

ENVIRONMENTAL FLOWS: FISH NEED WATER TOO!



Myron Hess
National Wildlife Federation

Photo courtesy Daniel James



INSTREAM FLOWS

Water quality
Fish and wildlife
Livestock
River recreation
Bottomland forests
Tourism

ROLE OF FRESHWATER INFLOWS

- Supply nutrients
- Supply sediments
- Maintain salinity balance

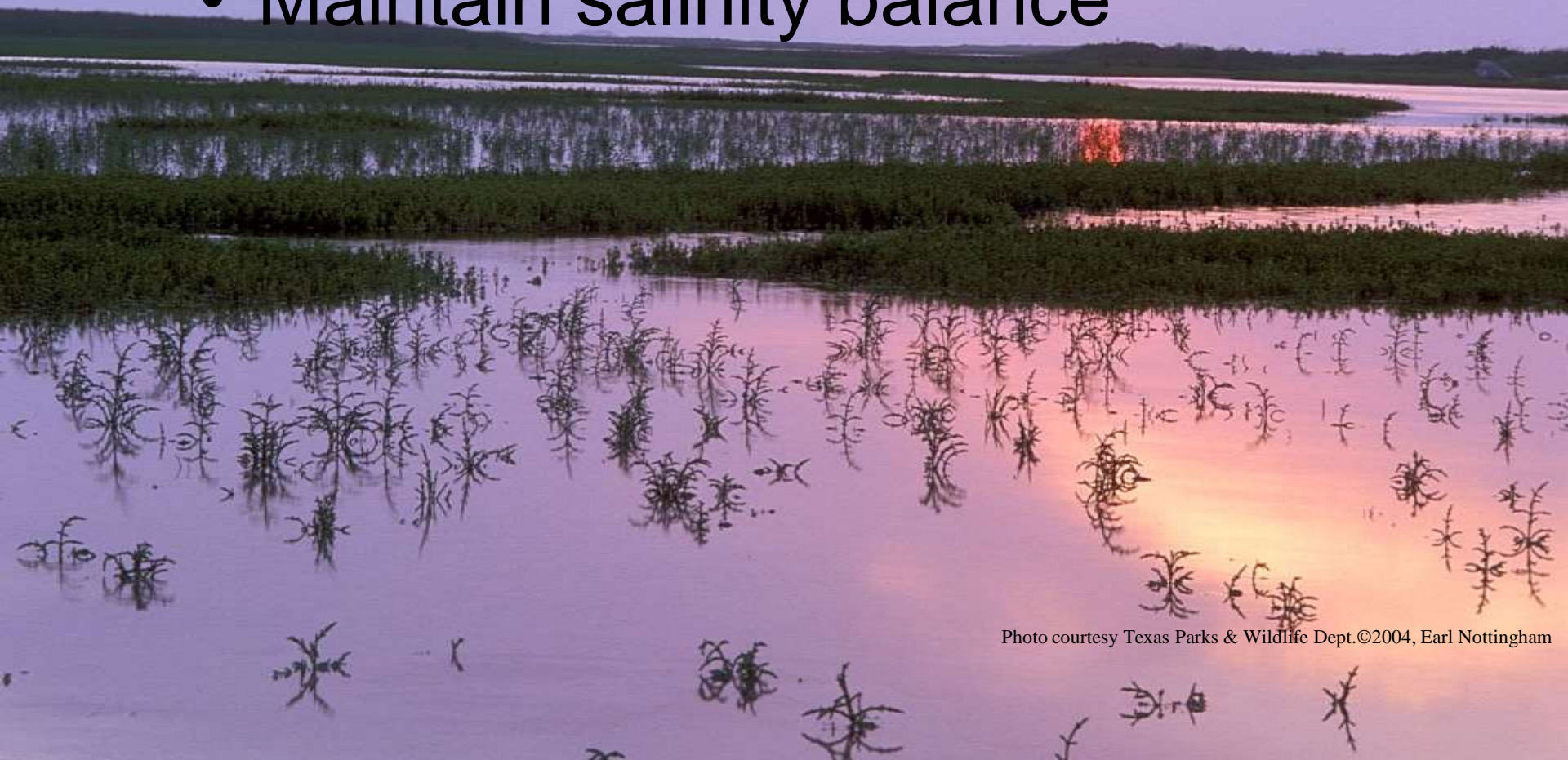
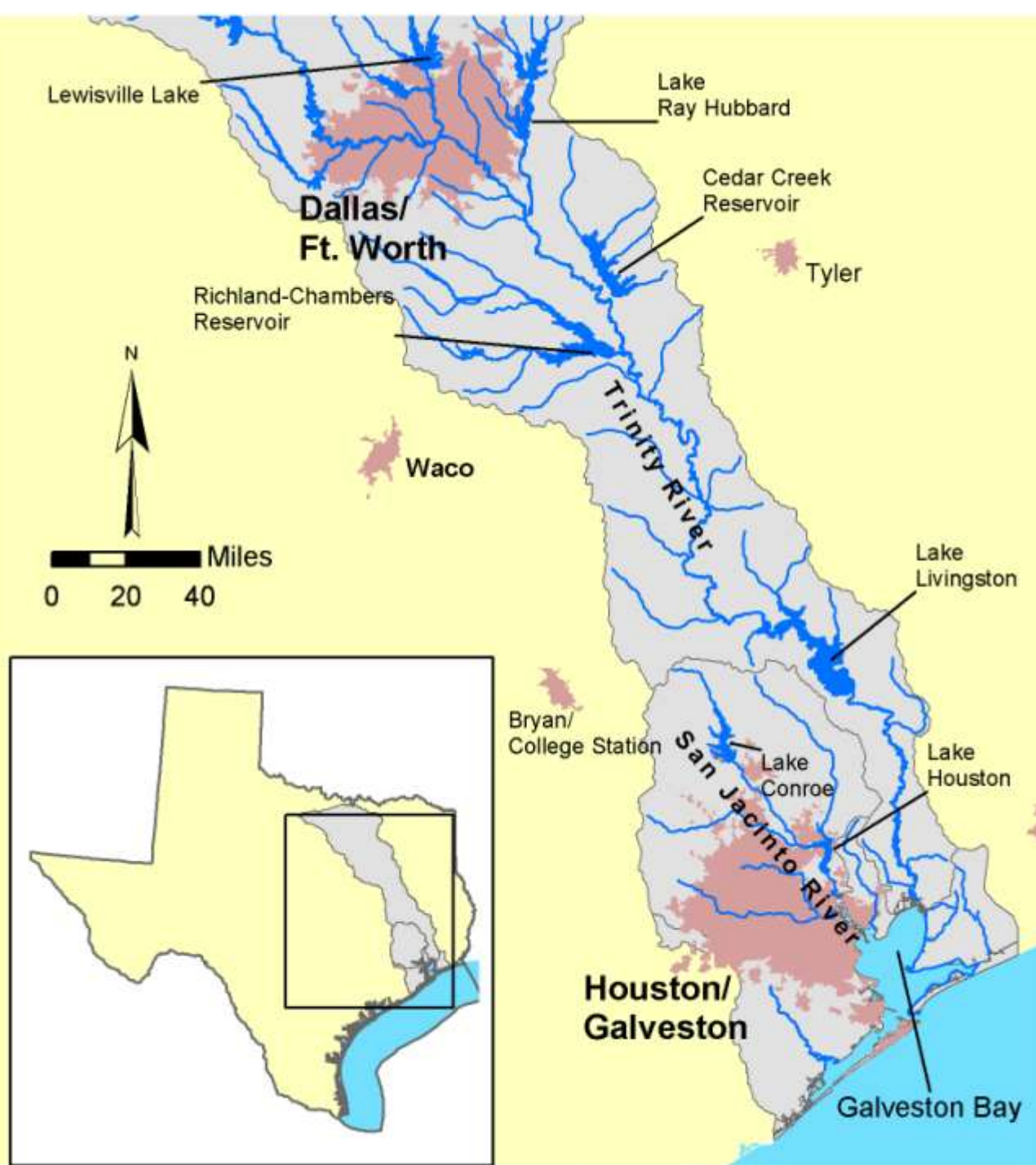
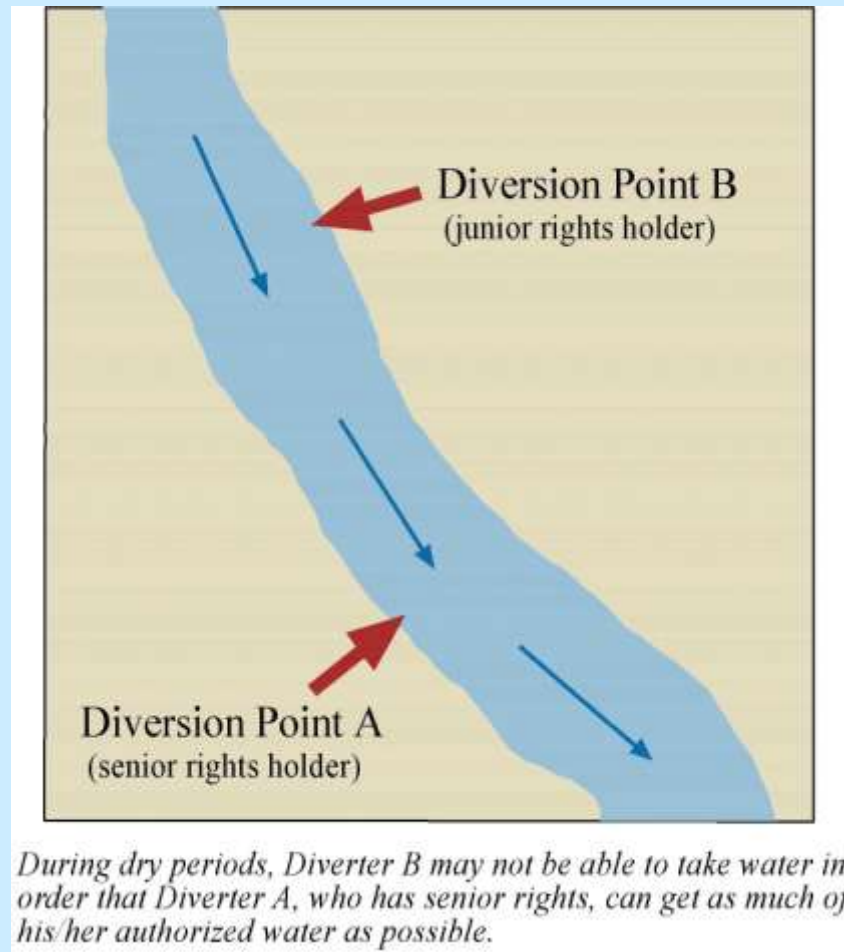


