



# **RESERVOIR DEVELOPMENT IN TEXAS – Challenges, Risks, and Opportunities**

**Association of Water Board Directors**

**June 22, 2013**

**Presented by:**

**Martin C. Rochelle**

***mrochelle@lglawfirm.com***

***(512) 322-5810***

***816 Congress Avenue  
Suite 900***

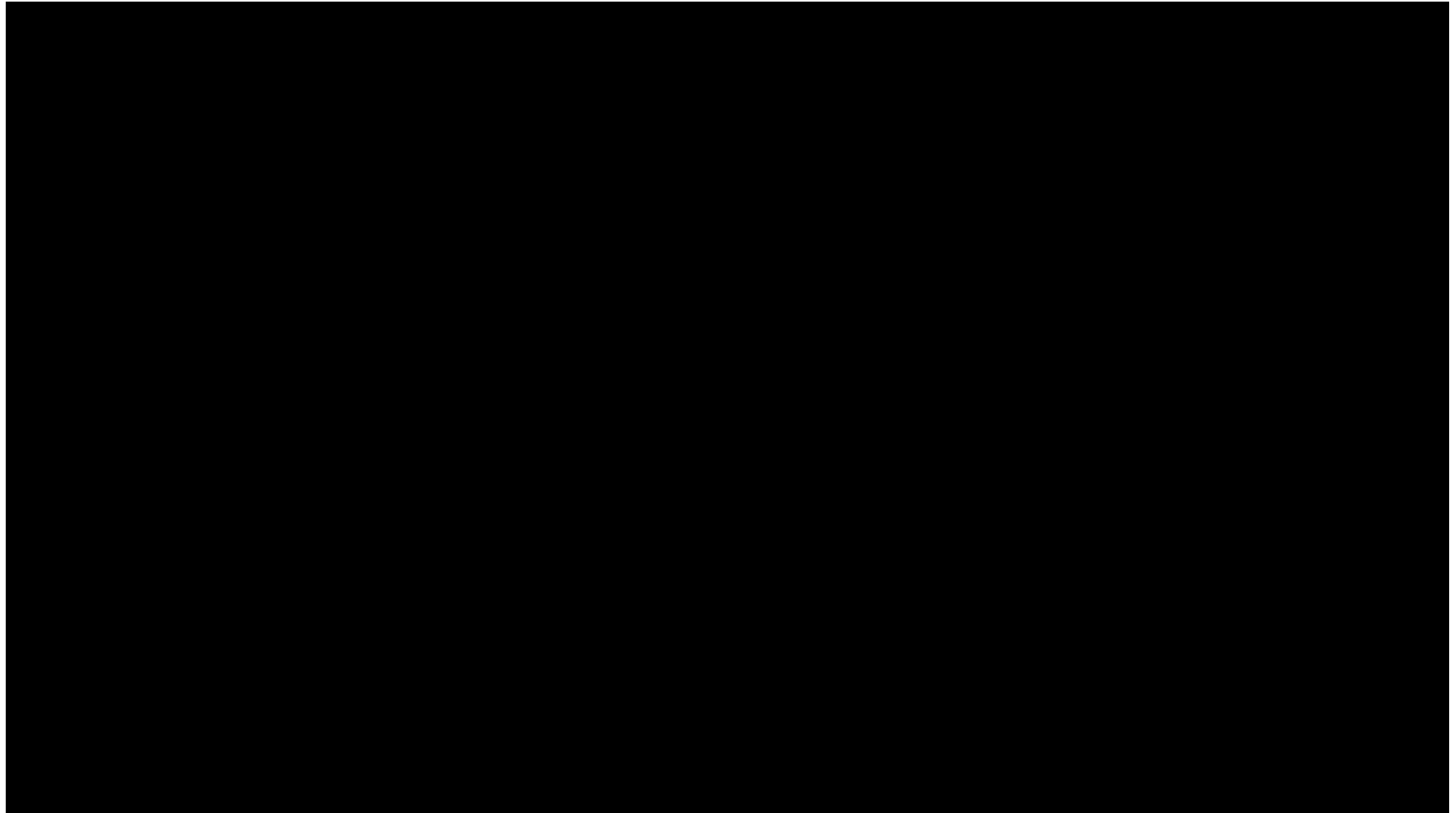
***Austin, Texas 78701***

***(512) 322-5800***

***(512) 472-0532 Fax***

***www.lglawfirm.com***

# Getting started...



# Topics for Discussion

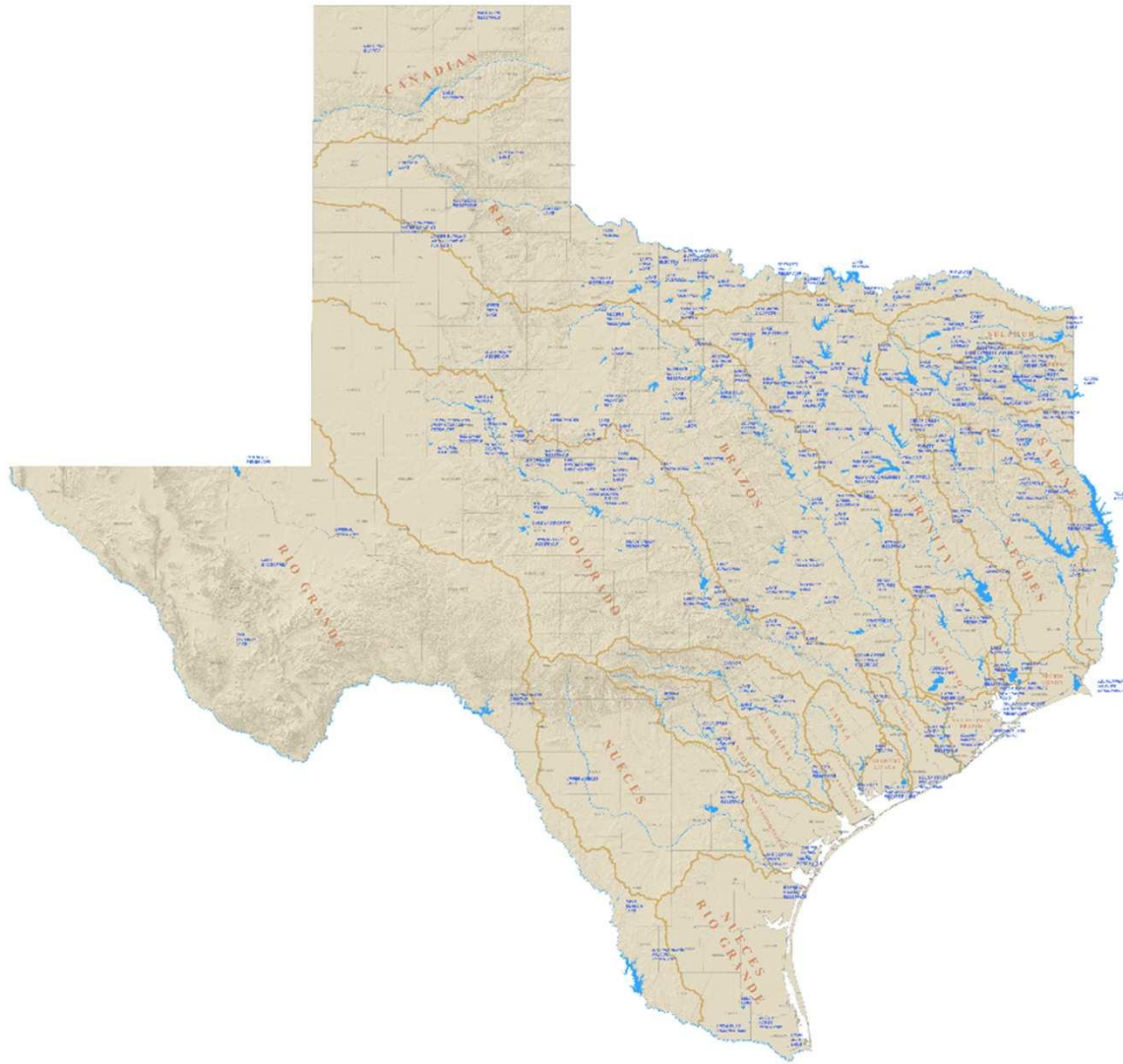
- History of Reservoir Development
- Legal and Regulatory Issues
  - Federal Laws and Regulations
  - State Laws and Regulations
- Economic Challenges
- Political Challenges
- Looking Ahead



# History of Reservoir Development



# Reservoirs in Texas



# Reservoirs in Texas

- 209 major reservoirs
  - Major = 5,000 AF or more
- Storage in the major reservoirs
  - 43 million AF of conservation
