

Instream Flows:

Lessons from past studies and neighboring states

Oklahoma Governor's Water Conference 2010

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Overview of Presentation

- Definition
- Other states
- Texas
- Oklahoma
- Keys to success



Instream flows means...

- Water flowing in a stream channel (Instream Flows Council)
- Flow conditions necessary for supporting a sound ecological environment in the river basin (Texas Senate Bill 2)
- The amount of water needed in a stream to adequately provide for downstream uses occurring within the stream channel

Instream flows means...

- ...human drinking water and industrial needs, aquatic habitat, recreation, wetlands, navigation, hydropower, riparian vegetation, and water quality, including waste assimilation. (Water Wiki)

Instream flows means...

- The amount of water set aside in a stream or river to ensure downstream environmental, social and economic benefits are met.



Methodology

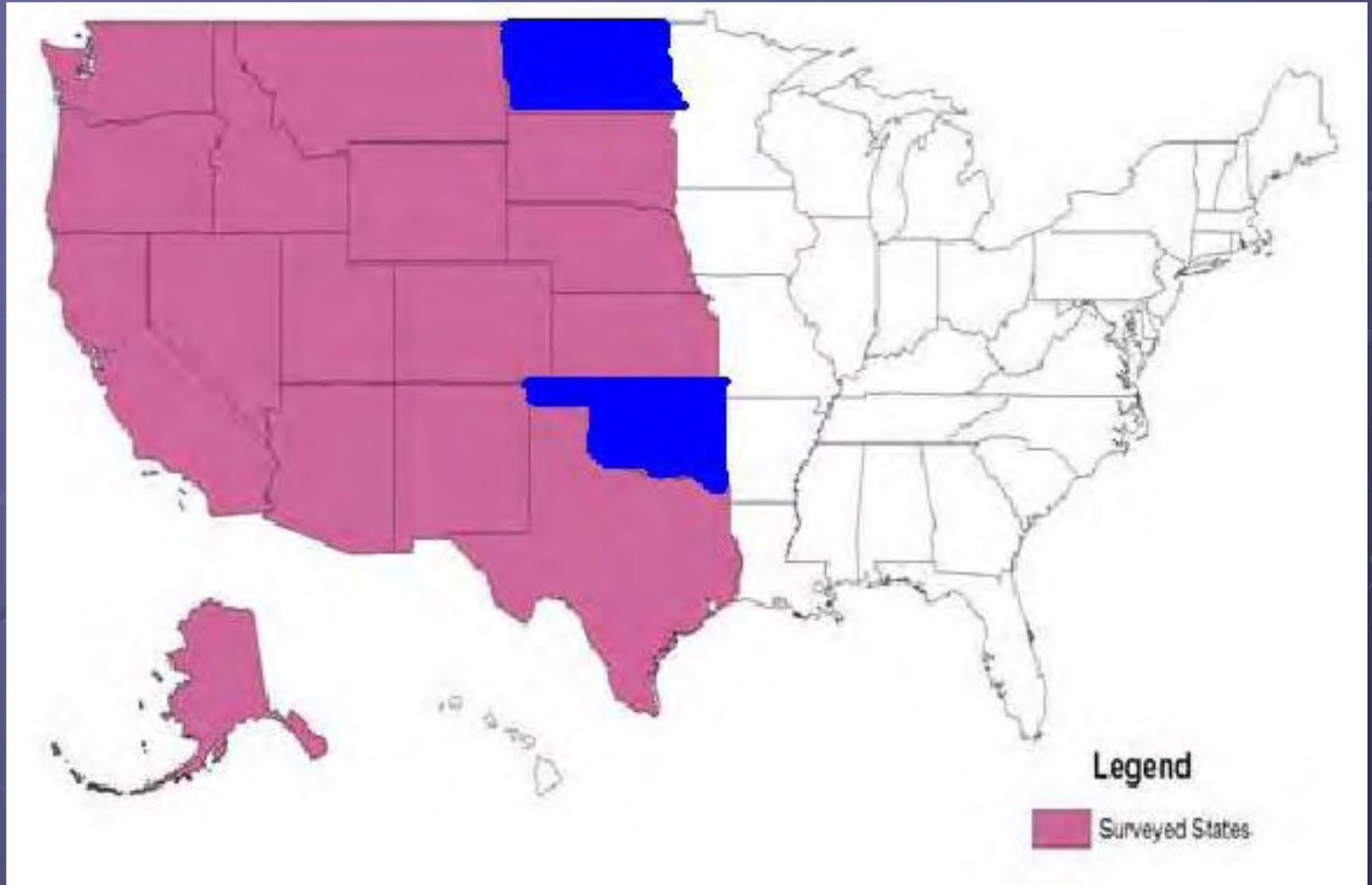
Simple



Comprehensive



ISF programs in Western States



Arkansas: ISF in a water-rich state

- Riparian doctrine
- Water right granted if water remaining after:
 - 1) existing riparian rights,
 - 2) water requirements of federal water projects,
 - 3) firm yields of all existing reservoirs,
 - 4) maintenance of instream flows for fish and wildlife, water quality, aquifer recharge and navigation, and
 - 5) future water needs as projected in the State's Water plan.
- Desktop method...1985



