



# Update On Desalination Projects



City Council Presentation  
September 8, 2015

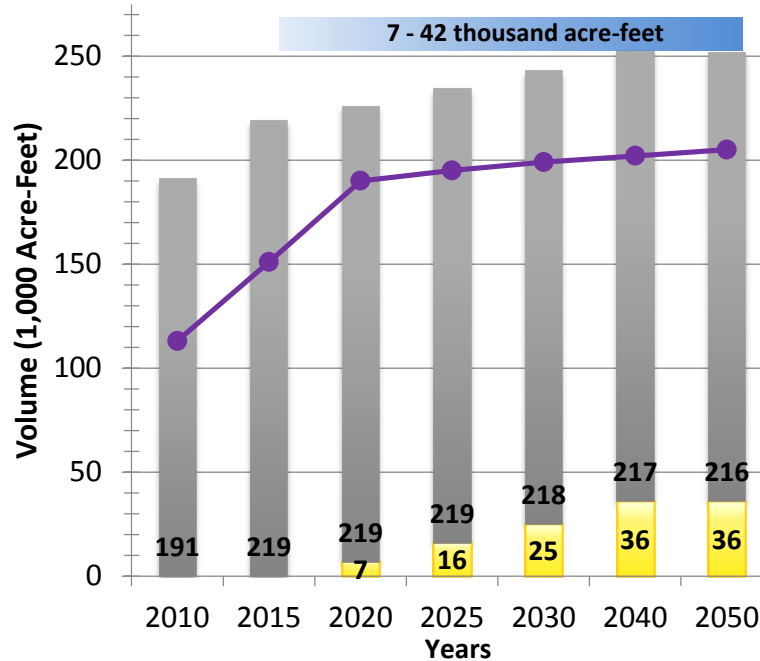


# Supply and Demand Projections:

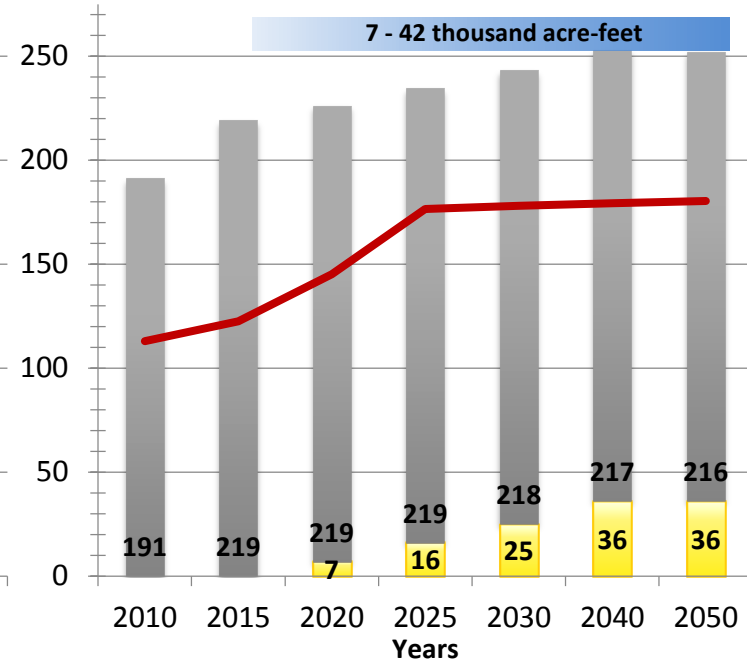
## Last Year's Demand Projection



### Last Year's Demand Projection



### Current Demand Projection:



Desalination\*

Industrial Reuse\*

Surface Water

Current Demand Projection

Last Year's Demand Projection



# City's Variable Salinity Desal Project

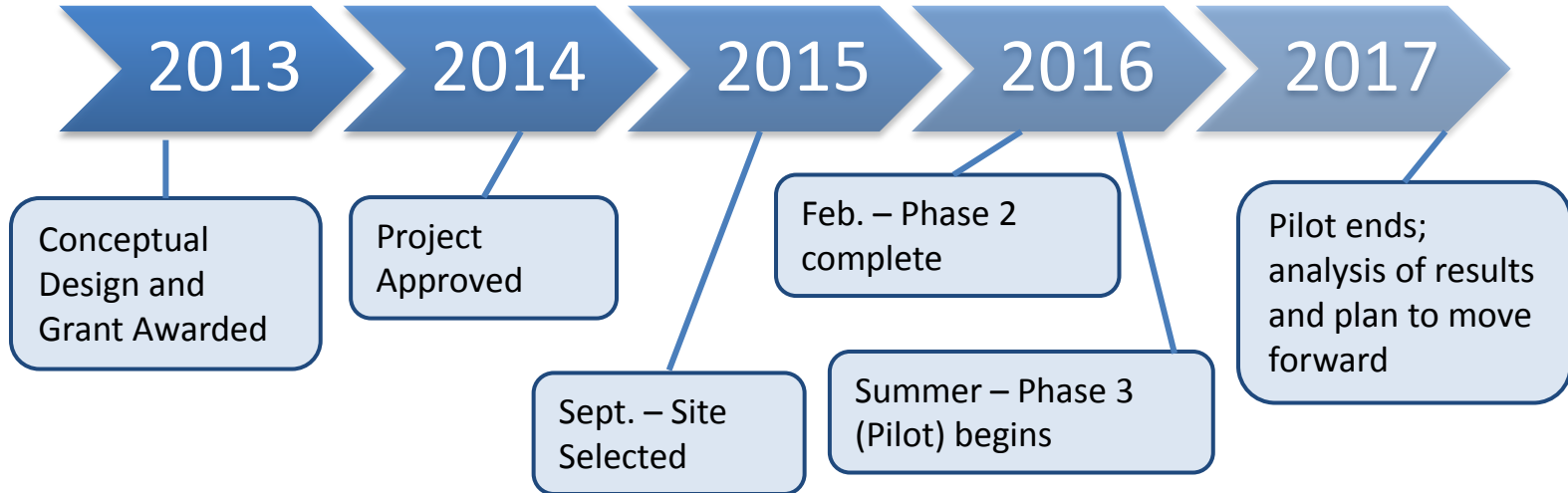


- Grant awarded by Bureau of Reclamation:
  - Test technology to specific location
    - Pretreatment options
      - Dissolved Air Flotation evaluation
      - Side-by-side MF/UF membrane pretreatment evaluation
    - Mixing seawater with other water sources to reduce cost of production
  - Estimate cost to construct and operate plant
  - Pilot required to obtain Permit for drinking Water
  - Pilot desirable to optimize treatment process and more accurately estimate desalination costs
  - City positioned to move forward with full-scale Plant for Drinking Water



# Variable Salinity Desal Timeline

- Phase 1: Conceptual plan and grant application
- Phase 2: Technology research, site selection, and design criteria and protocol
- Phase 3: Pilot procurement and demonstration





# Industrial Desalination Feasibility Study

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- Initiated by industry in spring of 2014
  - Created a partnership of Port Industries, Economic Development Corporation, San Patricio MWD, and City
  - Goals being to estimate cost and provide option to develop RFP for industrial desalination facility
  - Separate project from City's pilot project but can use information from pilot project
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# Comparison of Projects



## Variable Salinity Pilot - City

Technology & Literature Review

Siting Criteria

Technical (**Variable Salinity**):  
Treatment

Costs:  
Treatment

TCEQ Pilot Demonstration

TCEQ Permits for Drinking Water

Drinking water



## Industrial Desal – Industrial Stakeholders

Technology & Literature Review

Siting Criteria

Technical (**Seawater**):  
Treatment;  
Transmission

Costs:  
Treatment;  
Transmission;  
Rate impacts on Other Customers

Industrial Water



# Backup Slides

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# Future Industrial Demand:

