Review Demand Projections and Supply Development Goals

IRP Steering Committee

May 25, 2010

Review of Demand Projections

- Retail demand projections
- Conservation projections
- Local supply projections
- Projected demands on Metropolitan
  - Dry-year climate impacts
  - Additional uncertainty on Retail Demand

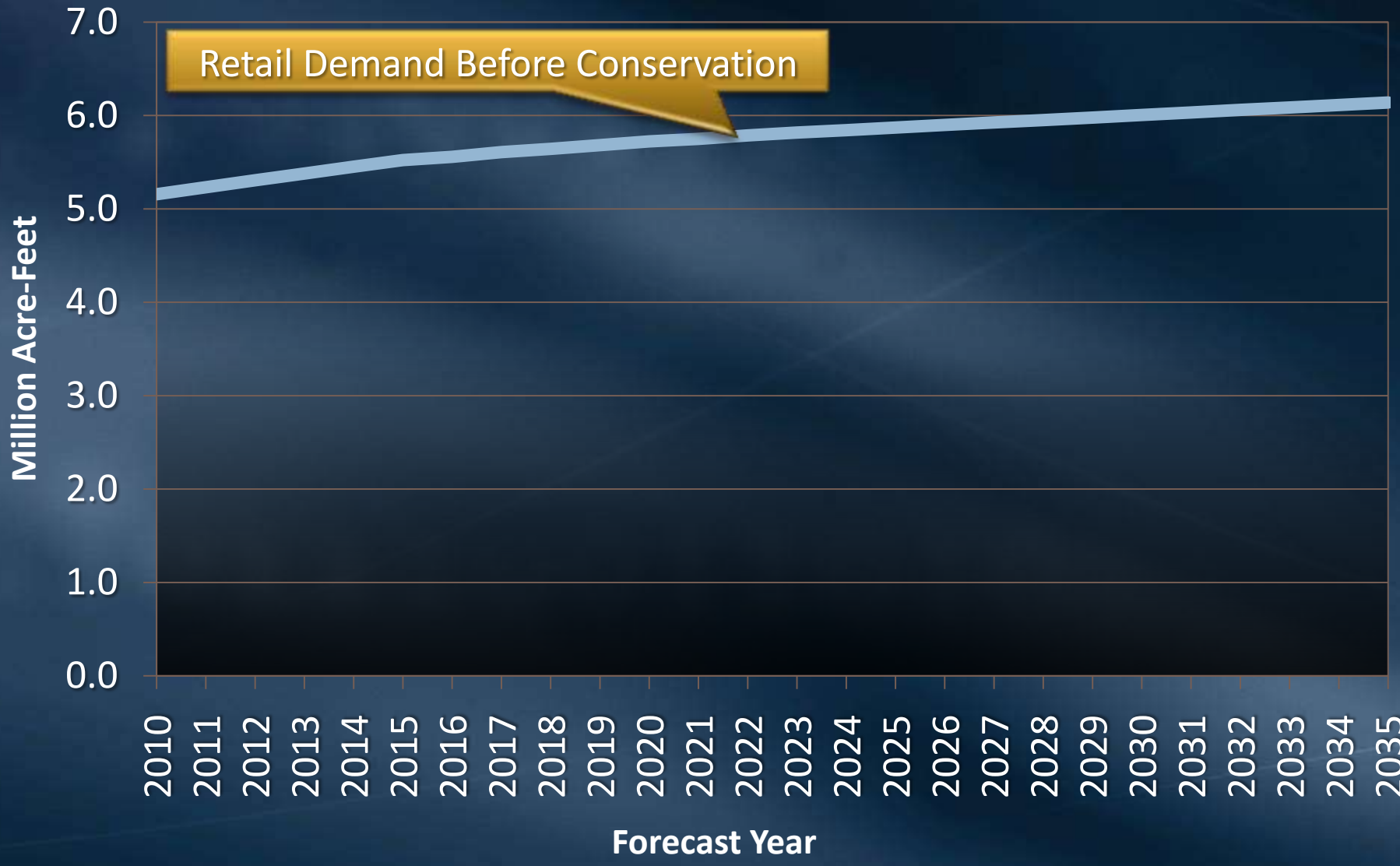
Projected Retail Demands
Key Assumptions

- Municipal and Industrial
  - Demographics
    - SCAG RTP-07 and SANDAG Series 11-06 projections
  - Urban demand
    - MWD-MAIN econometric model
  - Agency specific
    - LANDAT GIS software

Projected Retail Demands
Key Assumptions

- Agricultural
  - Member agency survey
    - Acreage
    - Crop-types
    - Historical use
    - Land-use conversion

Projected Normal-Year Retail Demand



Meeting Projected Retail Demands

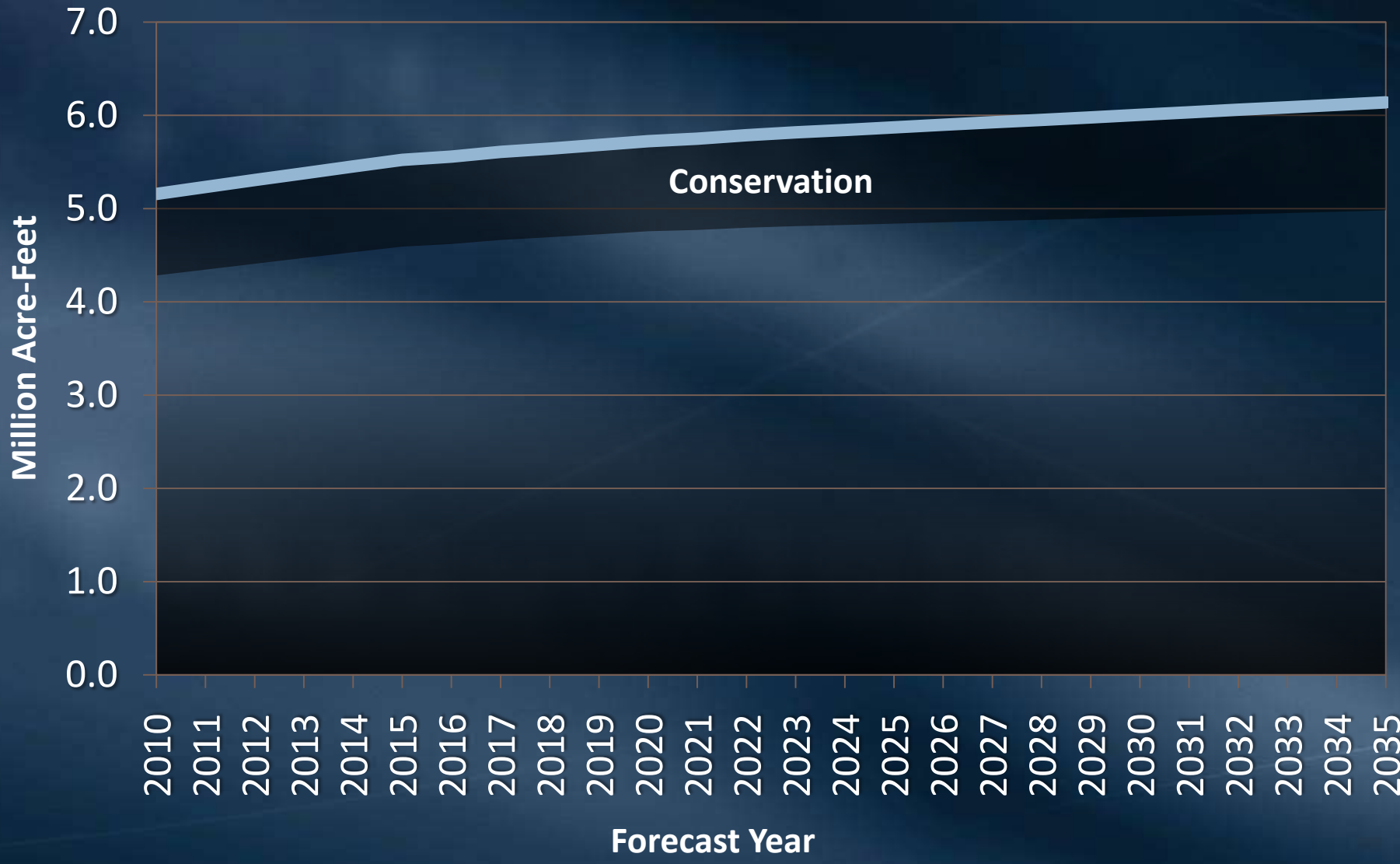
- Conservation
- Local supplies
- Metropolitan imported supplies
- Metropolitan storage and transfers

Conservation

Key Assumptions

- Code-based savings
- Price-effect savings
- System losses and unmetered reductions
- Active conservation savings