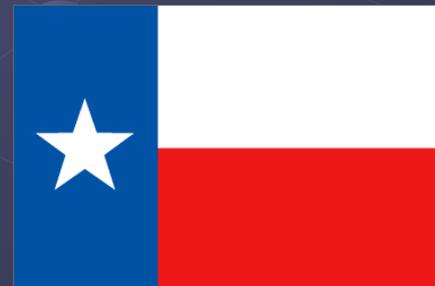
Colorado: Protecting streamflow and lake levels

- Prior appropriation doctrine
- Water rights acquired for the purpose of protecting instream flows and lake levels
 - New rights (junior to existing rights)
 - Water right donation or purchase
- Habitat-based approach...1974



Senate Bill 2 in Texas

- Establish data collection program
- Determine flow conditions necessary to support a sound ecological environment in Texas rivers and streams
- Complete priority studies by December 31, 2016



Three Key Components

- Stakeholder participation
- Scientific Peer Review
- “Implementable” numbers



Stakeholders bring:

- Knowledge, expertise and fresh ideas
- Resources
- Endorsement of findings

Navigation districts

Canoeists

General public

Water right holders

Water planning groups

Irrigators

Universities

Farmers

Local agencies

Federal agencies

Environmental groups

Hydropower

Fishermen

Industrial users

THE SCIENCE OF INSTREAM FLOWS

A Review of the Texas Instream Flow Program

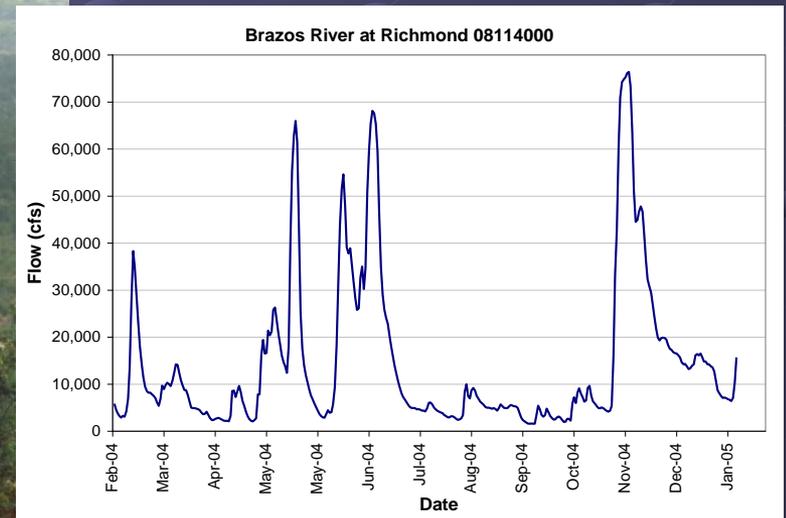
National Academy of Sciences (2005)

Review of the TIFP

- “conforms with the best practices”
- “will provide enormous benefits to the state”
- identified several opportunities for improvement

Implementation of Recommendations

- Prior appropriation doctrine
 - Protect senior water rights holders
 - Compatible with state water planning and permitting
 - New rights granted above certain flow threshold



Study Design

Flow Chart of Instream Flow Study Elements

Evaluations

**Hydrology
Hydraulics**

**Physical
Processes**

**Water
Quality**

Biology

Integration

Interpretation

Study Report

**Monitoring
Validation**



Study Design: Define Goals and Objectives



Timeframe for Priority Studies

Subbasin	2009	2010	2011	2012	2013	2014	2015	2016
Lower Guadalupe River								
Lower Brazos River								
Lower San Antonio River								
Middle Trinity River								
Lower Sabine River								
Middle Brazos River								

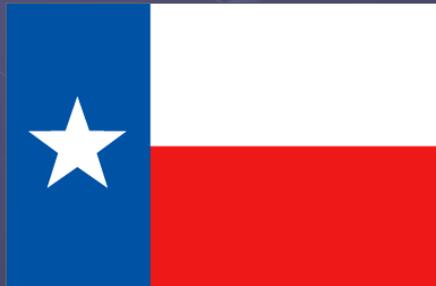


Toledo Bend



Sabine R.