  - 47 million AF flood control (40 lakes)
- ALL built between 1900-1999
  - Most built for water supply

# Reservoirs in Texas

- 10 largest reservoirs in the State:
  - All greater than 900,000 AF
  - 23 million AF of cumulative conservation storage (53% of State's total)
  - 27 million AF of flood storage
  - 4 located on the State borders

# Timeline of Reservoir Development

- 1900s – Most reservoirs constructed for treatment of water-borne diseases (36,000 AF)
- 1910s – Reservoirs developed as water supply sources (335,000 AF)
- 1920s – Primarily for flood control (460,000 AF)
- 1930s – Large surge in reservoir construction for long term supplies (2.3 million AF)
- 1940s – 18 major lakes constructed; primarily for flood control (5.7 million AF)

# Timeline, cont'd

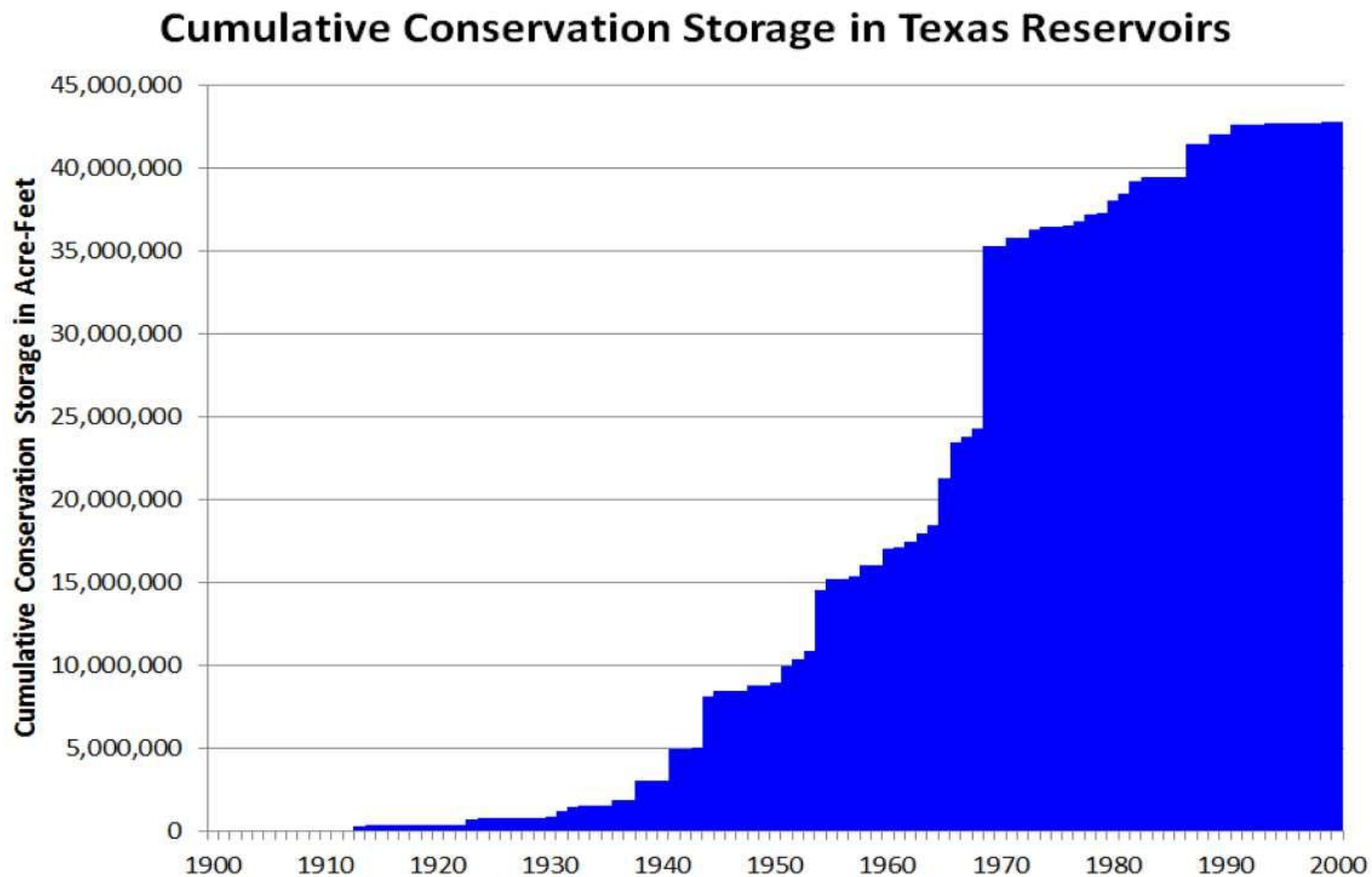
- 1950s -- Drought of Record
- 42 new lakes
- 7.3 million AF conservation
- 13.8 million AF flood control



