# Water Master Plan
# Population and Demand Projections

Las Virgenes MWD

Board Meeting

13 August, 2013

# Agenda

- Goals and Purpose of Demand Projections
- Basis of Planning
  - Data Sources
  - Understanding and Utilizing Spatial Data
  - Summary of Projected Population
- Projected Water Demands
  - Statistical Analysis of Water Demands
  - Summary of Projected Water Demands
- Summary of Findings

# Water Demand Projections
# Purpose and Methodology

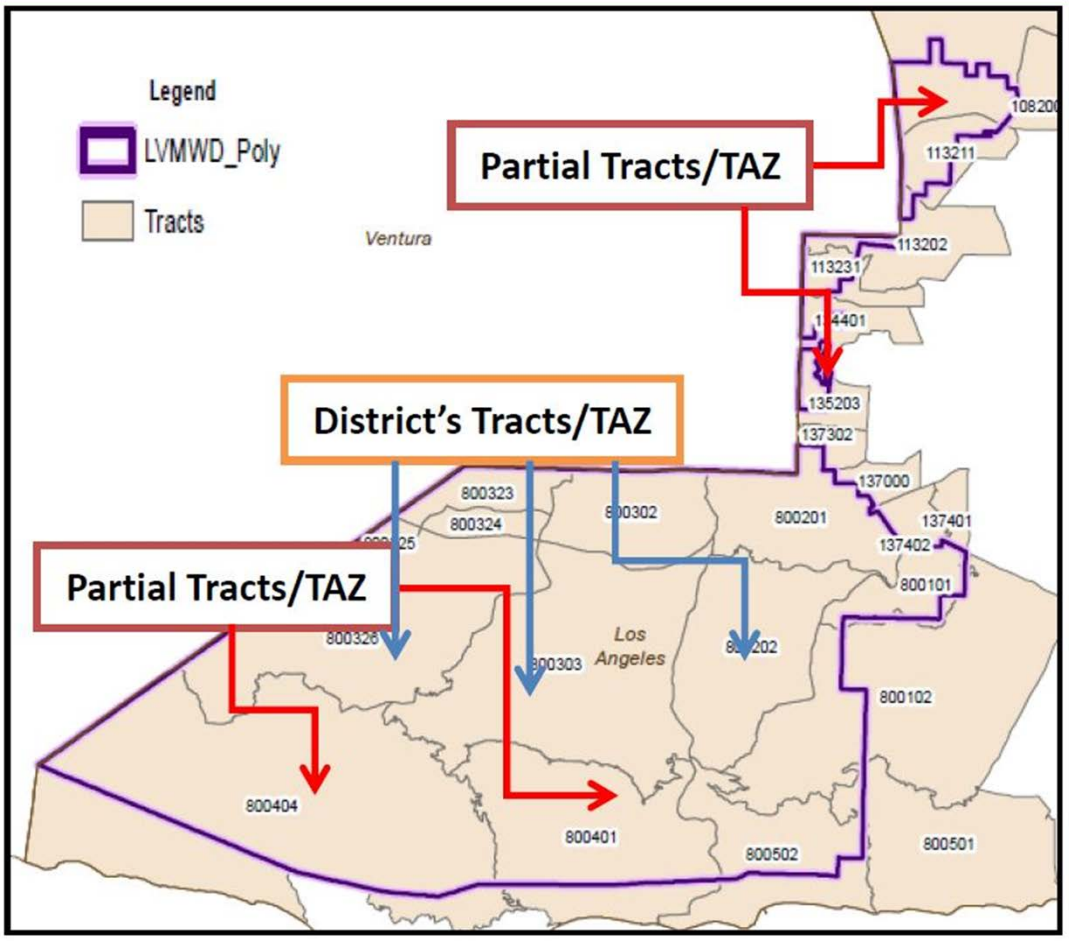
- Need to develop reliable planning criteria for the 2013 Master Plan
- Findings to be used to:
  - Evaluate facility sizing
  - Support additional planning efforts (2015 UWMP)
- Typical methodology is based on:
  - Population projections, land use density considerations, and/or combinations of these data
- Methodology often driven by quality of available data