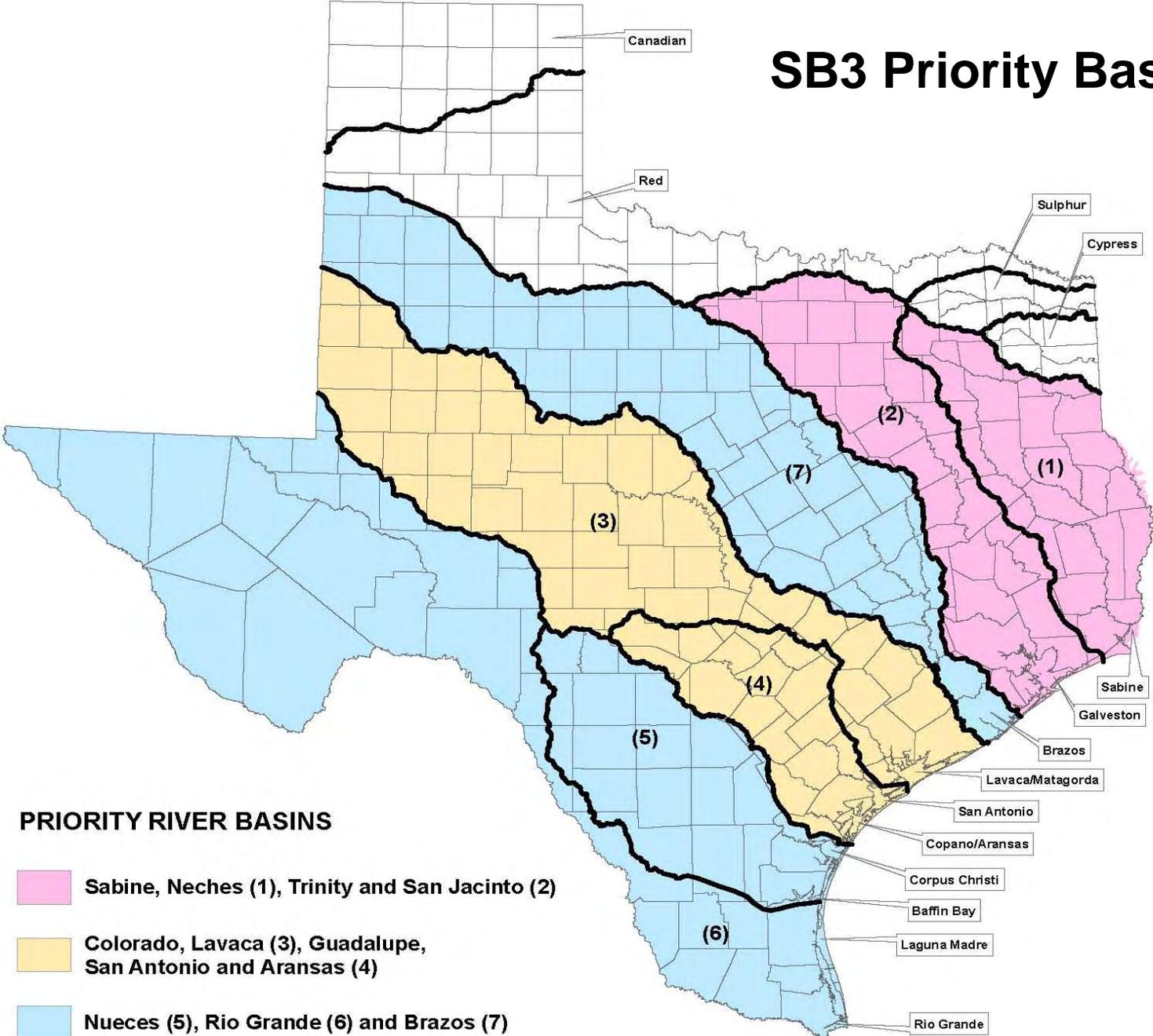
Texas Senate Bill 3 (2007)