## Timeline, cont'd

- 1960s – Large number of reservoirs (55) built; primarily for water supply purposes
- 1970s – Reservoir construction begins to slow
- 1980s – Continued slow down in reservoir construction, due in part to a changed environmental and regulatory landscape
- 1990s – Today's state water planning process comes into focus.

# Timeline, cont'd

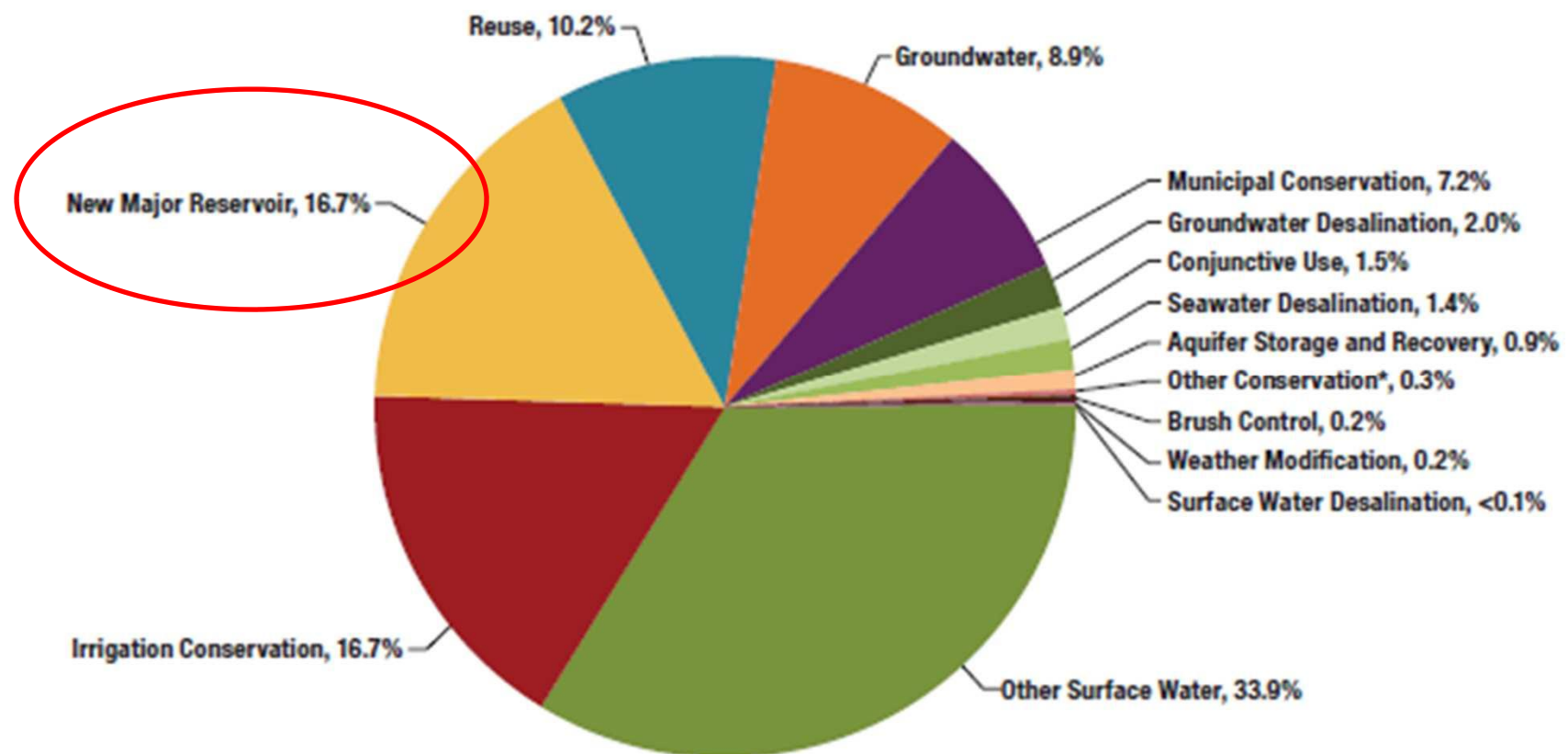




# Texas' Future Water Demands

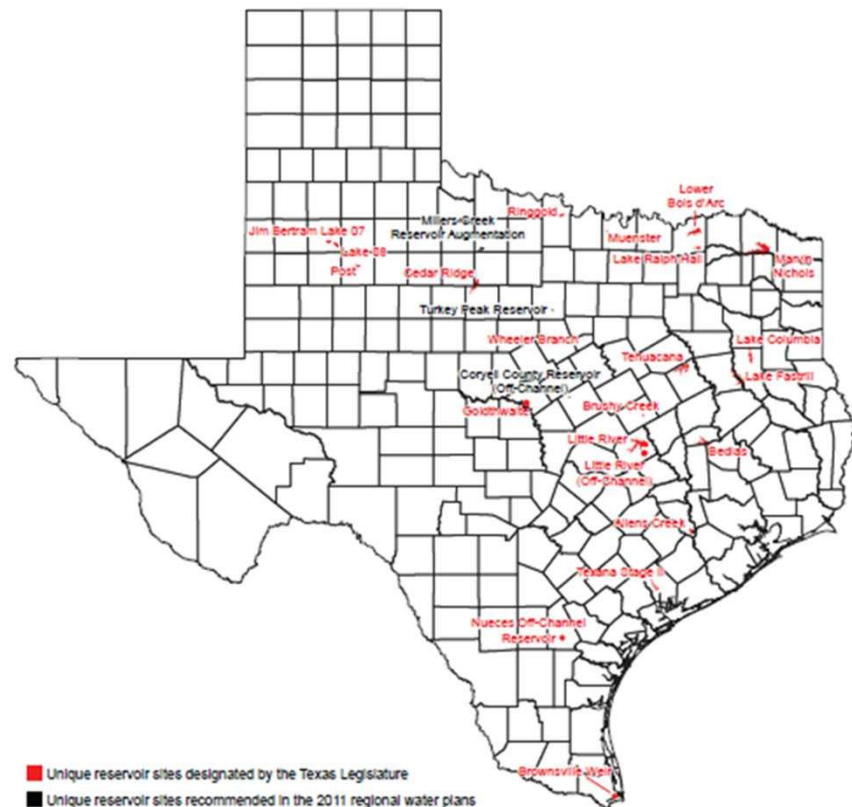
- 2012 State Water Plan projects that Texas' population will grow by 82% between 2010 and 2060.
- Texas needs to generate 9 million AF of additional water supplies by 2060.
- Total capital cost of implementing SWP's new water supplies: **\$53 BILLION**

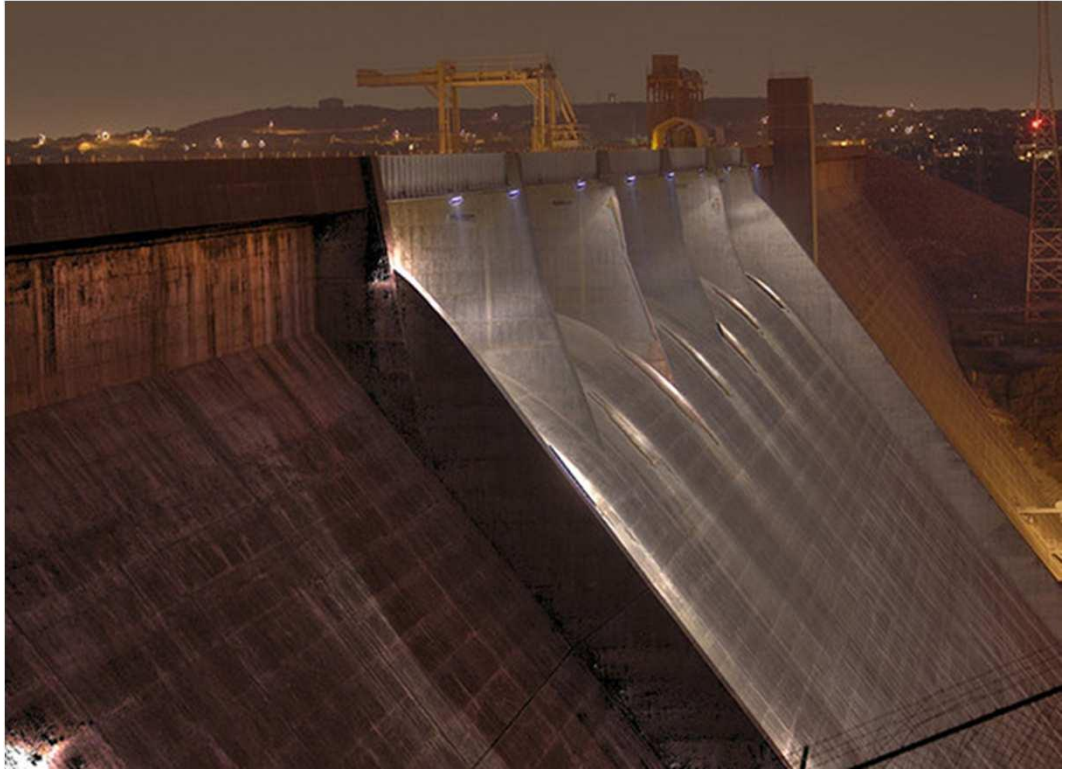
# Reservoirs as Part of the Overall Strategy



# 2012 State Water Plan

- State Water Plan recommends 26 new major reservoirs, projected to generate approximately 1.5 million AF per year by 2060.





# Challenges to Reservoir Development – Legal and Regulatory

# Federal Law Challenges

- Federal Issues:
  - Compliance with federal laws and issuance of federal permits is a major component in developing new reservoirs.
  - Federal laws:
    - Clean Water Act
    - NEPA
    - Endangered Species Act



# Federal Law Challenges

- Clean Water Act § 404 Permit:
  - Authorizes the discharge of dredged or fill materials into 'navigable' waters
  - Requires steps to avoid and minimize impacts to aquatic resources
  - Requires mitigation for unavoidable impacts