# Basis of Planning: Data Sources

- Southern California Association of Governments (SCAG) Data
- Census Data
- Land Use Data
- CIMIS Data
- District's Utility Billing Data
- Data Variability
  - Key Planning Element
  - "Clip" SCAG/Census to District Boundary

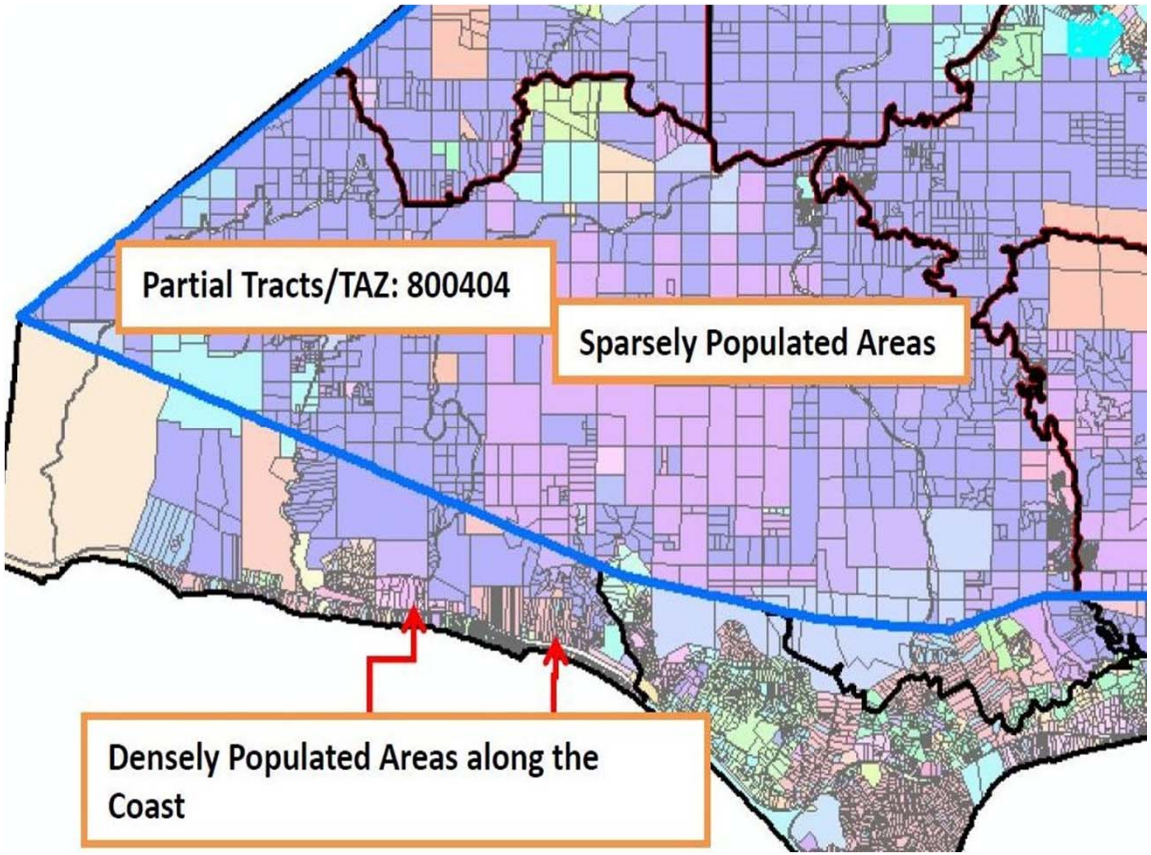
# Understanding & Utilizing Spatial Data

- District boundary vs. Tracts/TAZ
- Reconciliation required
- Tracts/TAZ are “clipped” to District boundary