## In the next five years

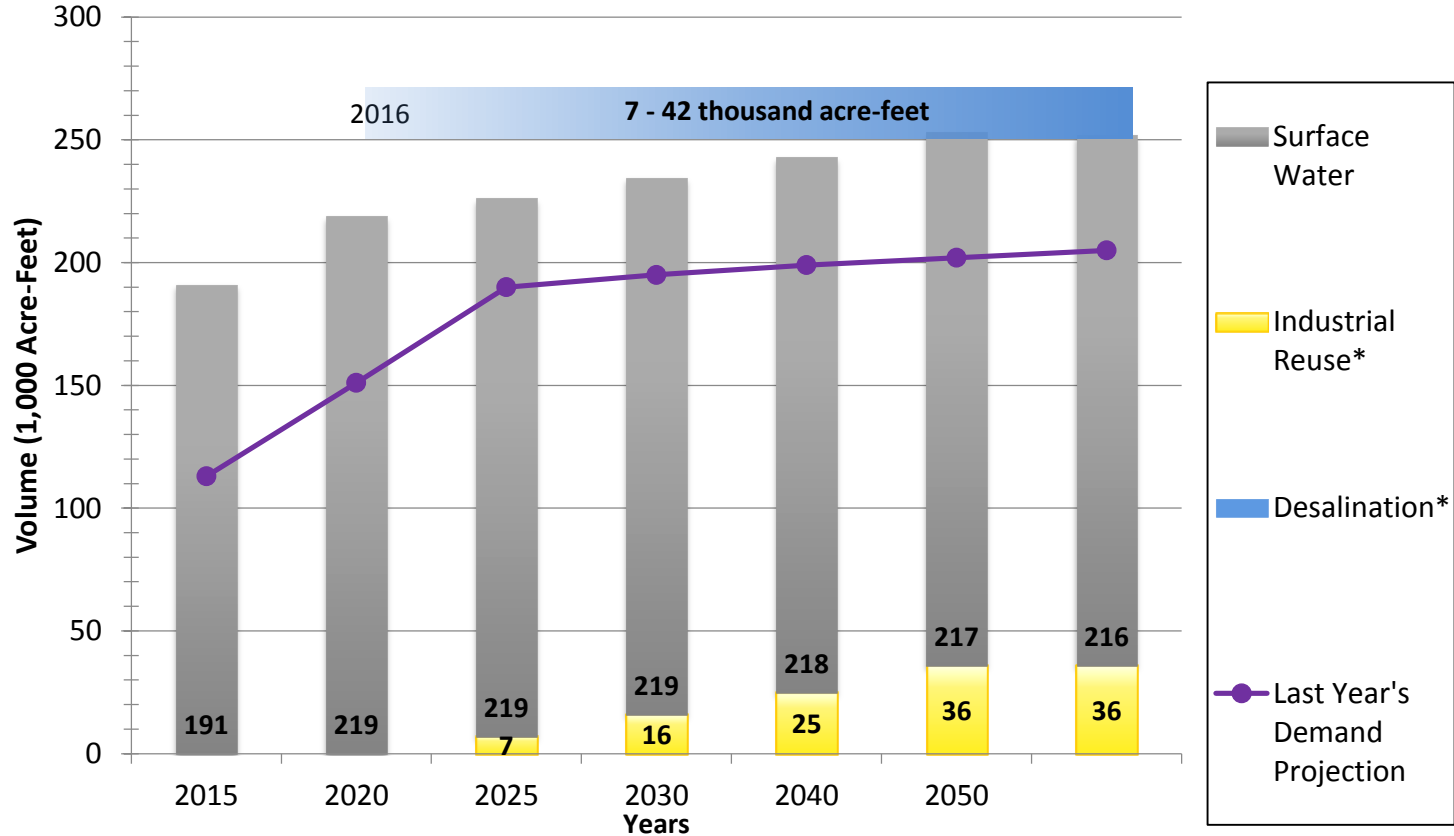


County	Industry	Maximum Usage – 2013 Estimate (ac-ft/yr)	Maximum Usage – 2015 Estimate (ac-ft/yr)
San Patricio	Tianjin Pipe	2,200	2,200
San Patricio	Cheniere Gas	3,900	448
San Patricio	Voestelpine	3,900	1,232
San Patricio	Occidental Fractionator	1,100	-
San Patricio	Occidental Ethylene	3,900	3,900
San Patricio	Ingleside X	6,700	-
San Patricio	Ingleside Y	2,200	-
San Patricio	Occidental Port	1,700	-
San Patricio	Others estimated	-	2,200
Nueces	LyondellBasell – Texstar	900	900
Nueces	LyondellBasell – Plant Expansion	2,200	2,200
Nueces	M&G Industries – PET Plant	8,200	-
<b>Total</b>		<b>36,900</b>	<b>13,080</b>