  - Public notice and meetings
  - Re-application allowed only if new and material evidence is offered

# Federal Law Challenges

- EPA Veto Authority:
  - Authorized under CWA § 404(c)
  - Public notice and comment opportunities
  - Must be for an “unacceptable adverse effect” on i) municipal water supplies, ii) fish and wildlife, or iii) recreational areas
  - 12 water projects vetoed since 1981
  - Arbitrary and capricious standard of review



# Federal Law Challenges

- Clean Water Act § 401 Water Quality Certification:
  - Issued by TCEQ to support issuance of § 404 permit by USACE
  - Ensures the proposed 'discharge' of material will comply with state's water quality standards
  - Requires an alternatives analysis

# Federal Law Challenges

- NEPA Process:
  - Triggered for “major federal actions” impacting the environment
  - In re § 404 applications, directs the USACE to prepare an Environmental Impact Statement before decision on applications made or permit issued
  - Drives an alternatives assessment based on the “purpose and need” for a project

# Federal Law Challenges

- **Endangered Species Act:**
  - Requires federal agencies, in consultation with the U.S. Fish and Wildlife Service and or the National Oceanic Atmospheric Administration Fisheries Service, to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of designated critical habitat of such species.
  - Prohibits any action that causes a “taking” of any listed species of endangered fish or wildlife.