Projected Normal-Year Retail Demand

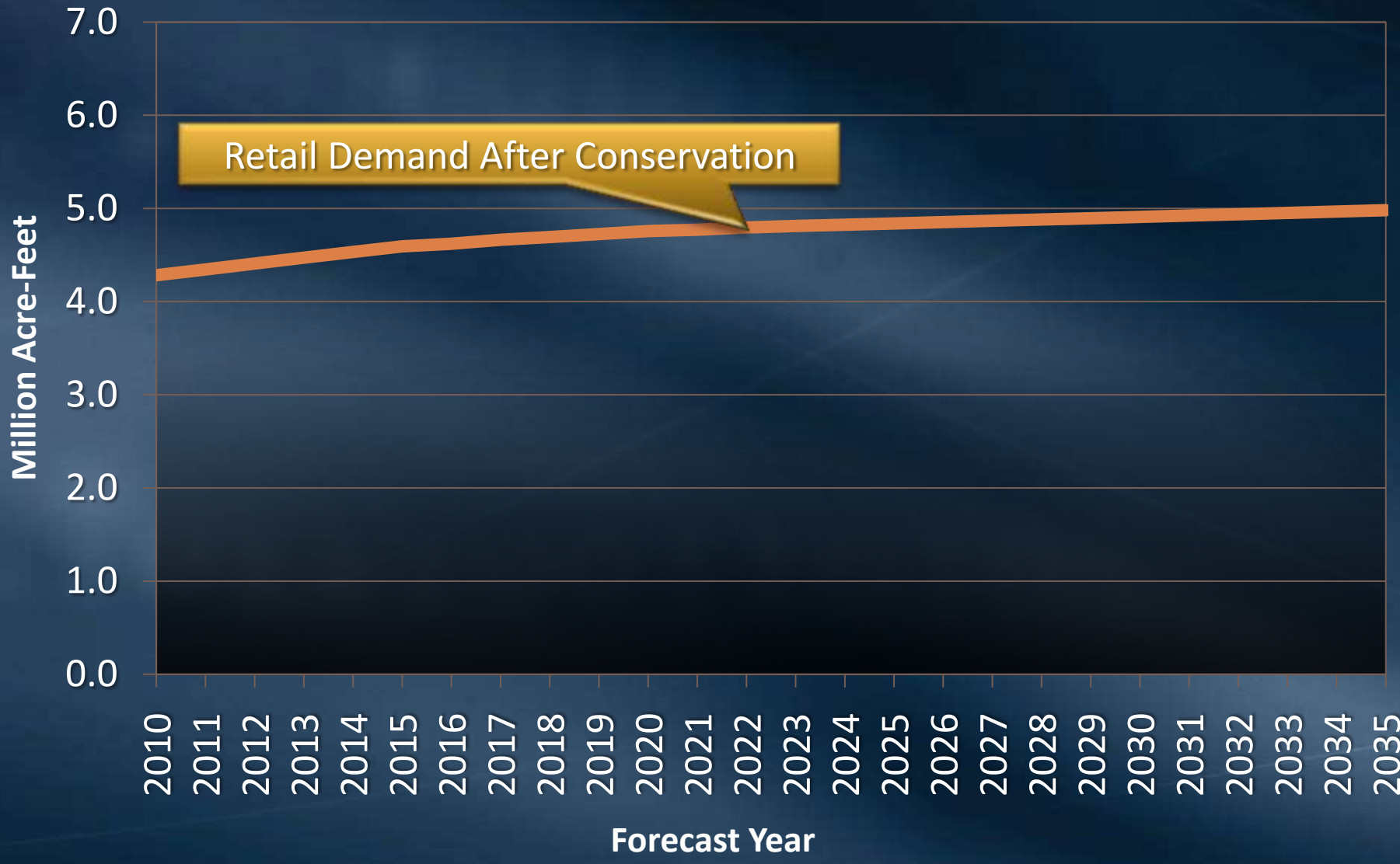


Projected Normal-Year Retail Demand

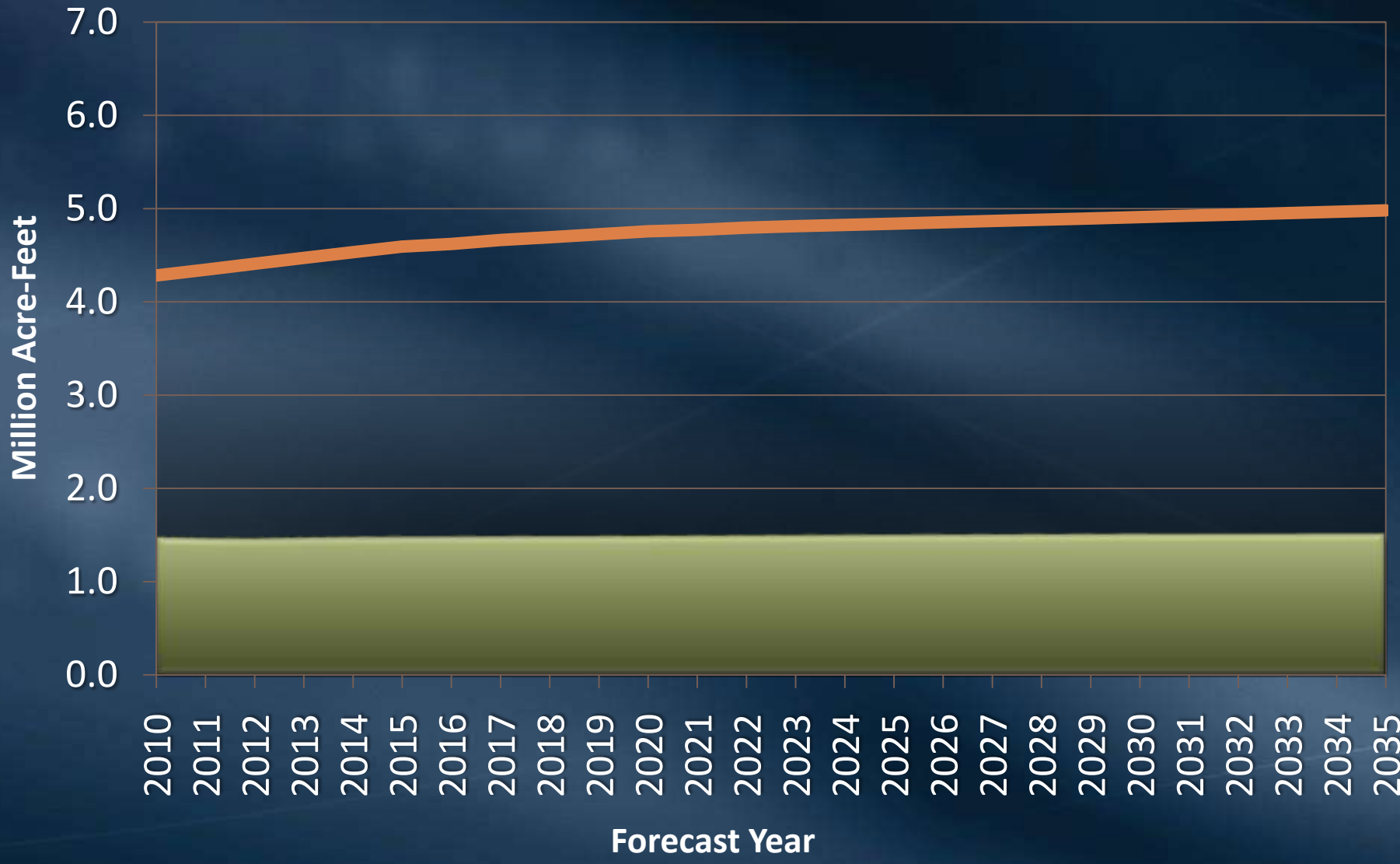
Groundwater Production
Key Assumptions

- Annual local supply survey
- Basin adjudications
- Operating yield

Projected Local Supplies



Projected Local Supplies

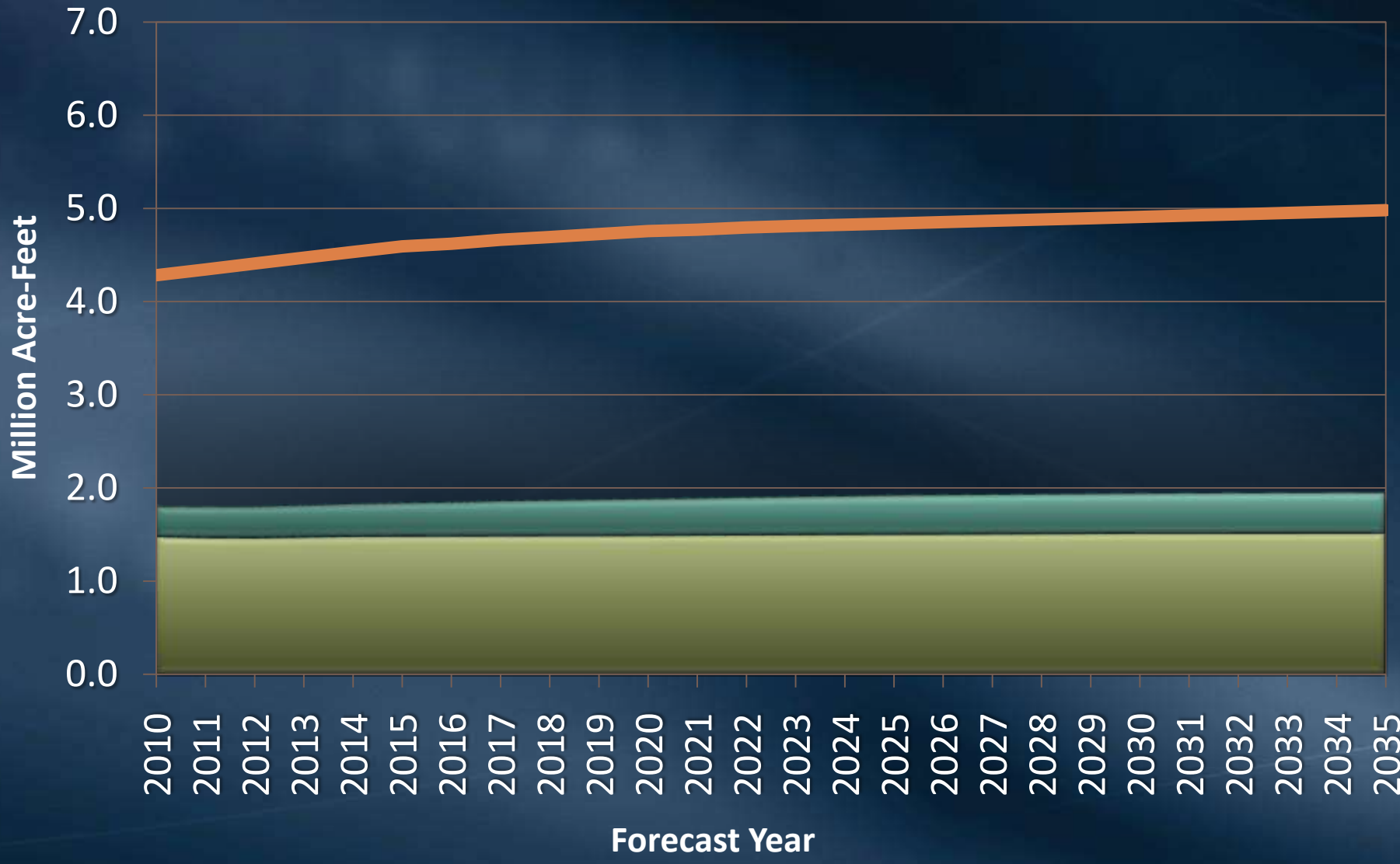


Recycling Production

Key Assumptions

- Annual local supply survey
- Non-funded programs
- Local Resources Program

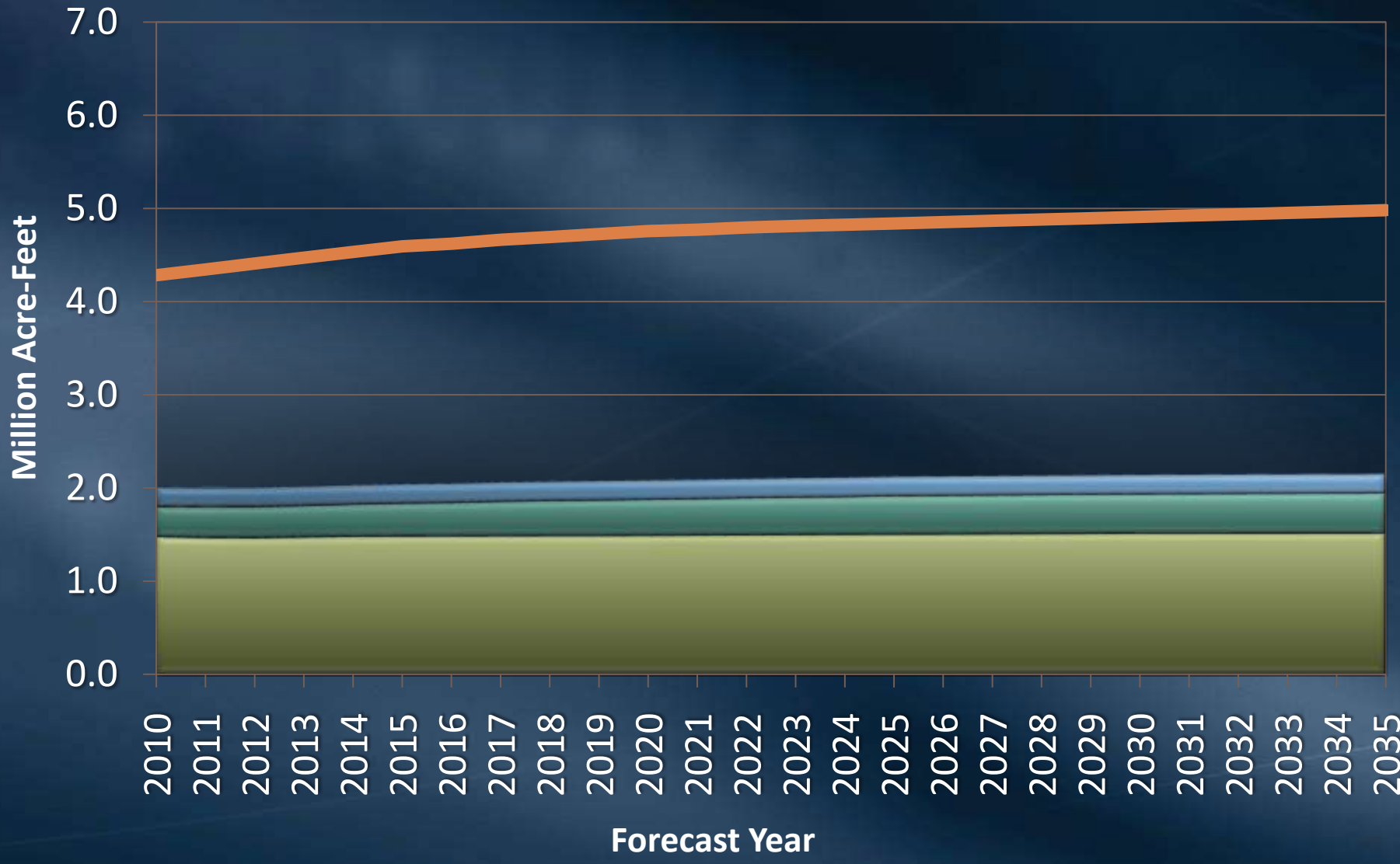
Projected Local Supplies