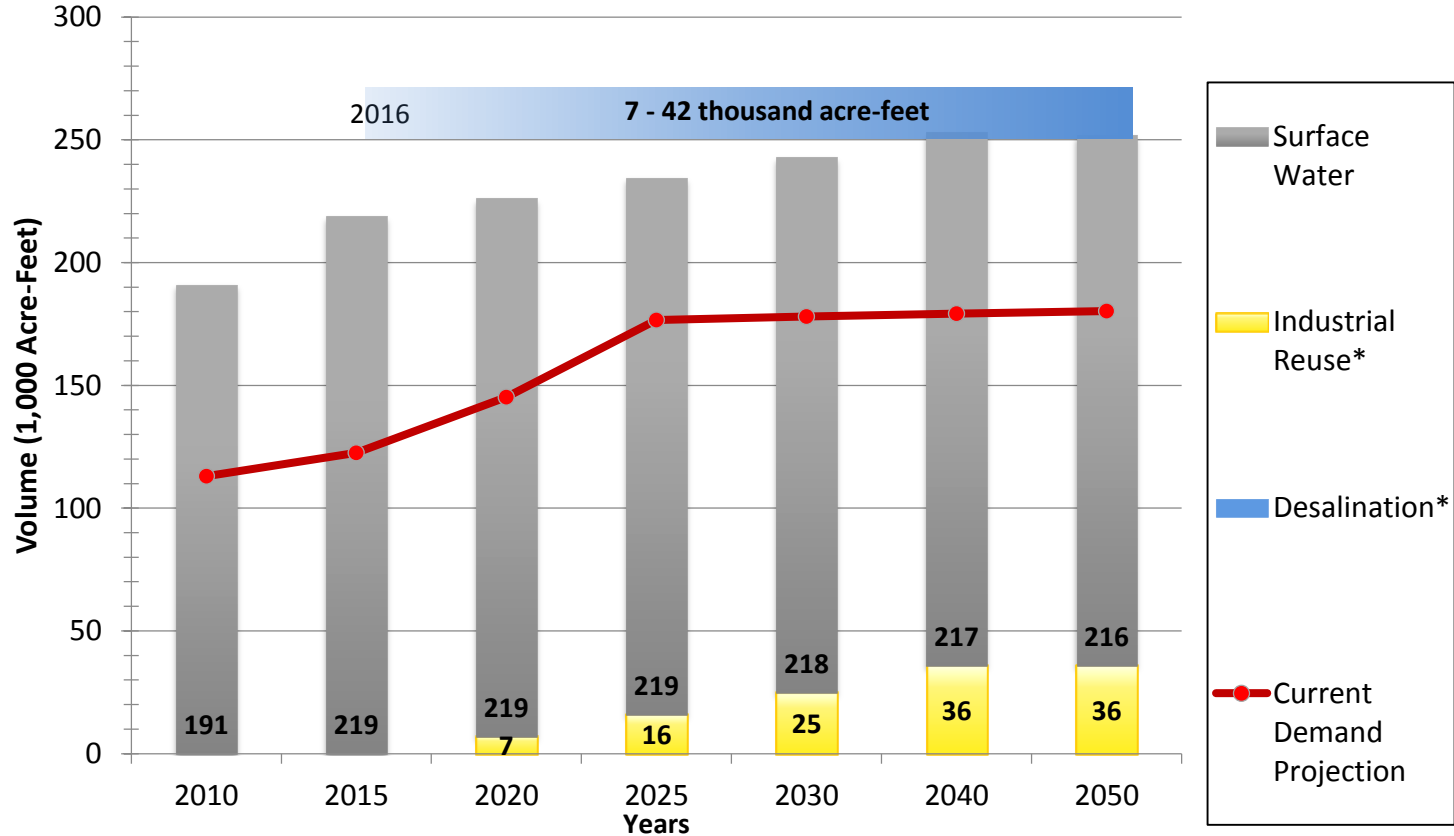
# Supply and Demand Projections: Last Year's Demand Projection





# Supply and Demand Projections:

## Current Demand Projection





# Supply and Demand Projections: Comparison