# Federal Law Challenges

- Endangered Species Act, cont'd:
  - Currently over 1,200 species listed as either endangered or threatened by U.S. Fish and Wildlife Service.
  - ESA Impacts on Water Supply Projects:
    - Identification of potential species in project area.
    - Habitat assessment conducted.
    - Species surveys if habitat is present.

# Federal Law Challenges

- Expedited Listings under the ESA:
  - Lawsuits filed by environmental interests prompted court settlements regarding 251 candidate species under the ESA.
  - Settlement agreements mandate that USFWS make a final determination on the listing of 251 species as threatened or endangered by September 30, 2016.
  - 21 candidate species are alleged to be found in Texas.
  - Determinations being made on a staggered basis between 2012 and 2016.

# Federal Law Challenges

- *The Aransas Project v. Shaw*
  - Federal case involving “take” of endangered whooping crane due to water right diversions.
  - Federal district judge held river authority’s water right diversions caused illegal “take” of species.
  - Significant implications for future projects, including reservoir projects.



# Federal Law Challenges

- Summary of Federal Obstacles:
  - CWA § 404 permitting can be major impediment to successful completion of water supply projects.
  - EPA veto authority is cause for concern.
  - NEPA compliance can cost millions of dollars and add years to project development process.
  - ESA listings impute uncertainty and additional costs to any project affected.



# Federal Law Challenges

- Current timeline for Federal Reservoir Permitting:
  - Decade-long timeline for issuance of federal permits and resolution of federal issues impairs development of water supplies.
  - Endangered Species Act compliance, required studies, and possible mitigation may delay project implementation and could outright halt project development.

# State Law Challenges

- State Law Issues:
  - Interbasin transfers
    - Notice requirements
    - Conservation standards
    - Junior rights provisions
  - SB 3 environmental flows standards
  - Permitting timelines



# State Law Challenges

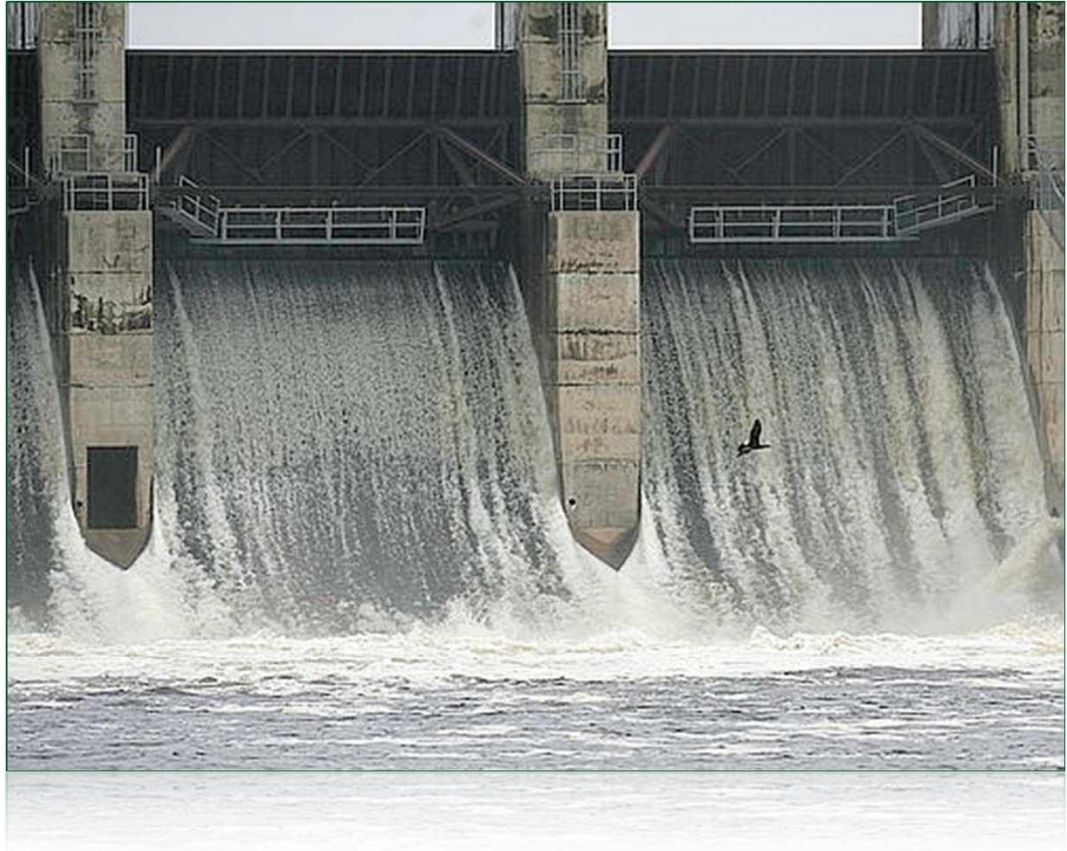
- Interbasin Transfer Statute (TWC § 11.085):
  - No person may take or divert any state water from a river basin and transfer such water to any other river basin without first applying for and receiving a water right authorizing the transfer.
  - Requires demonstration, among other things, that the applicant has achieved the “highest practicable levels of water conservation and efficiency achievable within the jurisdiction of the applicant.”
  - Notice requirements are difficult to comply with.
  - Interbasin transfer results in loss of priority for water transferred under an existing water right.