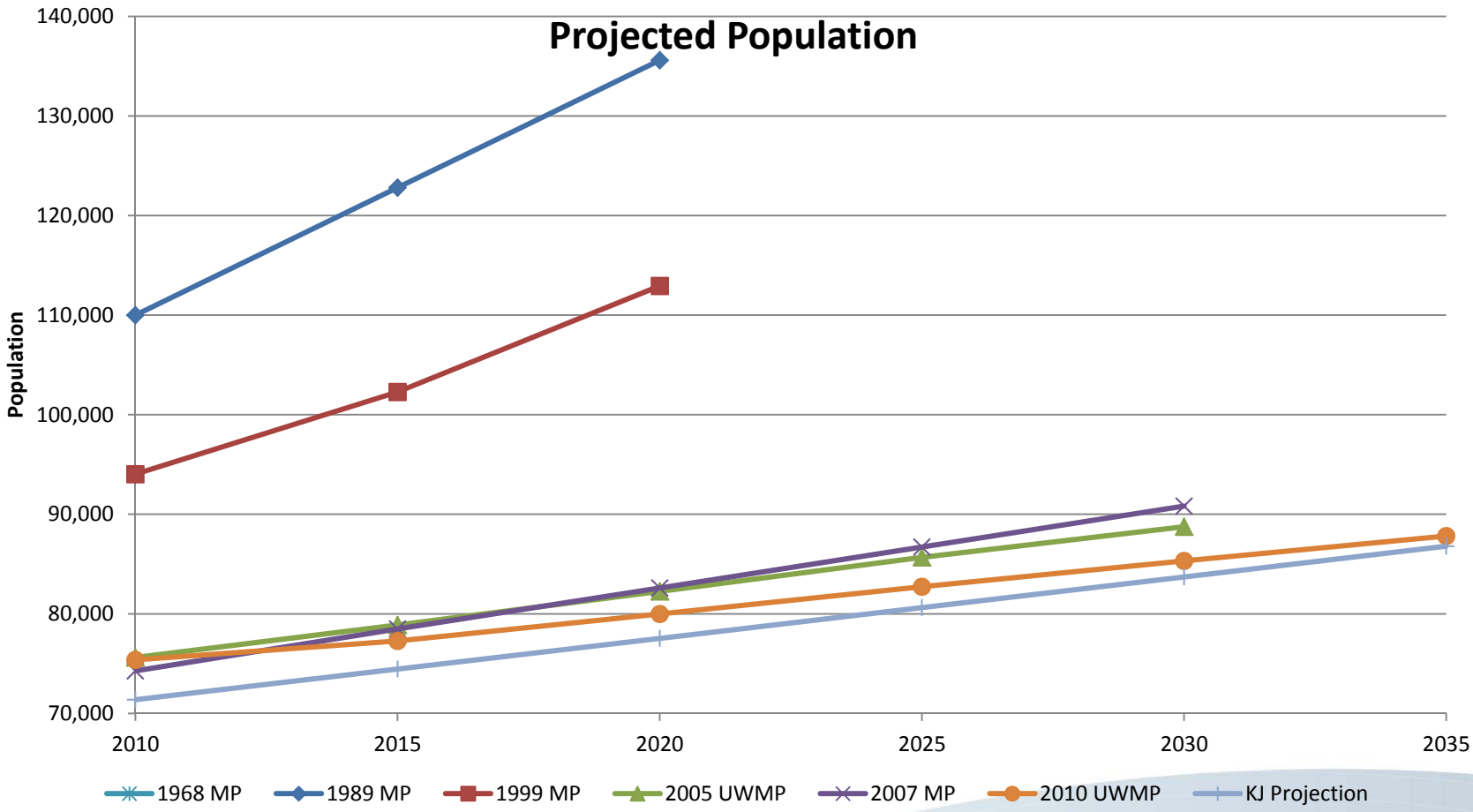


# Understanding & Utilizing Spatial Data

- TAZ 800404 example
- Area vs. aerial
- Aerial is suggested method
- Projected population estimate