Key SB3 Features

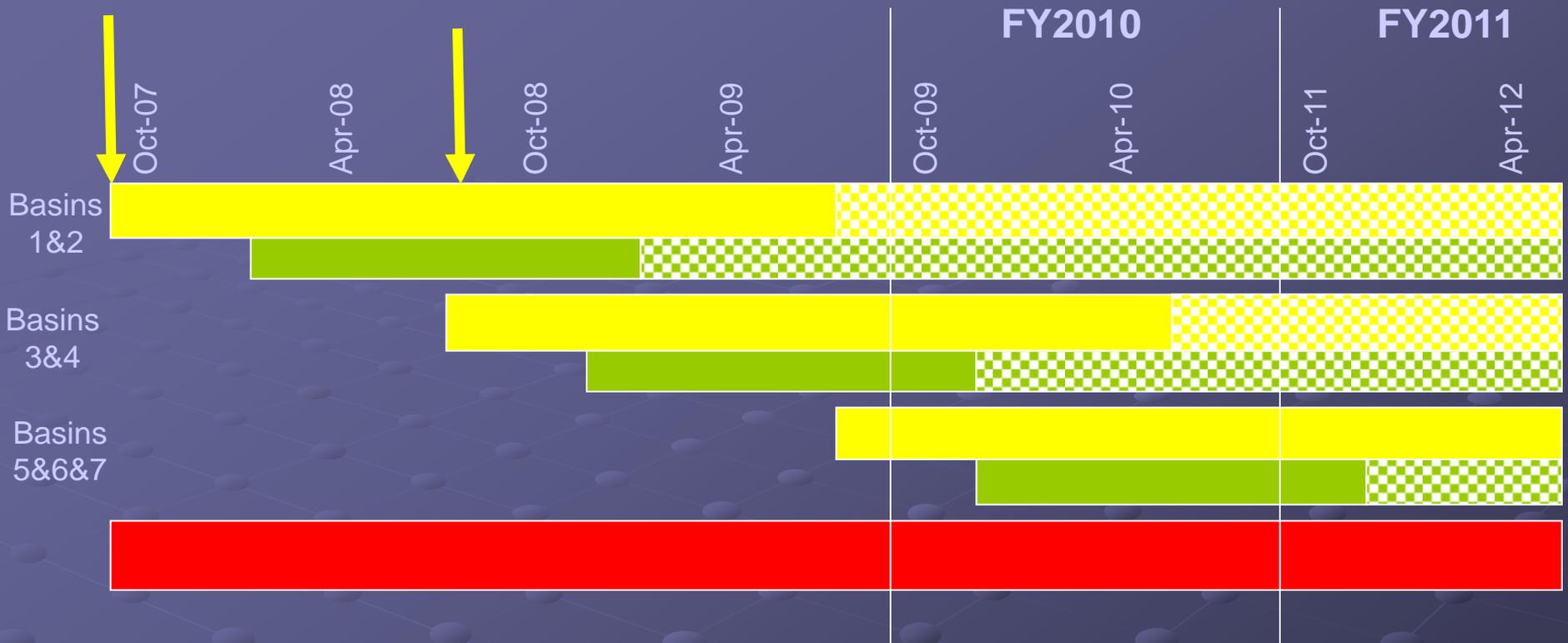
- Stakeholder driven
- Best available data and science
- Expedited process
- Set aside flows vs. instream flow permits
- Emergency drought measures
- Adaptive management (12.5%)
- Funded!

SB3 Priority Basins



PRIORITY RIVER BASINS

-  Sabine, Neches (1), Trinity and San Jacinto (2)
-  Colorado, Lavaca (3), Guadalupe, San Antonio and Aransas (4)
-  Nueces (5), Rio Grande (6) and Brazos (7)



Basin and Bay Area Stakeholders

-  = Develop Flow Recommendation
-  = Monitor

Basin and Bay Expert Scientists

-  = Develop Flow Recommendation
-  = Monitor

 = Science Advisory Committee

Basins

- 1: Sabine/Neches
- 2: Trinity/San Jacinto
- 3: Colorado/Lavaca
- 4: Guadalupe/San Antonio/Aransas
- 5: Nueces
- 6: Rio Grande
- 7: Brazos

Instream Flow Initiative in Oklahoma

- OWRB Comprehensive Water Plan
- What should be the policy on ISF in OK?
- Advisory Group
 - 21 members (many interests represented)
 - 5 meetings
- Independent facilitator
- Process concluding this year
- Town hall meetings
- Chapter in CWP



Advisory Group: Main discussion points

- Domestic flow set-aside
- Economic issues
- Methodology



A successful ISF policy must:

- Fair and equitable use of state's surface water resources (addresses all needs)
- Long-term sustainability of water
- Avoids intervention by the federal agencies in water resources management
- Maintains healthy, productive, economically viable rivers
- Conforms with existing state legal and planning frameworks
- Stakeholder involvement and endorsement

Questions?

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