# State Law Challenges

- Environmental Flow Standards:
  - HB 3/SB 3 required TCEQ to adopt environmental flow standards for the “bay and basin” systems in Texas.
  - Combined science and stakeholder process which seeks to balance human and environmental water needs.
  - Requirements, developed basin-by-basin, apply to new appropriations of surface water in each of the major river basins and estuary systems.

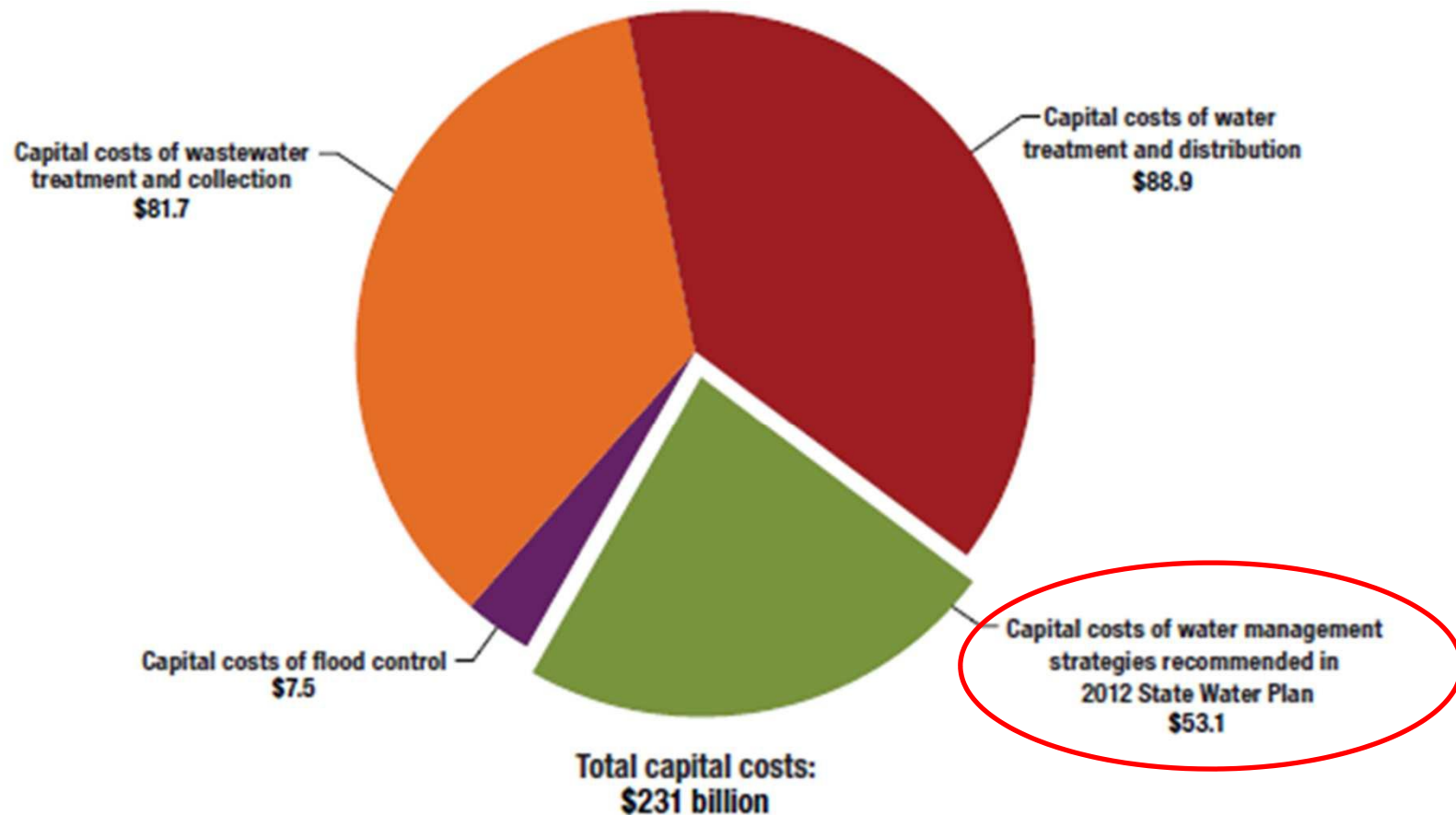
# State Law Challenges

- Permitting Timelines:
  - Issuance of state water right permit by TCEQ may take up to ten years for a major reservoir.
  - TCEQ staff unaccustomed to processing major reservoir applications.
  - Interbasin transfer as part of application may slow process even further.