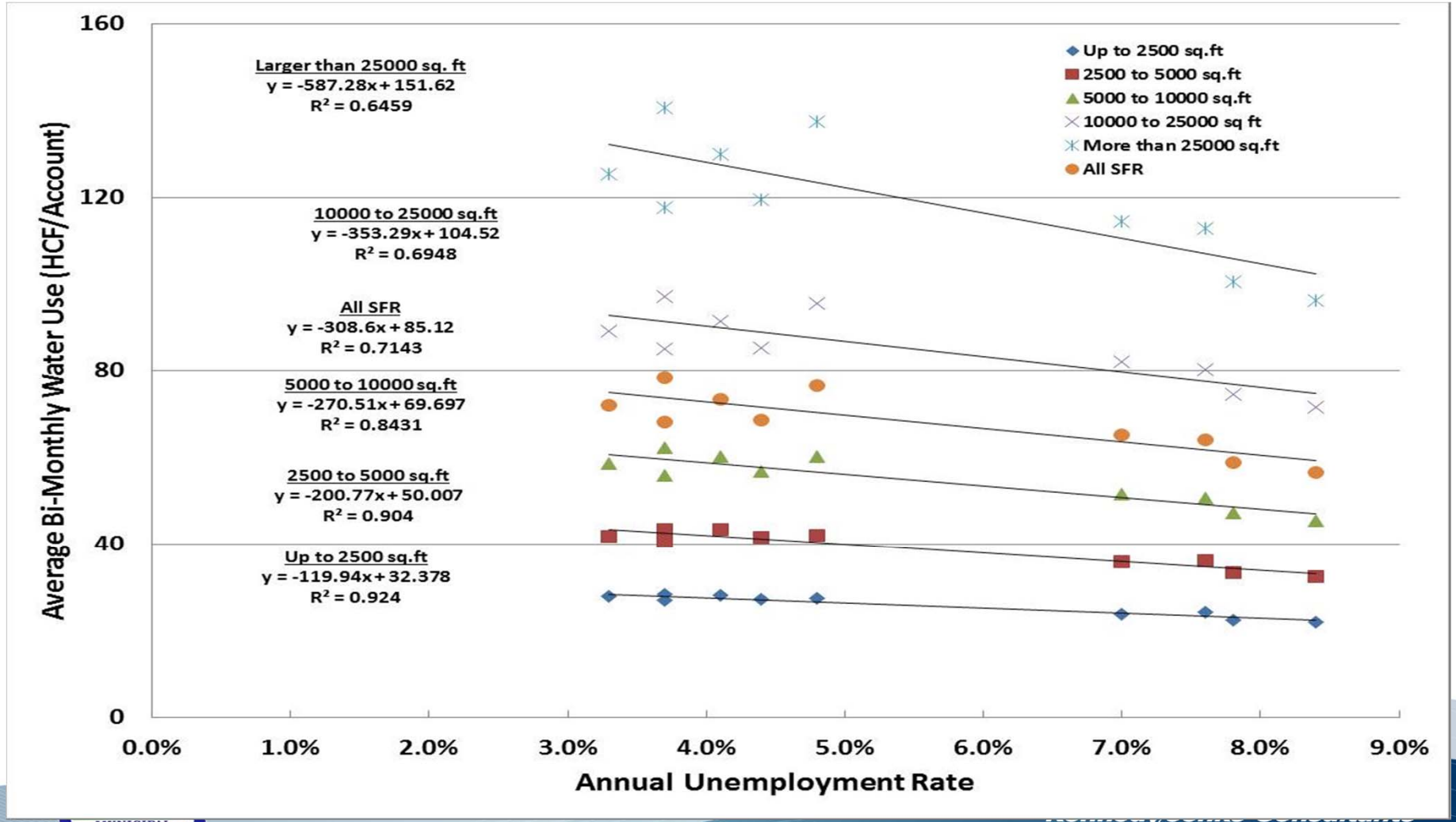
# Summary of Projected Population



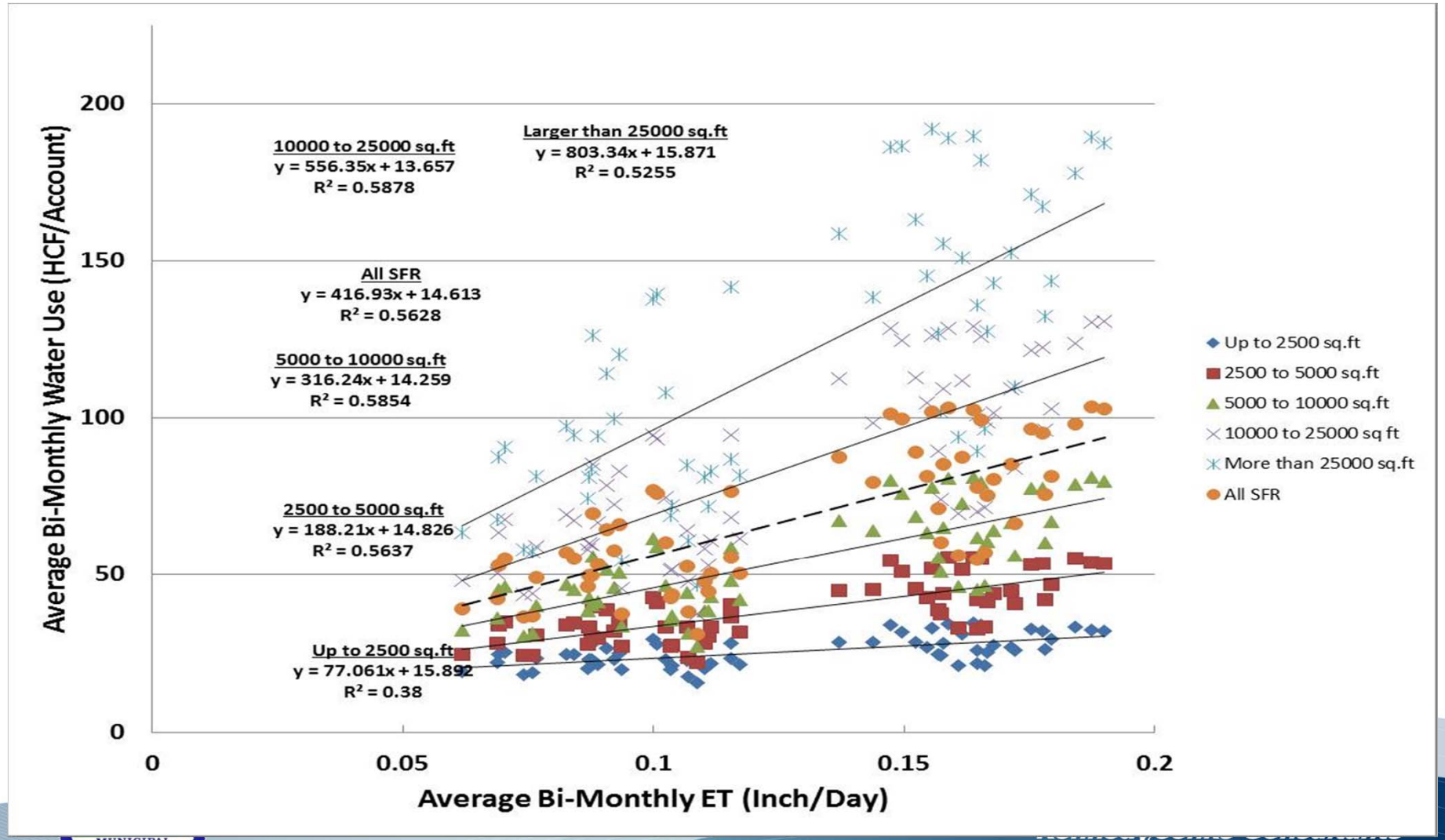
# Projected Water Demands Statistical Analysis

- Long-range planning requires additional water usage evaluation
- Analyzed water billing from CY 2003 - 2012
- KJ found a strong correlation between water usage and unemployment, less so with weather
- District identified a strong correlation with drought conditions