Los Angeles Aqueduct
Key Assumptions

- LAA-Sim output
- Annual hydrologic forecast
  - 1922-2004
  - Time-series to 2050
- Includes mitigation

Projected Local Supplies

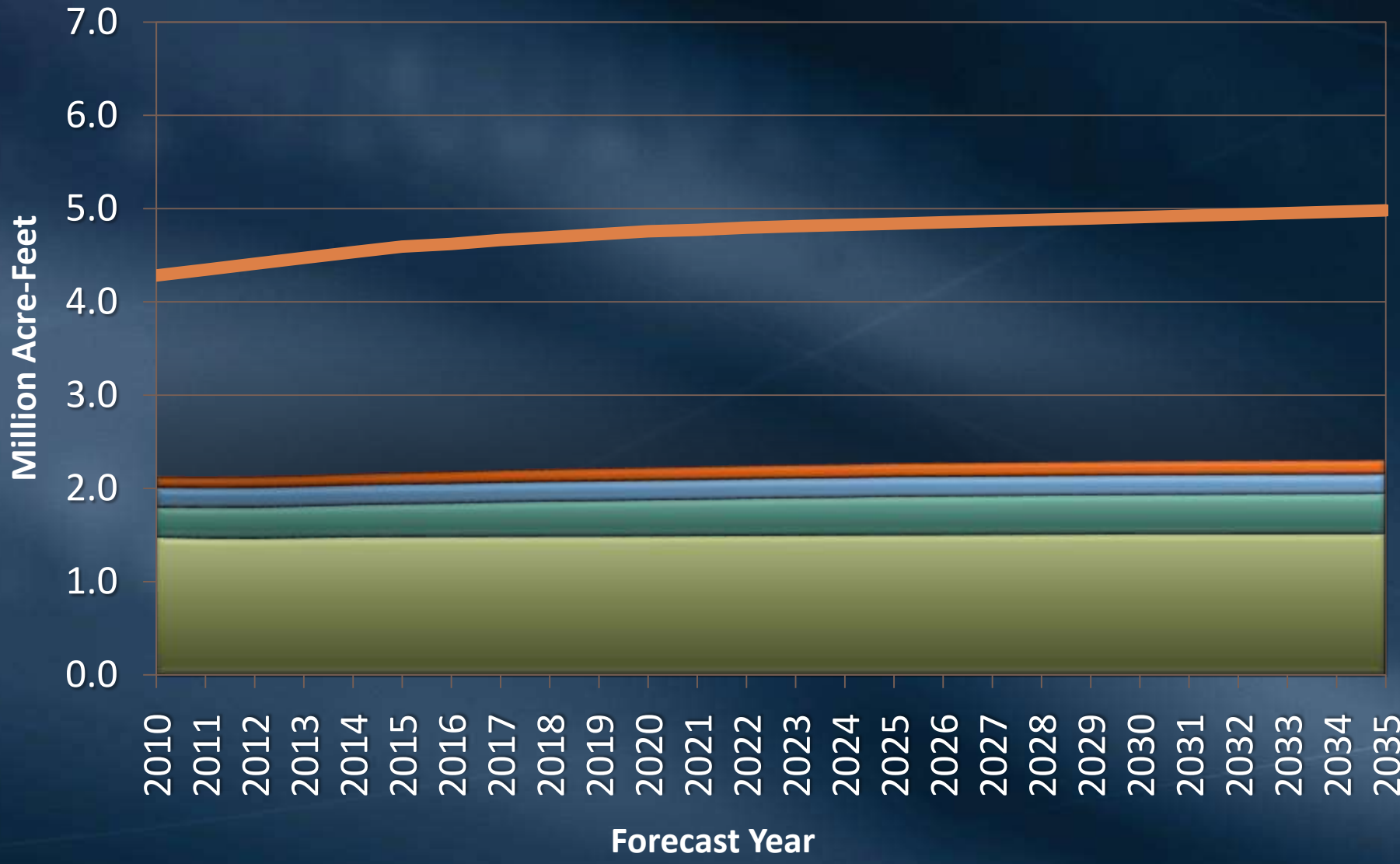


Groundwater Recovery

Key Assumptions

- Annual local supply survey
- Non-funded programs
- Local Resources Program

Projected Local Supplies

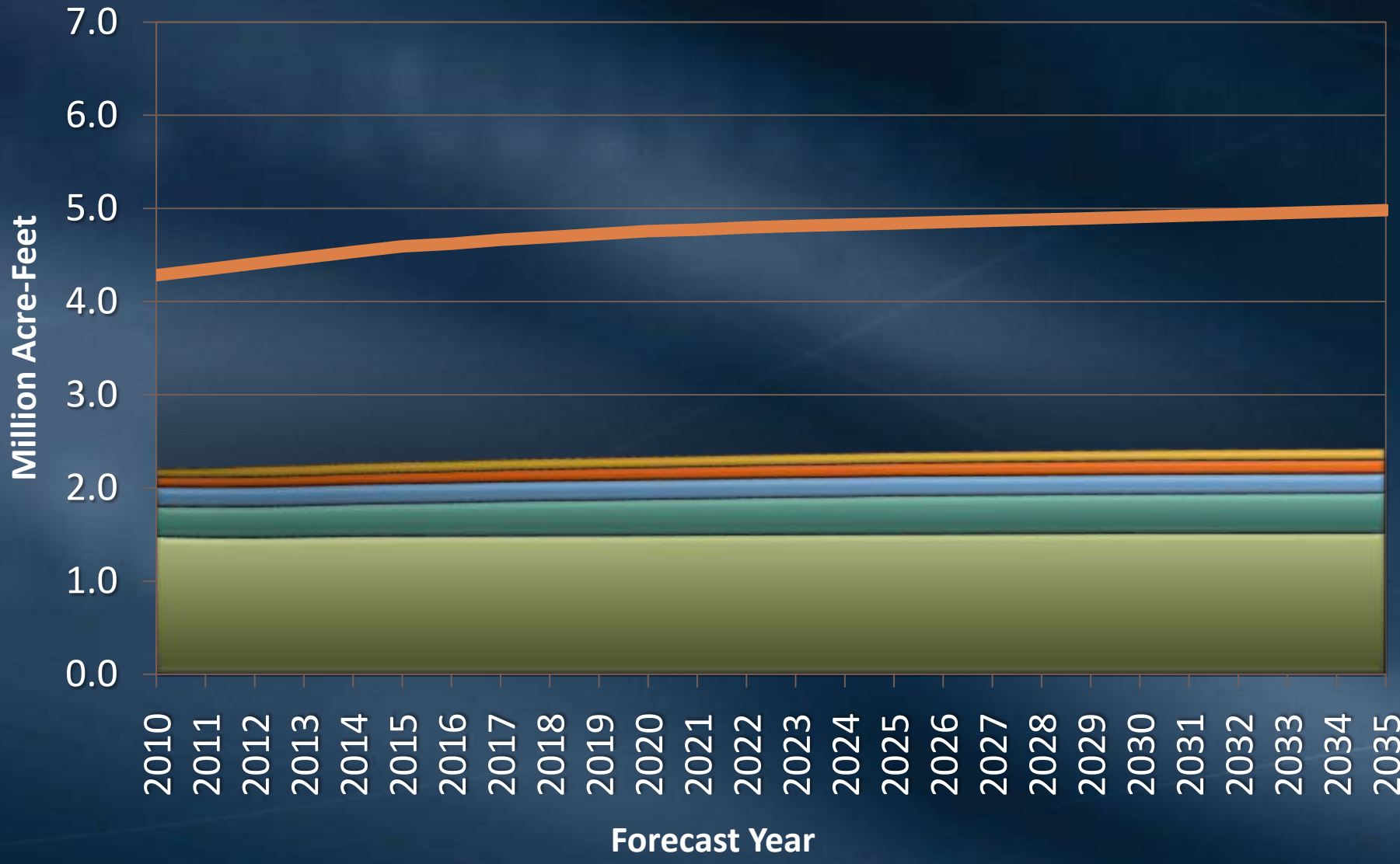


Surface Water Production

Key Assumptions

- Annual local supply survey
- Statistical model
  - Historical runoff/production
  - Climate effects