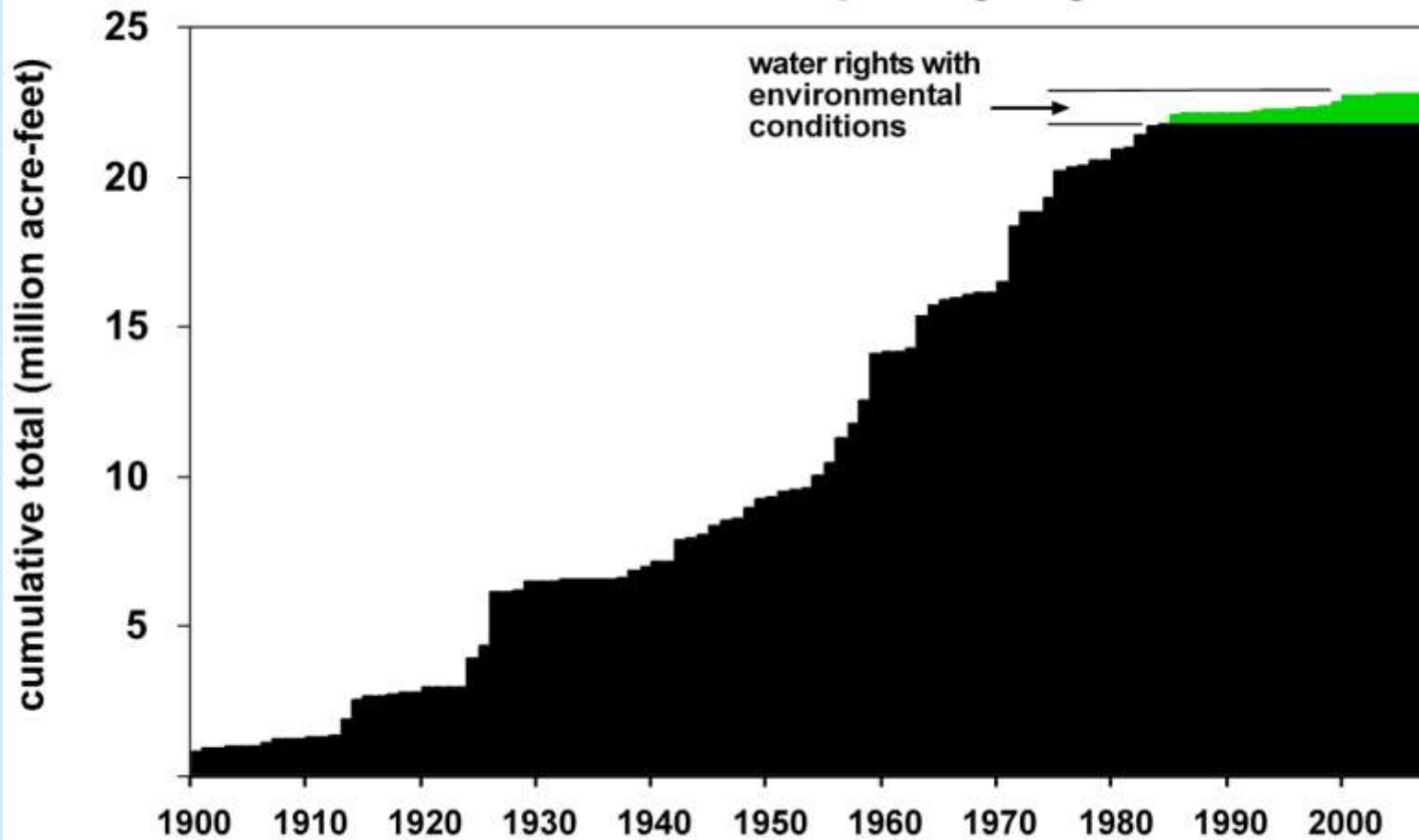
Photo courtesy Texas Parks & Wildlife Dept. ©2004, Earl Nottingham