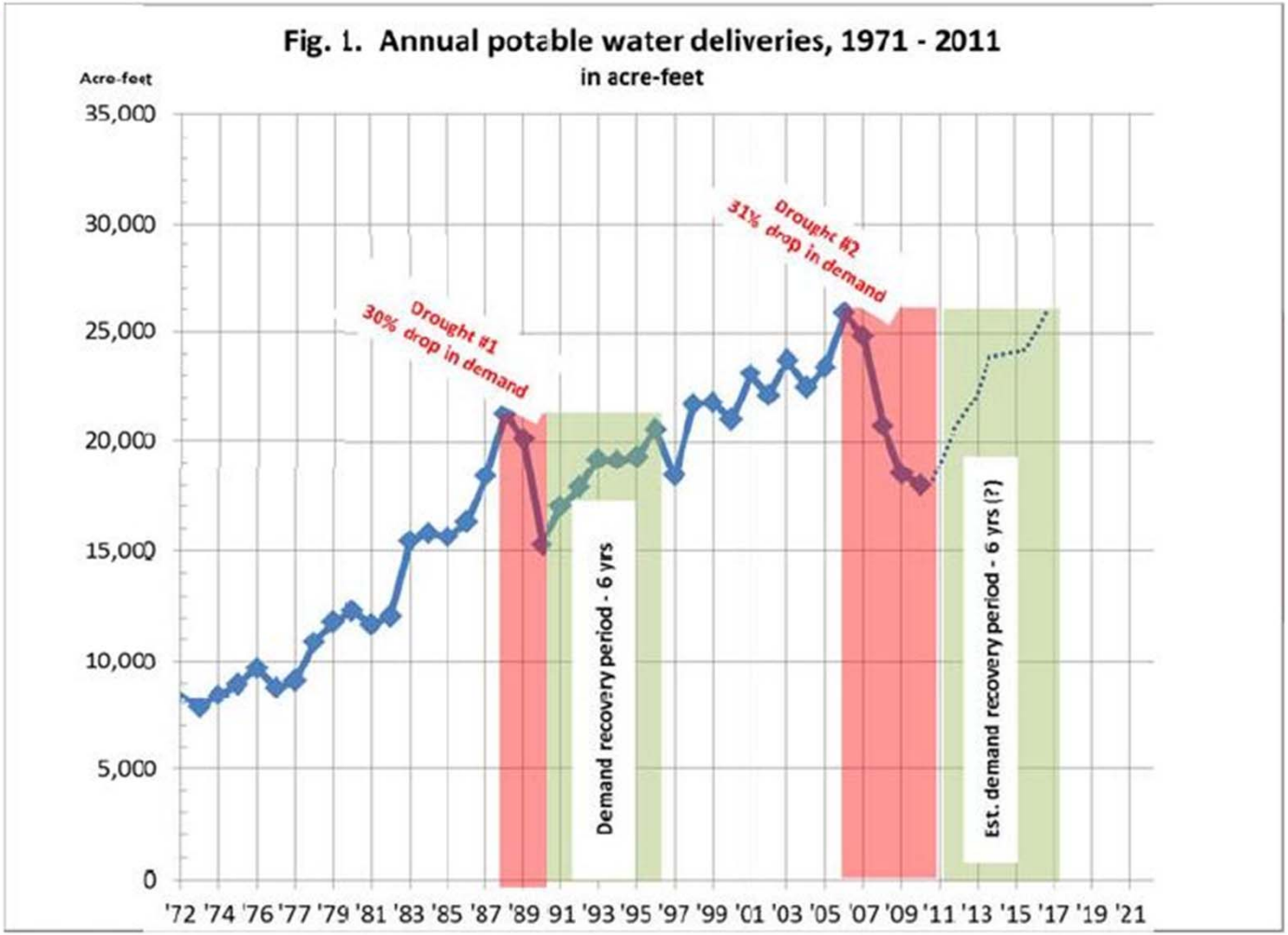
# Effect of Economy (Unemployment Rate) on SFR Water Use