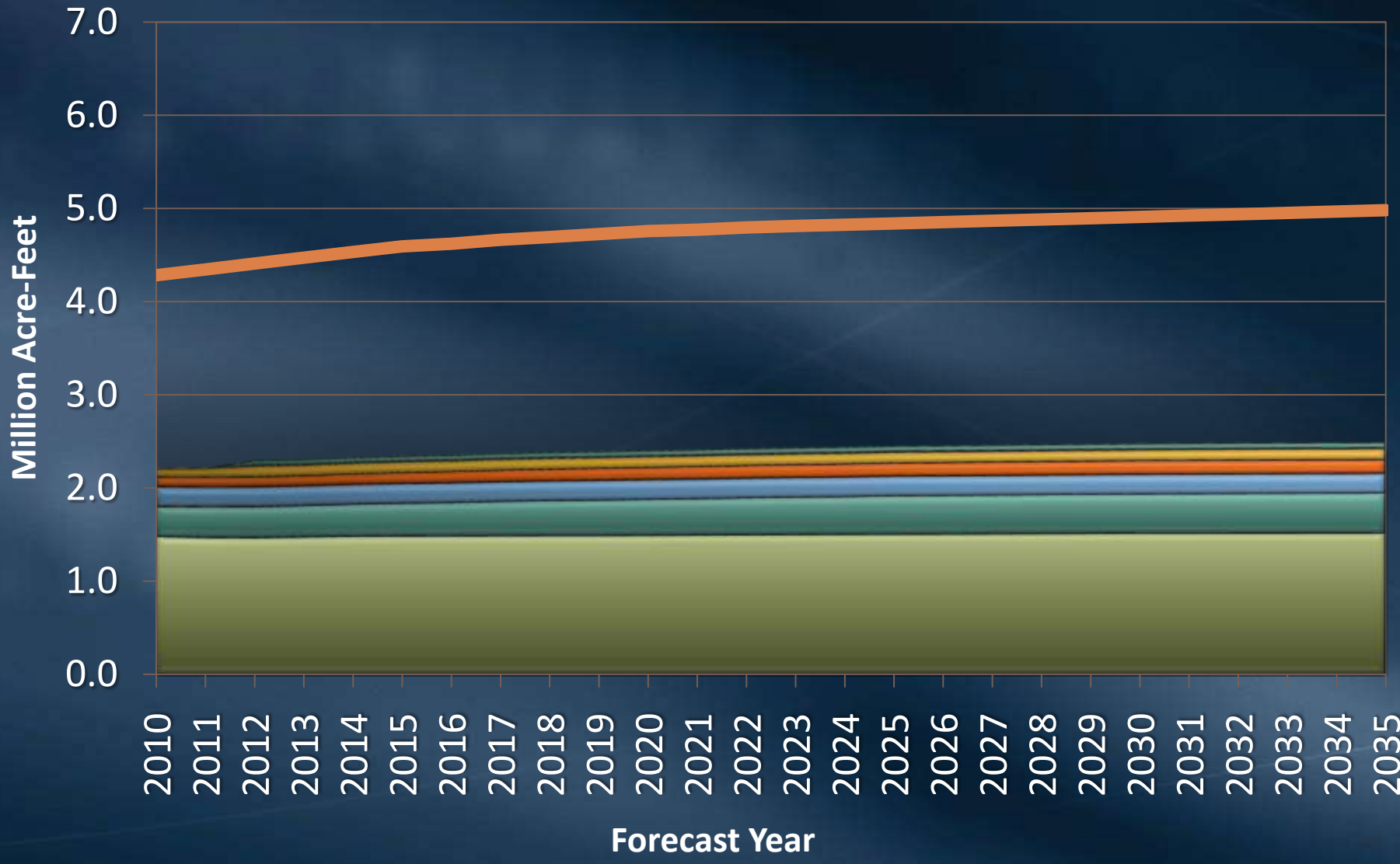
Projected Local Supplies



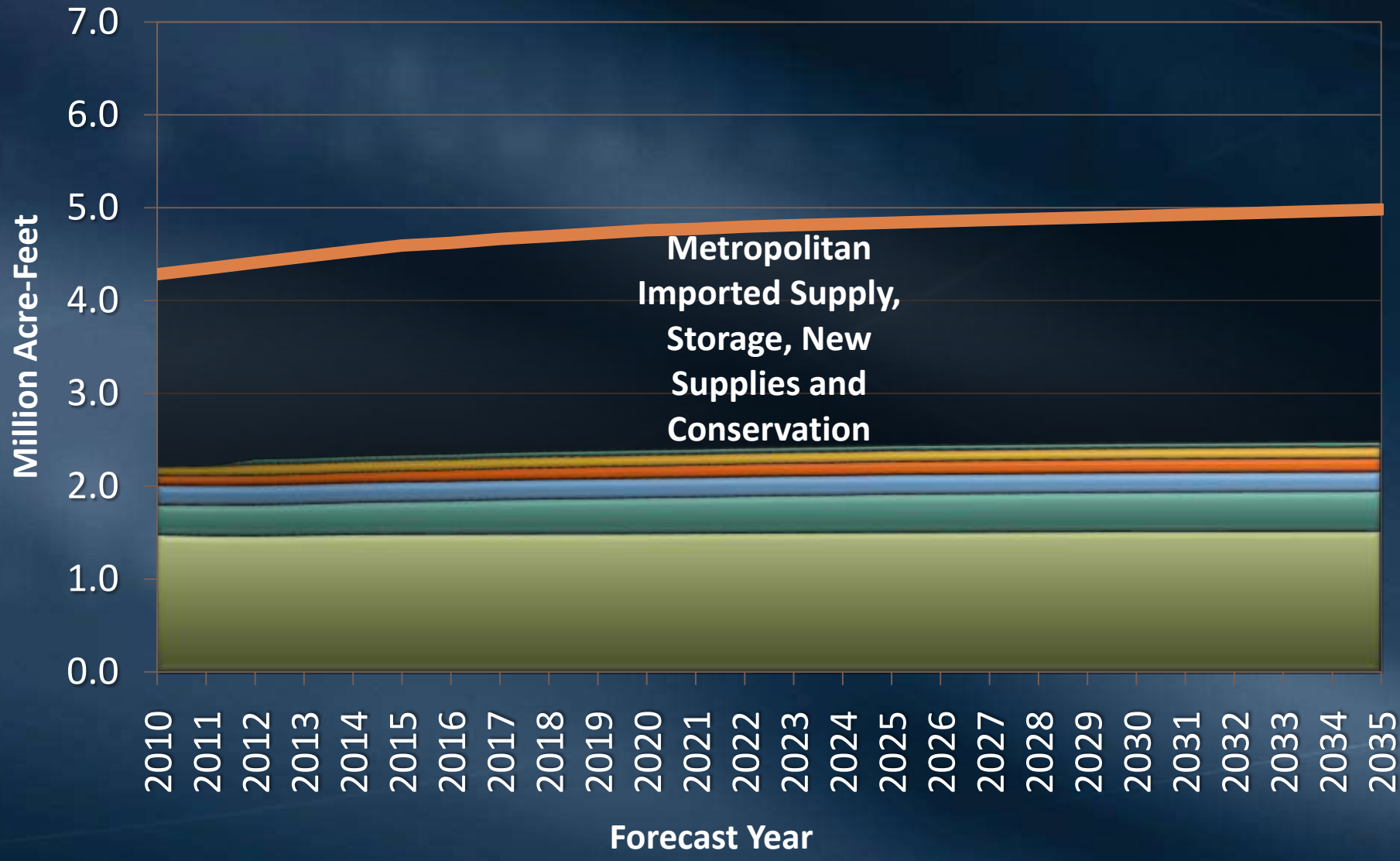
Seawater Desalination
Key Assumptions

- Carlsbad project
- Assumed online 2012

Projected Local Supplies



Projected Normal-Year Demands on Metropolitan



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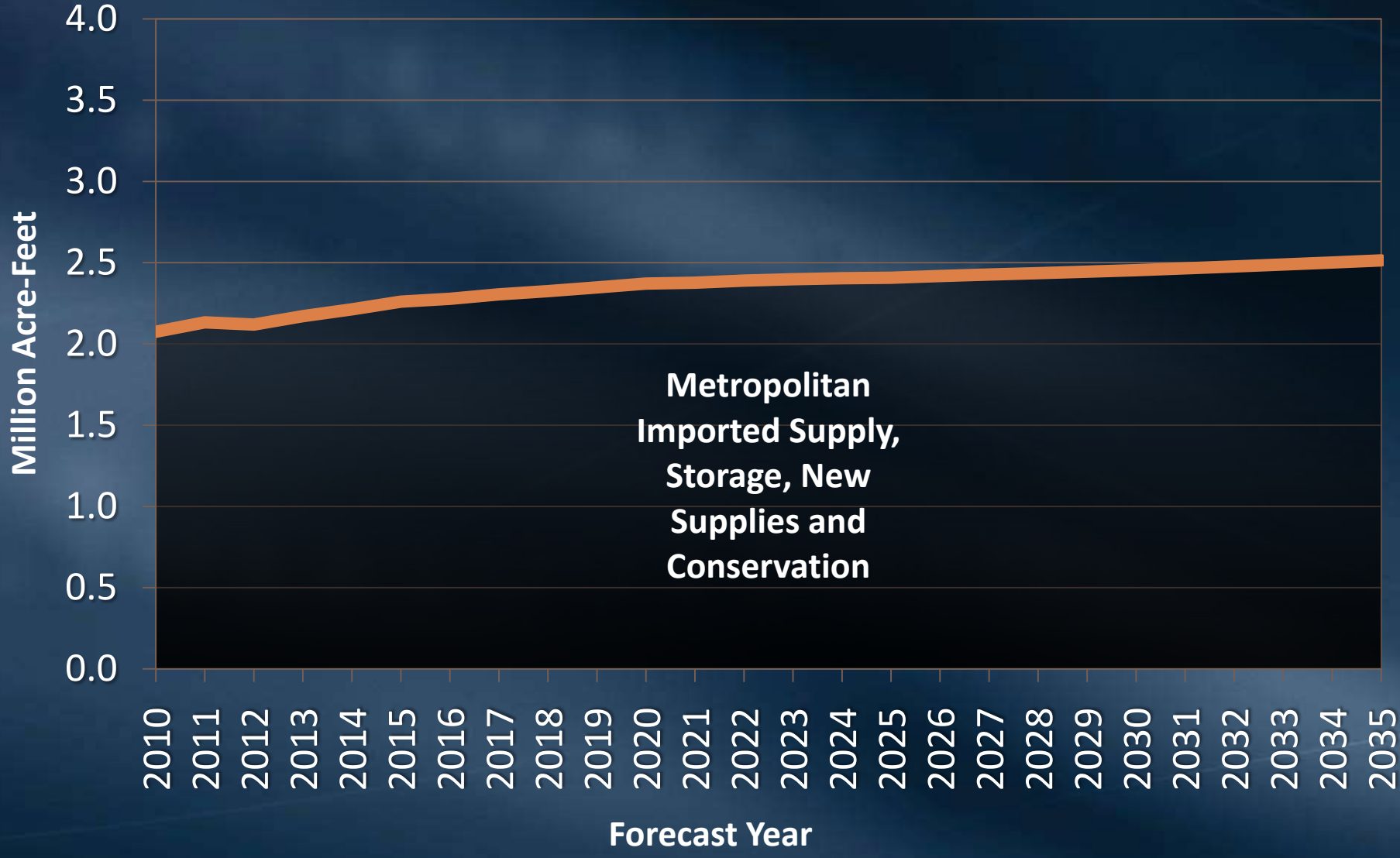
