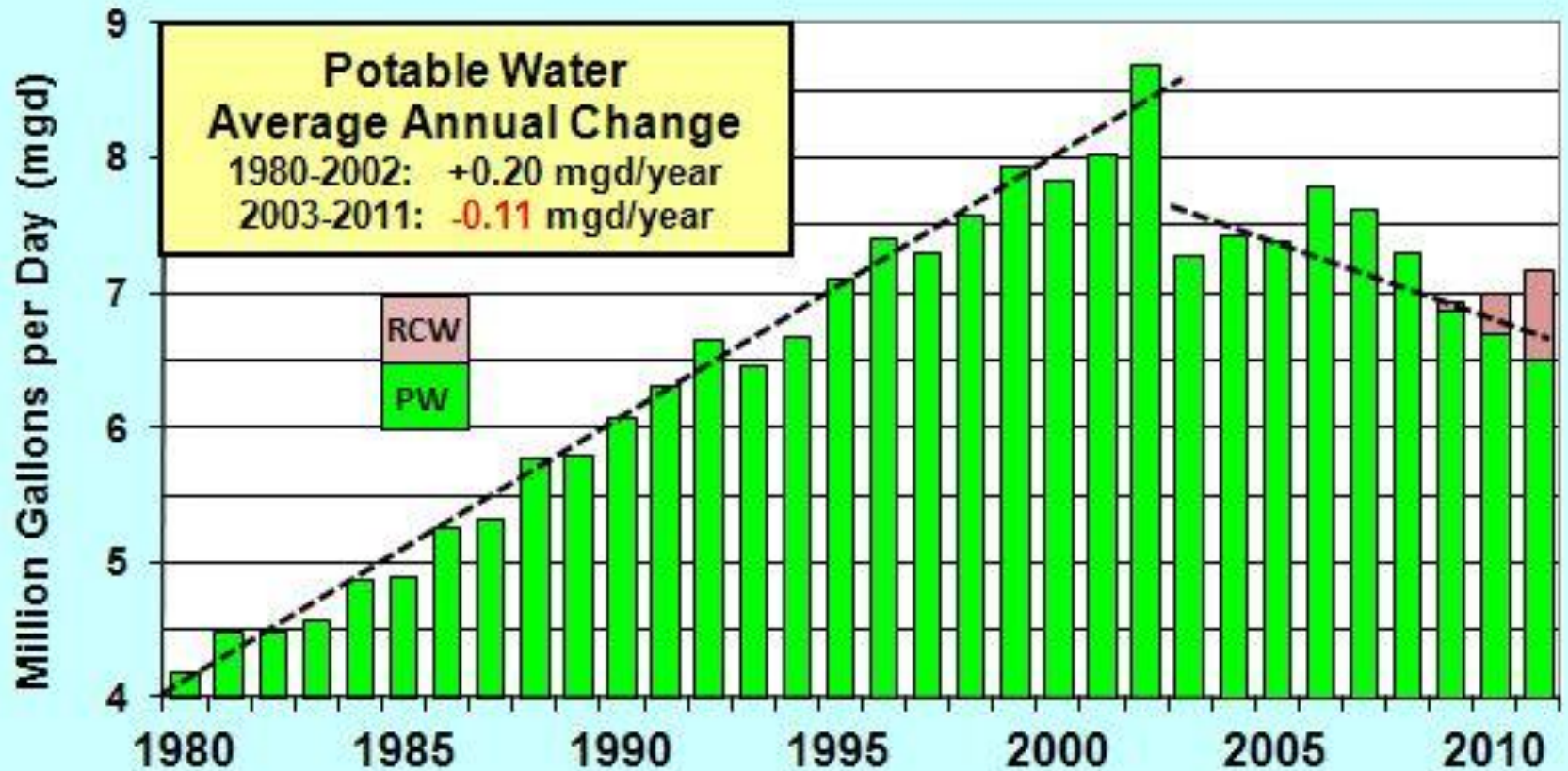
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- ***Projected decrease in per unit water demands***
- *New reclaimed water system will further offset drinking water sales*