# Effect of Weather (ET) on SFR Water Use



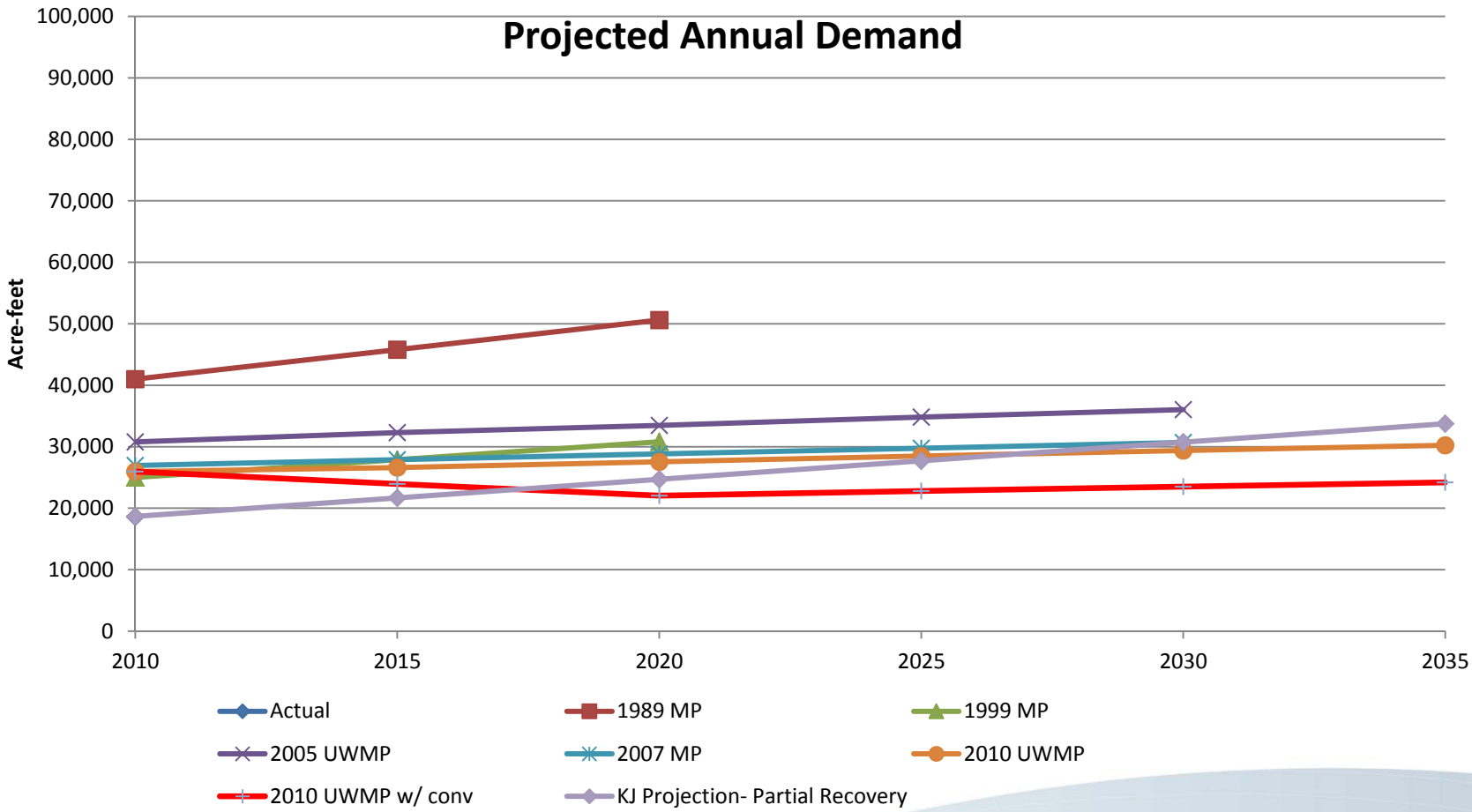
# Effect of Drought on SFR Water Use



# Summary of Projected Water Demands

- To develop the demand projection
  - Utilized 2010 & 2012 billing data
  - Applied estimated economic and drought factors to both demand data sets
  - Merged water usage with the projected population
- Both data sets yielded comparable results
- A “mid-range” projection is recommended
- Overall findings comparable to prior studies

# Summary of Projected Water Demands



# Summary of Findings

- Projected population
  - Effort was more detailed than prior studies
  - Results were comparable
- Projected water demands
  - Evaluated historical water use
  - Found correlation with unemployment & drought
  - Incorporated both these factors in demand projection
  - Recommended “middle” of the road projection
  - Results were comparable to prior studies