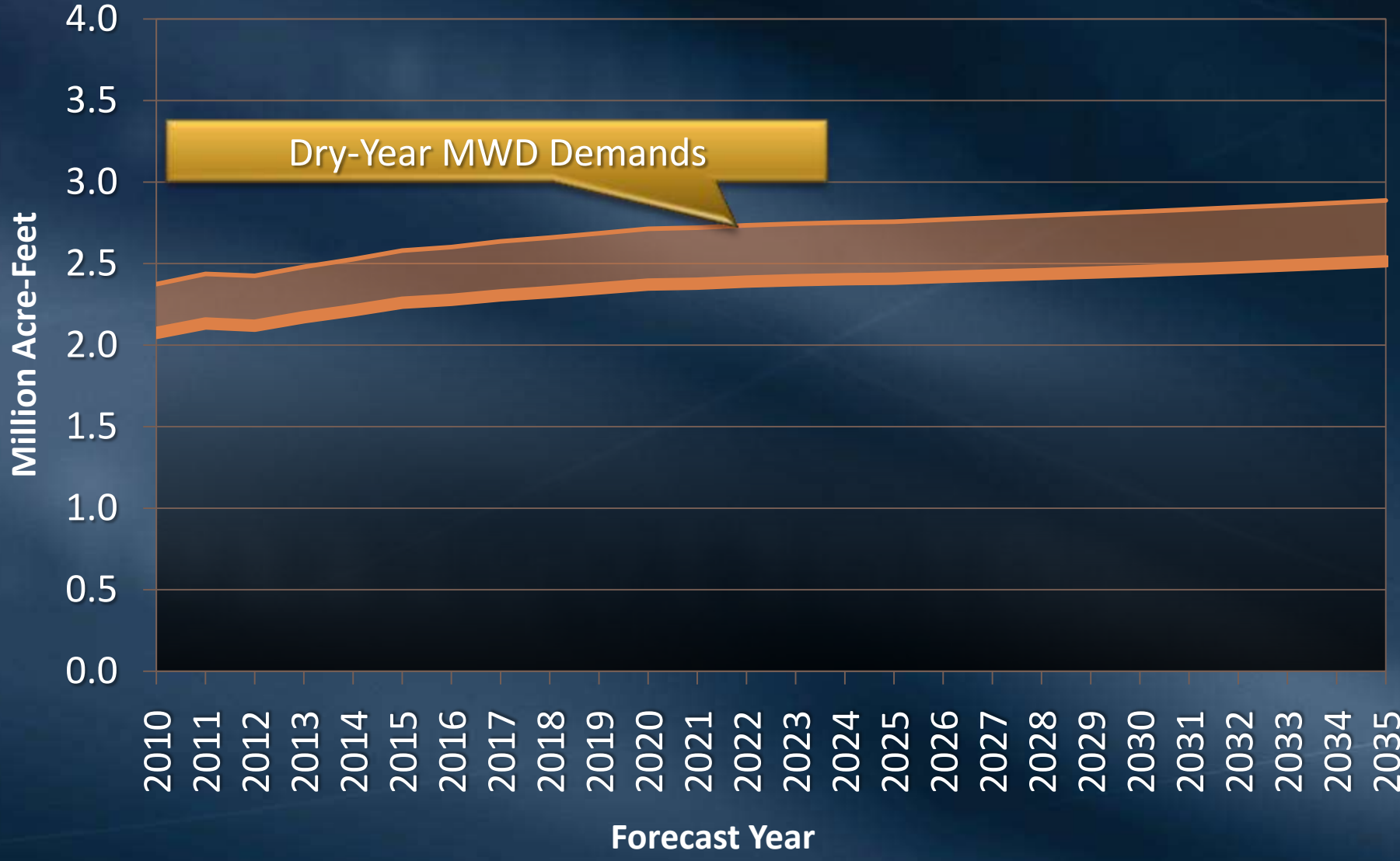


Demands Will Be Higher In Hot/Dry Years

- Increases retail demand
  - Primarily due to increased outdoor water use
- Decreases local supply production
  - Less local runoff
  - Lower Los Angeles Aqueduct deliveries
- Both lead to higher demands on Metropolitan

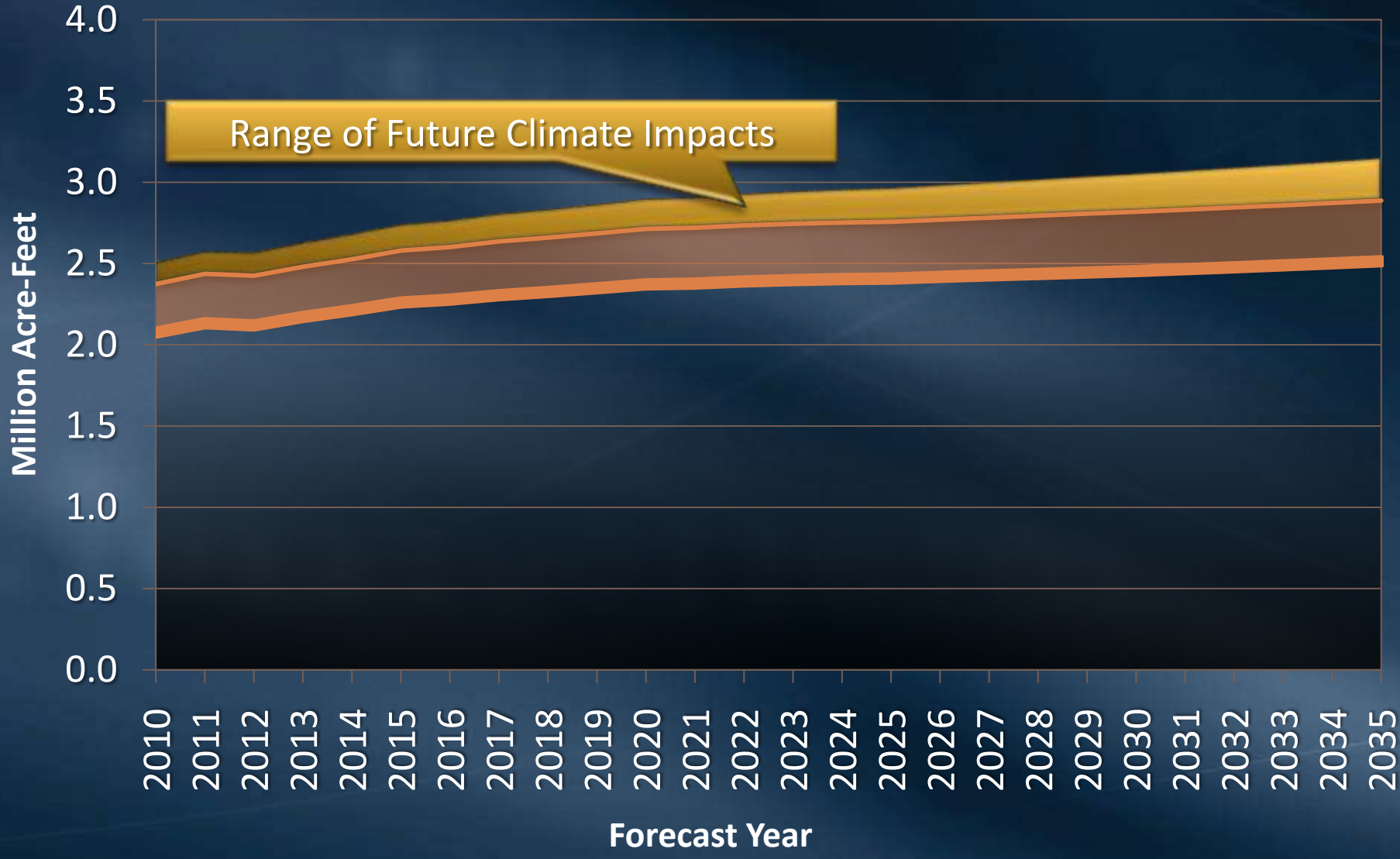
Projected Dry-Year Demands on Metropolitan