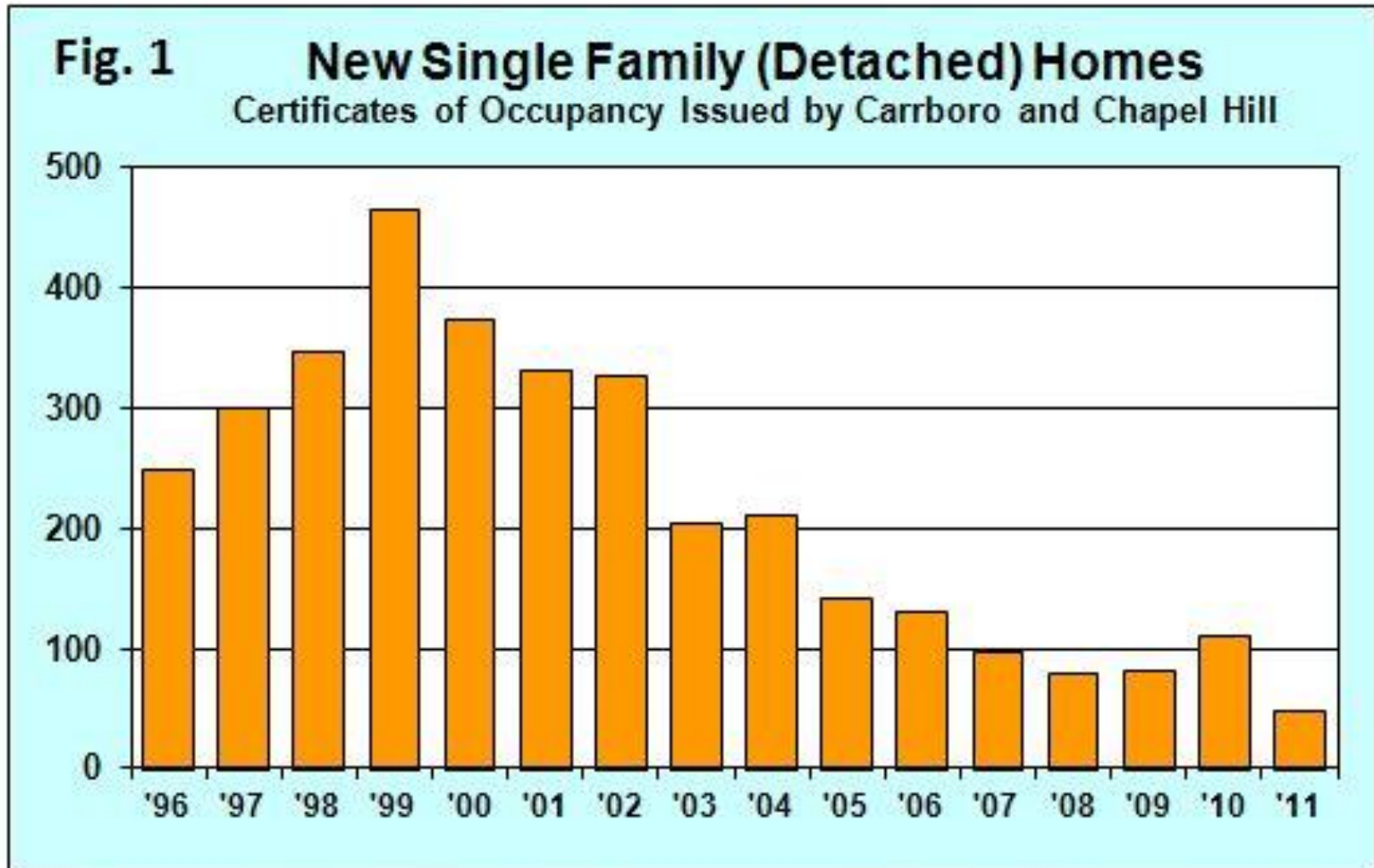
***Recent Trends in OWASA
Customer Demands***

Conservation!

Fig. 3 Potable & Reclaimed Water Sales, FY 1980-2011



Declining rate of single family home construction



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- *Demands (and revenues) are becoming much less predictable*
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- *Reduced demand projections may allow deferral or avoidance of major capital expenditures*

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- Look for patterns and trends in past/recent data. Don't be afraid to extrapolate or simply connect the dots.*
- Be sure to reality-check your forecasts with local housing data and employment projections whenever possible.*
- Don't try to do more than the data can support.*

Good Luck!

Questions, Comments?

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