# Economic Challenges

# Capital Costs to Implement State Water Plan



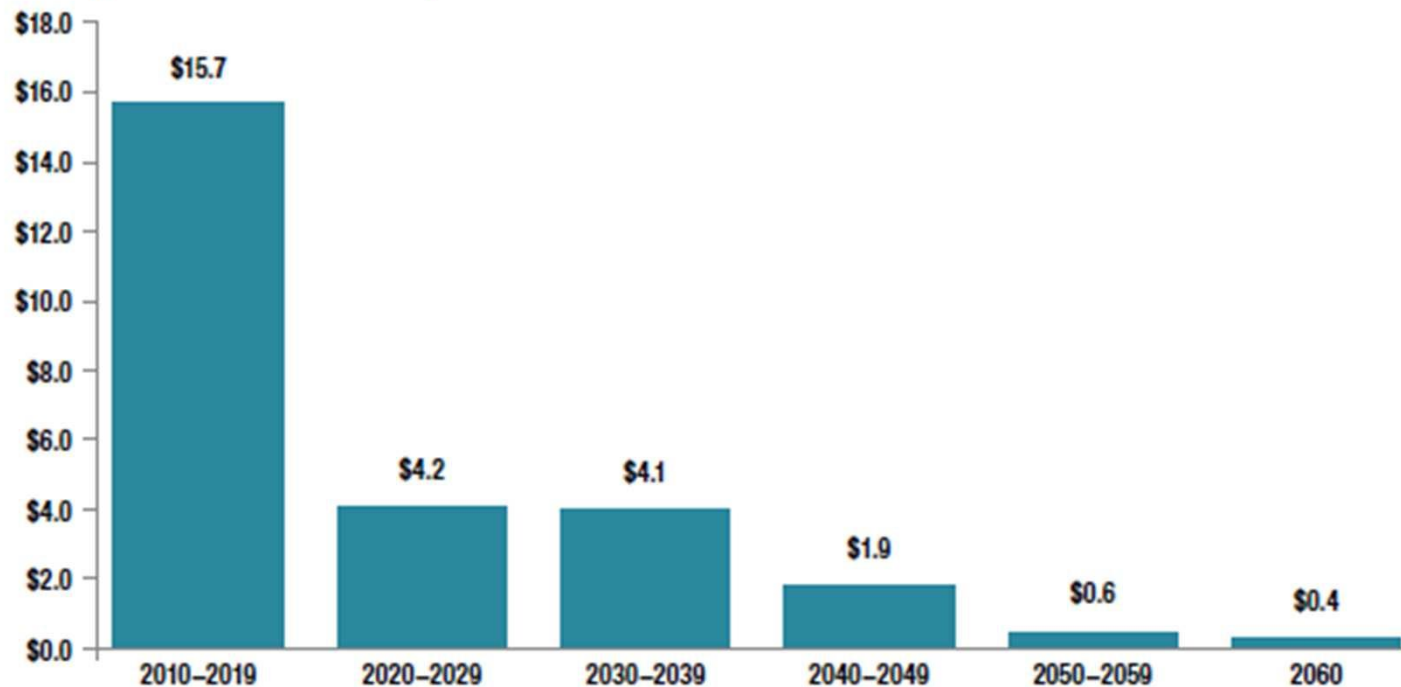


# Costs to Implement State Water Plan

- State Water Plan estimates that water providers will need approximately \$27 billion in state financial assistance to implement water management strategies in the Plan.
  - Over \$20 billion (75%) targeting construction activities and land acquisition.
  - \$3.3 billion (12%) to finance project permitting, planning, design activities.
  - \$3.1 billion (12%) to finance excess storage capacity.

# Financial Assistance Needs By Decade

FIGURE 9.3. DEMAND FOR TWDB FINANCIAL ASSISTANCE PROGRAMS BY DECADE OF ANTICIPATED NEED (BILLIONS OF DOLLARS).



# Reservoir Costs

- Steep cost to plan, permit, and construct reservoirs.
  - Land acquisition
  - Permitting/transactional costs
  - Mitigation requirements
  - Construction



# State Funding Measures – 83<sup>rd</sup> Session

- 83<sup>rd</sup> Texas Legislature marks historic commitment to funding of State Water Plan implementation.
- HB 4 creates State Water Plan Implementation Fund for Texas (SWIFT), designed to administer funds for projects included in the State Water Plan.
- Appropriation of funds to infuse the SWIFT.



# Political Challenges

**As the Saying Goes...**



***“Whiskey is for drinking, water is for fighting over.”***

***– Mark Twain***

# Political Challenge: East v. West

- Current IBT statute (Tex. Water Code 11.085) makes transportation of surface water from newly permitted reservoirs challenging.
- Great political resistance to alleviating obstacles to transport water from East Texas to more arid, population-heavy parts of the State.

# Political Challenge: Environment

- Competing interests:
  - Needs of Man
  - Needs of Environment
- General aversion to reservoir construction, without enumerated environmental complaints.



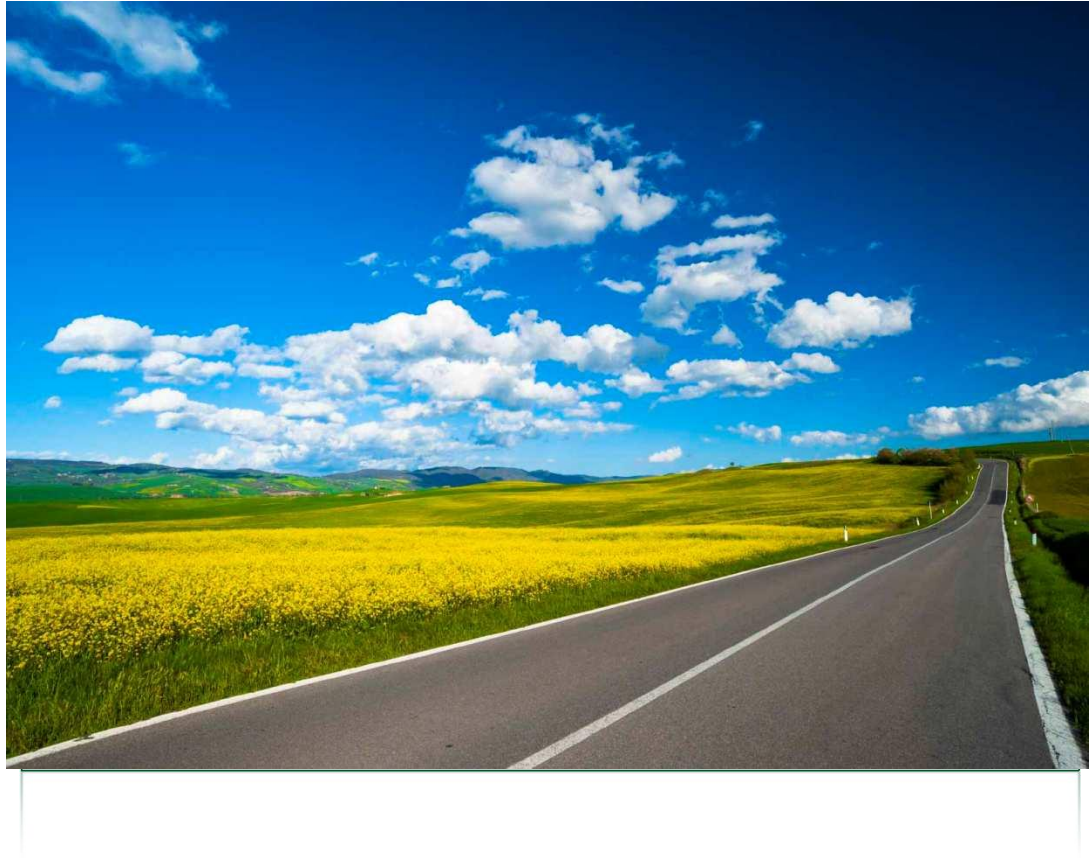


# Political Challenge: Eminent Domain

- Evolving attitude in Texas toward private property rights and governmental intrusion.
- Use of eminent domain authority increasingly restricted by State Legislature each session.
  - Landowner's Bill of Rights (2008)
  - Senate Bill 18 (82<sup>nd</sup> Session)
  - 83<sup>rd</sup> Session:
    - HB 476
    - HB 1250
    - SB 96
    - SB 829