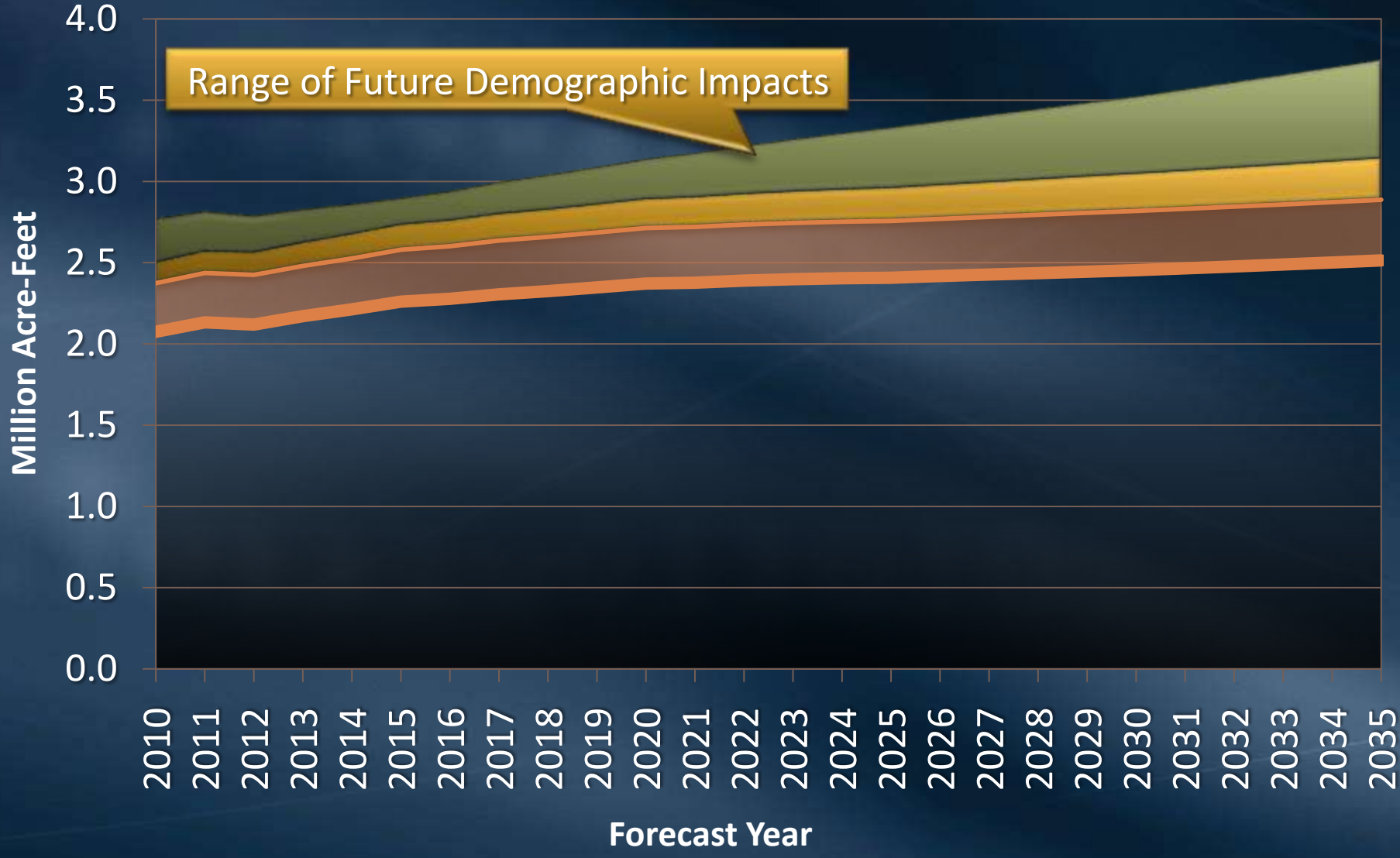
Future Demand Conditions Are Uncertain

- Climate uncertainty
  - 12 climate scenarios analyzed
    - Change in annual temperature and precipitation
    - Change in retail demand
- Demographic uncertainty
  - Integrated Area Study scenarios
    - Balanced growth
    - Peri-urban growth
    - High growth

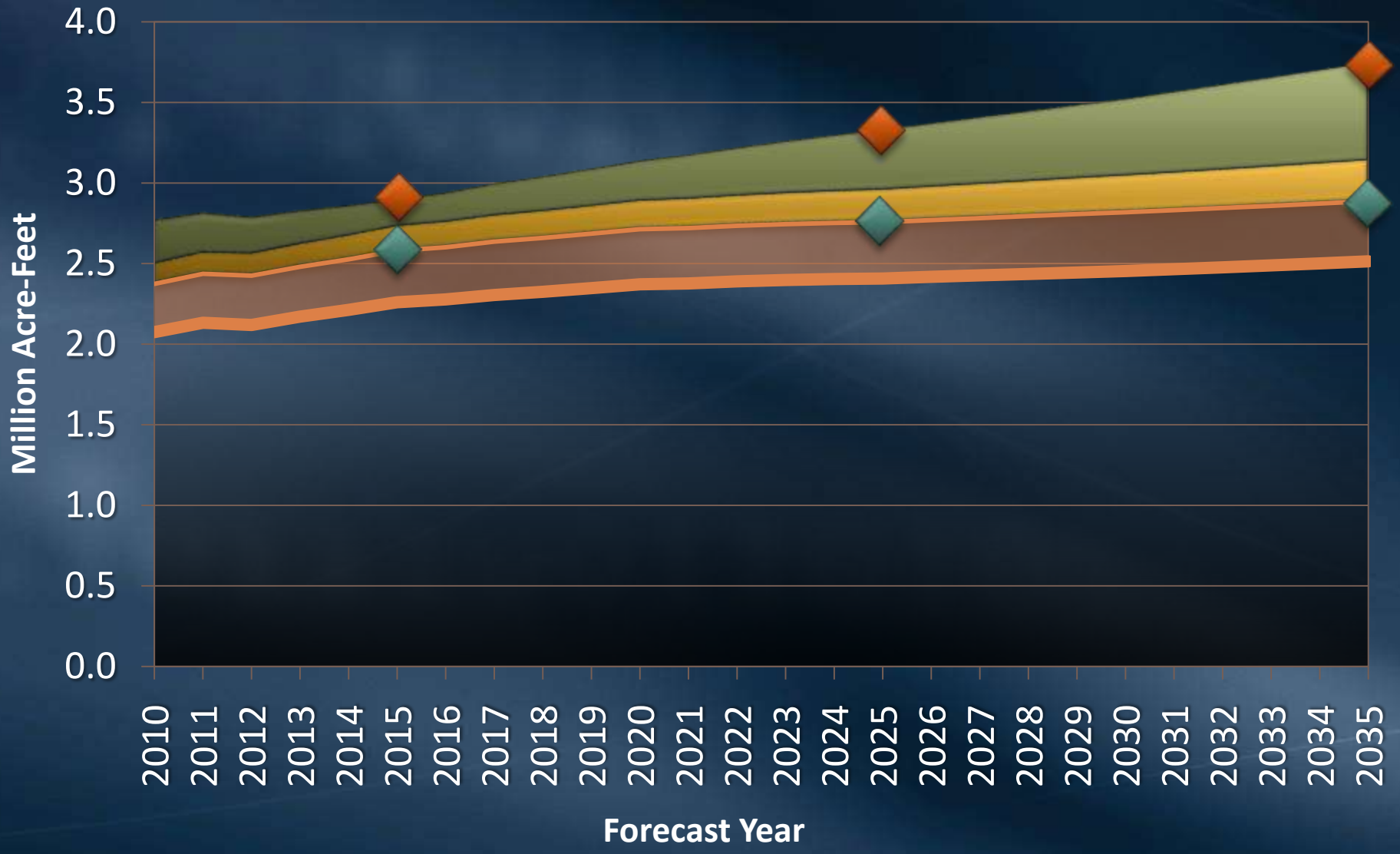
Larger Climate Impact Could Increase Demands



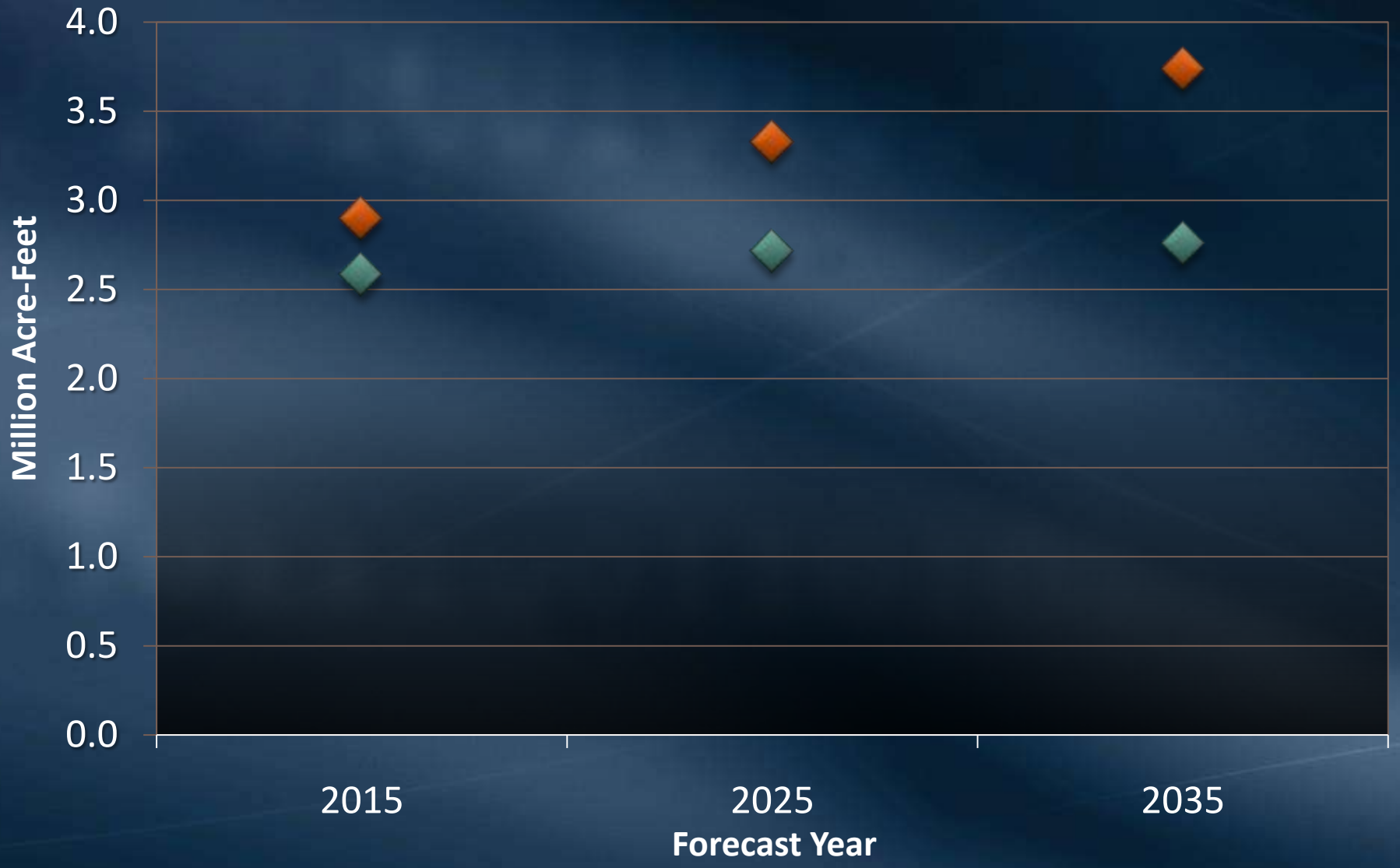
Higher Demographic Trends Could Increase Demands



The Range Of Uncertainty Can Be Large



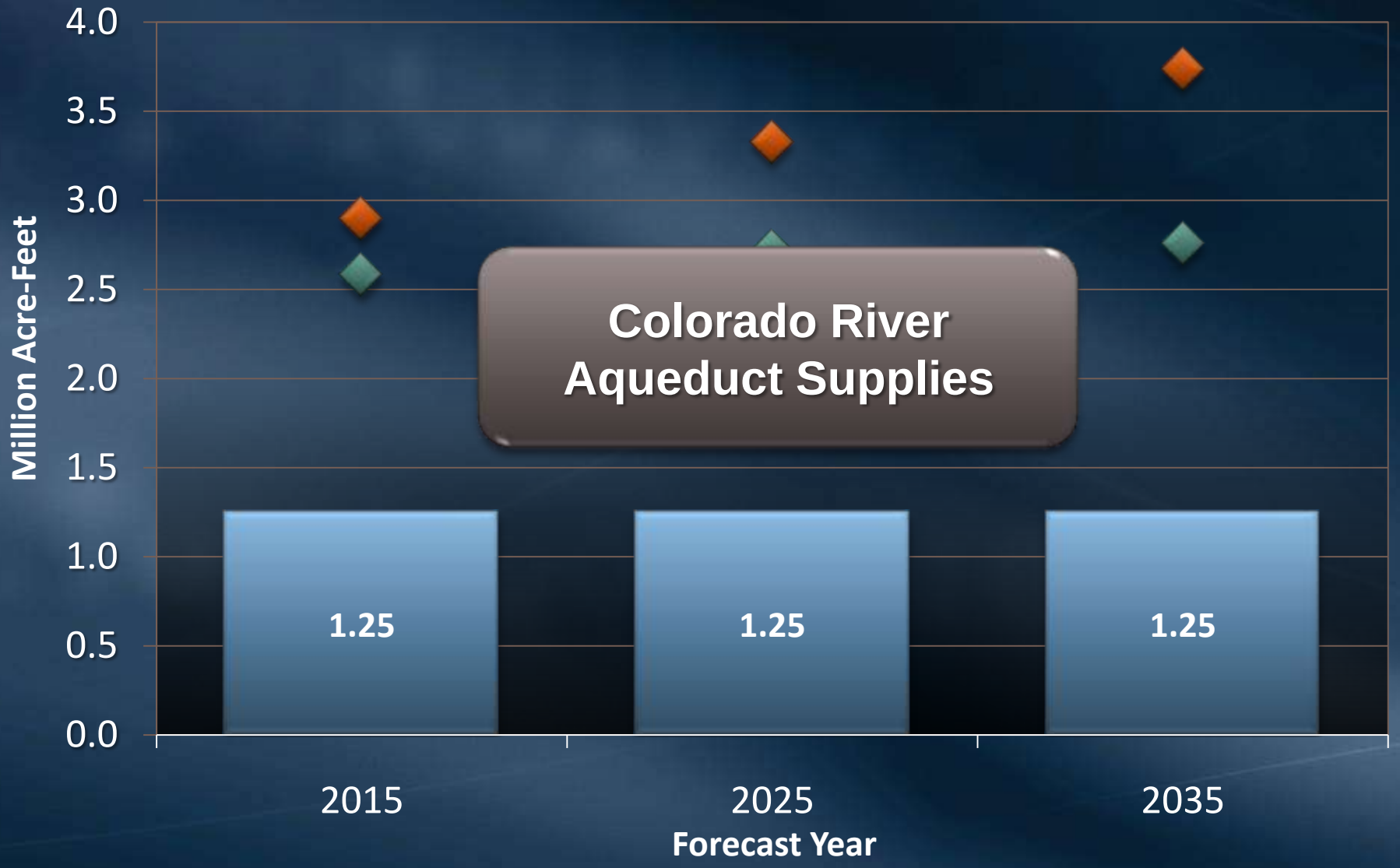
Dry-Year Supply Implementation



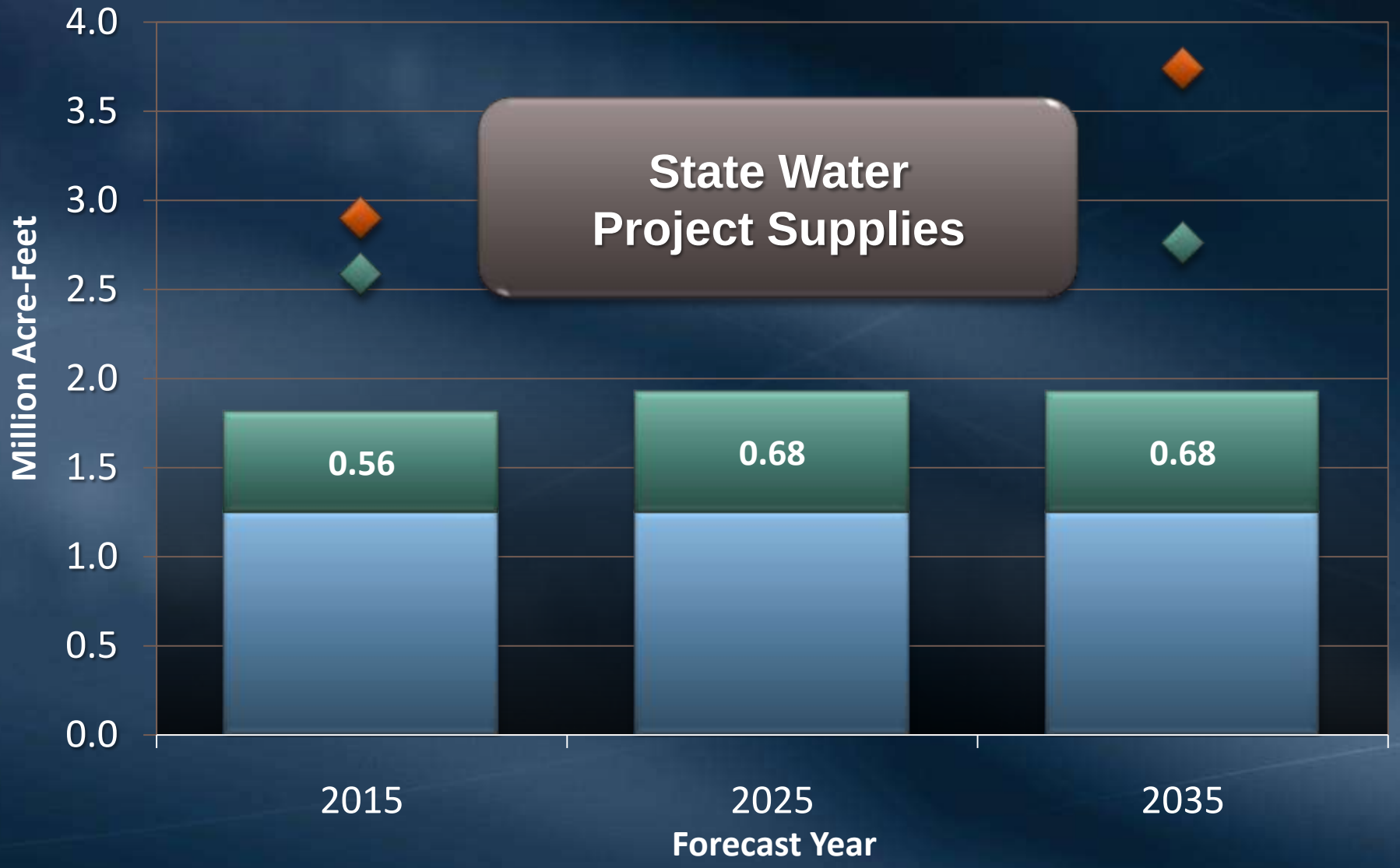
Dry-Year Scenario

- Colorado River Aqueduct
  - Storage and programs implemented to fill aqueduct
- State Water Project
  - Average of driest 10% of hydrologies
- Additional local development
- 20x2020 retail-level compliance
- Identify remaining resource need