# Political Challenge: Public Support





**Looking Ahead**

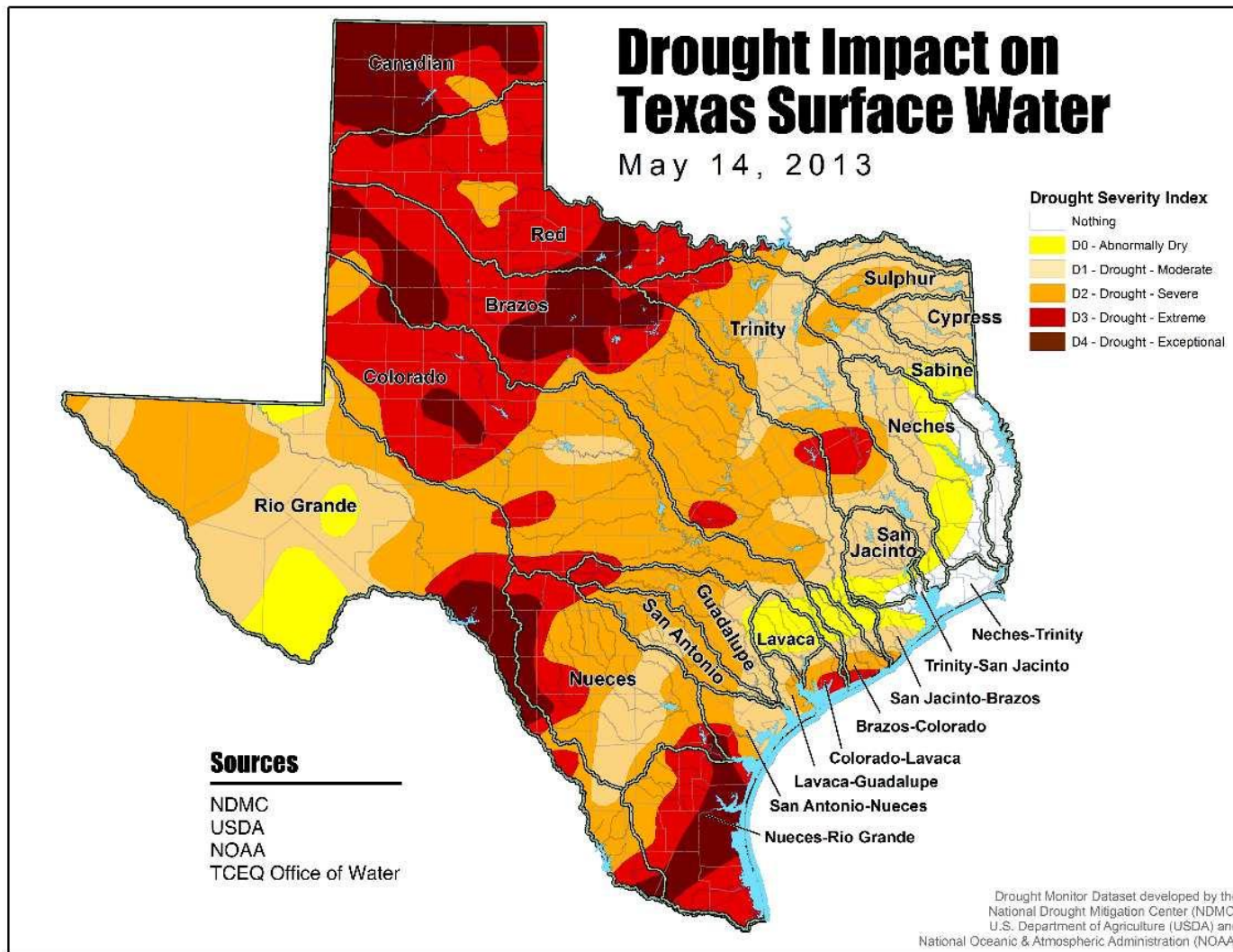
# Water Supplies versus Demand



- Population expected to increase by 82% in the next fifty-year planning cycle.
- During a repeat of the drought of record, the State would face an immediate need for 3.6 million acft of additional water supplies.



# Ongoing Drought



# Economic Risk of Failure

- If the major reservoir sites recommended for construction in the 2012 State Water Plan are not developed, the State will be short 1.5 million acre-feet annually of water supplies leading up to 2060.
- Bottom line: Failure to meet the state's projected water supply needs in drought conditions could cost Texas businesses and workers up to \$115.7 billion annually by 2060.

## Economic Risk of Failure, cont'd

- If water management strategies identified in the State Water Plan are not implemented:
  - Lost income of \$116 billion per annum by 2060.
  - Lost jobs of 1 million per annum by 2060.

# Opportunities for Impact

- Continued Policy Development Supporting Creation of New Reservoirs
  - Federal and State Permitting requirements and timelines
  - Interbasin transfers
- Financing Issues
  - Permitting, construction, land acquisition
- Coordination and Advocacy regarding Federal issues



# Questions?





# **RESERVOIR DEVELOPMENT IN TEXAS – Challenges, Risks, and Opportunities**

**Association of Water Board Directors**

**June 22, 2013**

**Presented by:**

**Martin C. Rochelle**

***mrochelle@lglawfirm.com***

***(512) 322-5810***

***816 Congress Avenue  
Suite 900***

***Austin, Texas 78701***

***(512) 322-5800***

***(512) 472-0532 Fax***

***www.lglawfirm.com***