Dry-Year Supply Implementation

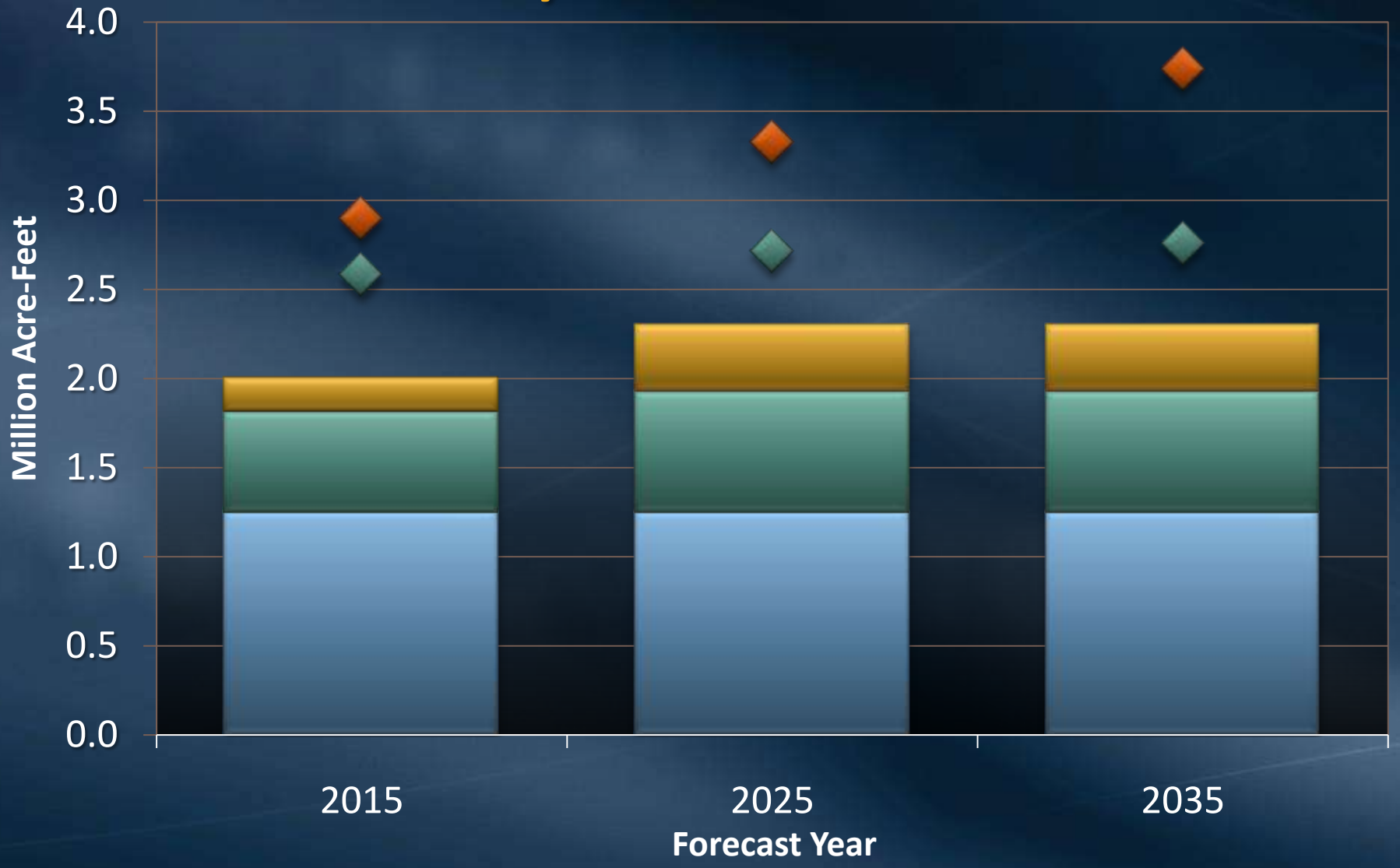


Dry-Year Supply Implementation

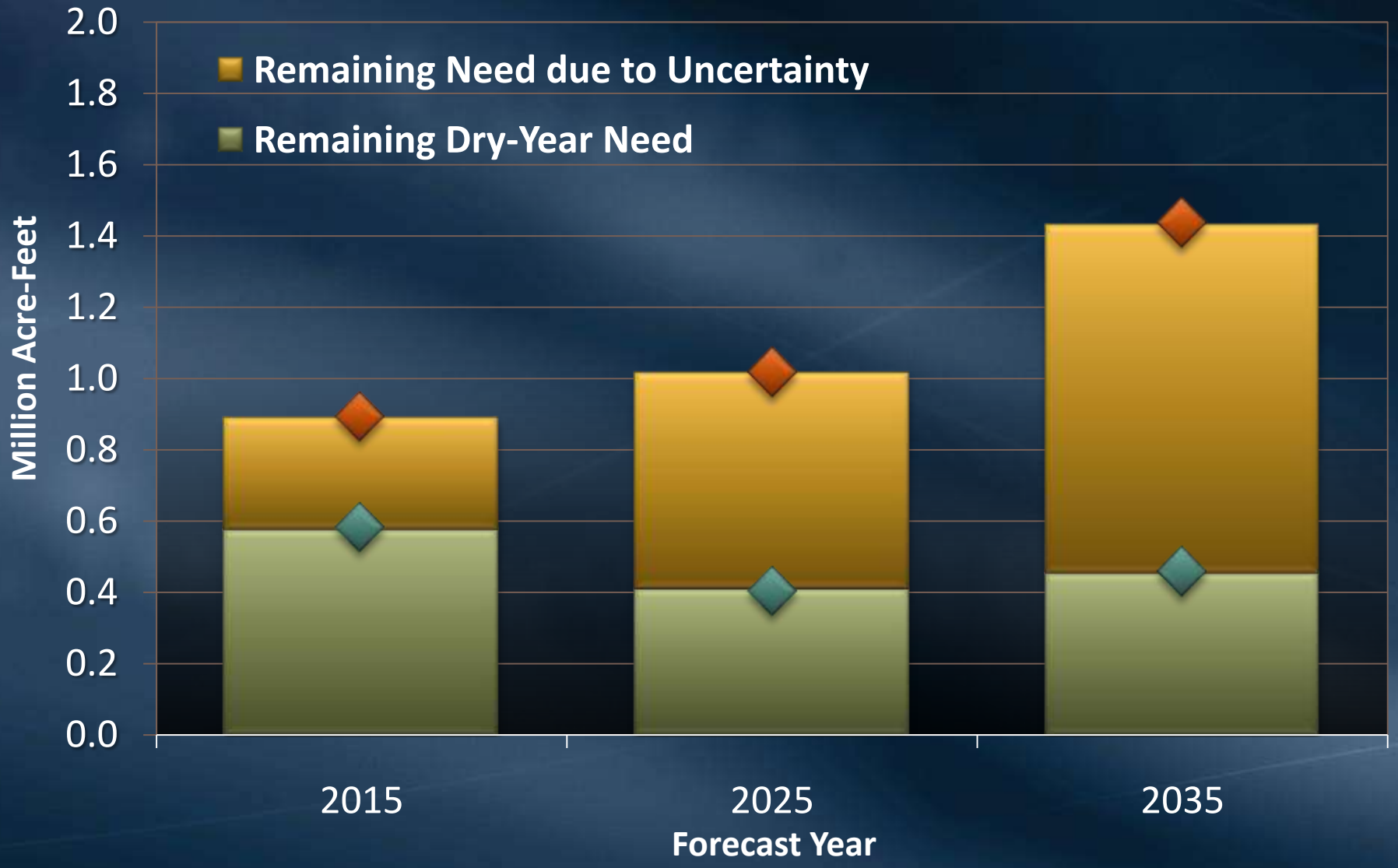


Dry-Year Supply Implementation

Additional Dry-Year Actions Would Be Necessary To Meet Demands



How Could This Additional Need Be Met?



Significant Programs Are Already In Place

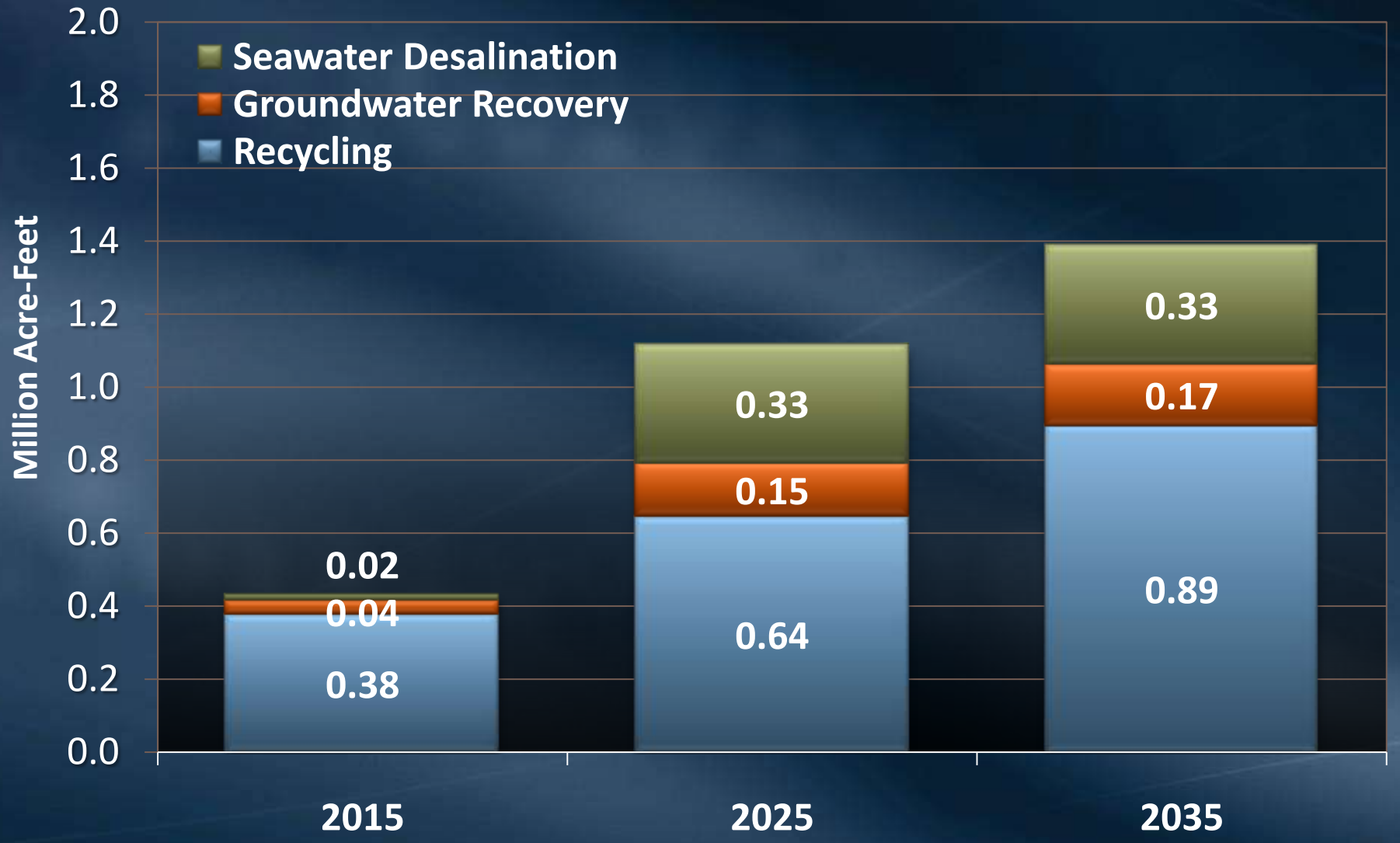
- Metropolitan storage programs
  - In-region and State Water Project storage would be used, as necessary
- State Water Project transfers
  - Metropolitan has established partnerships to help provide dry-year water

New Programs Can Be Developed

- Additional in-region supply development
- 20x2020 regional-level compliance

Additional In-Region Supply Options

(Information Provided By Member Agencies)



Regional Commitment to 20% Reduction Would Help

Observations

- Demand and climate uncertainty can affect supply development goals
- Many options are available to ensure regional reliability
- Storage use will be managed
  - Storage will not be used in a single year
- Development options need to be reviewed against Evaluation Criteria

Evaluation Criteria

- Regional and Retail Water Supply Reliability
- Regional Costs
- MWD Water Rates and Charges
- Water Supply Yield and Timing
- Adaptability to Future Uncertainties
- Quality of Delivered Water

Next Steps - June

- Discuss implementation targets
- Review uncertainty impacts
- Cost of resource categories


THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA
1928