Older Is Better



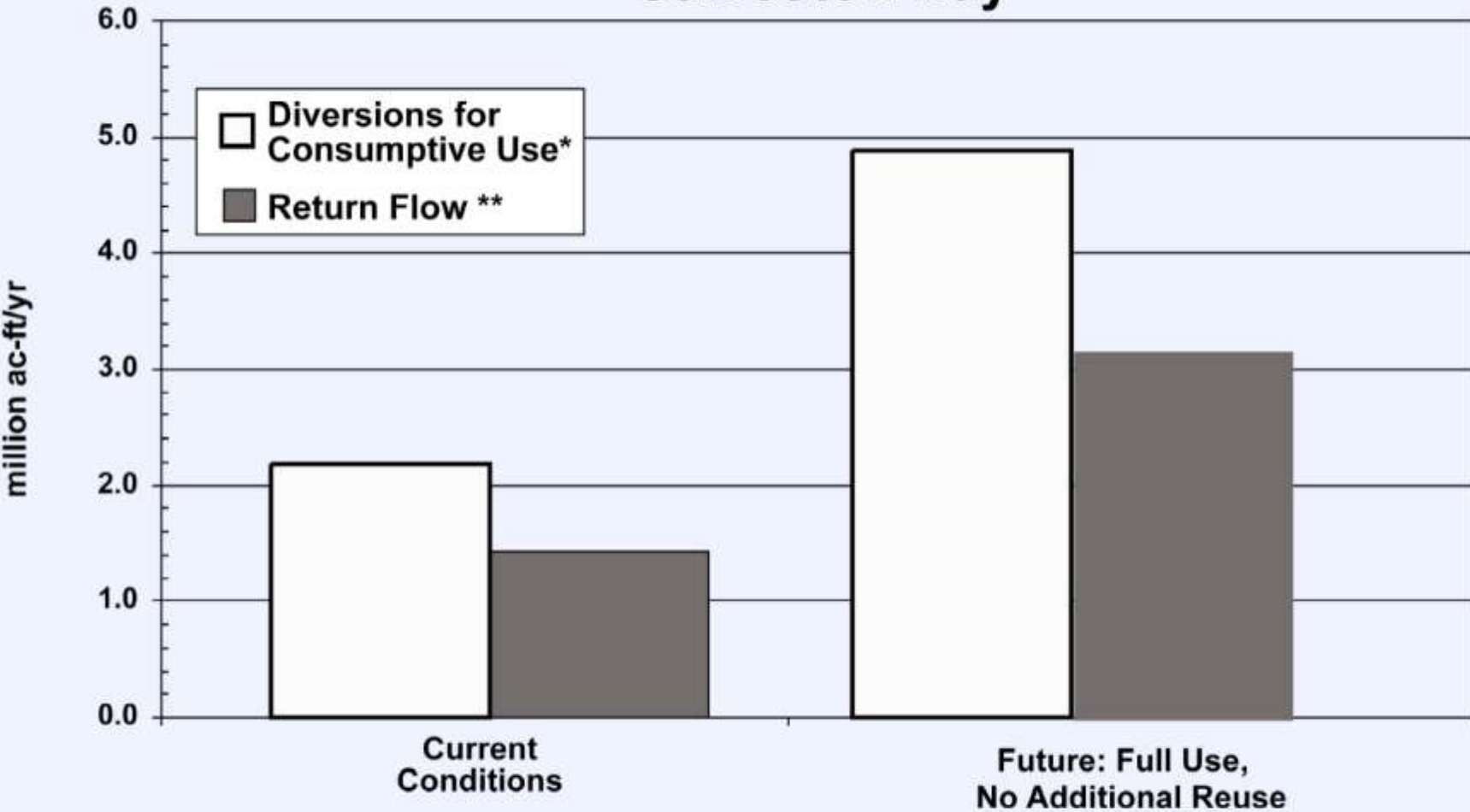
Texas Water Rights - Timeline of all consumptive rights granted



Source: data from Texas Commission on Environmental Quality.



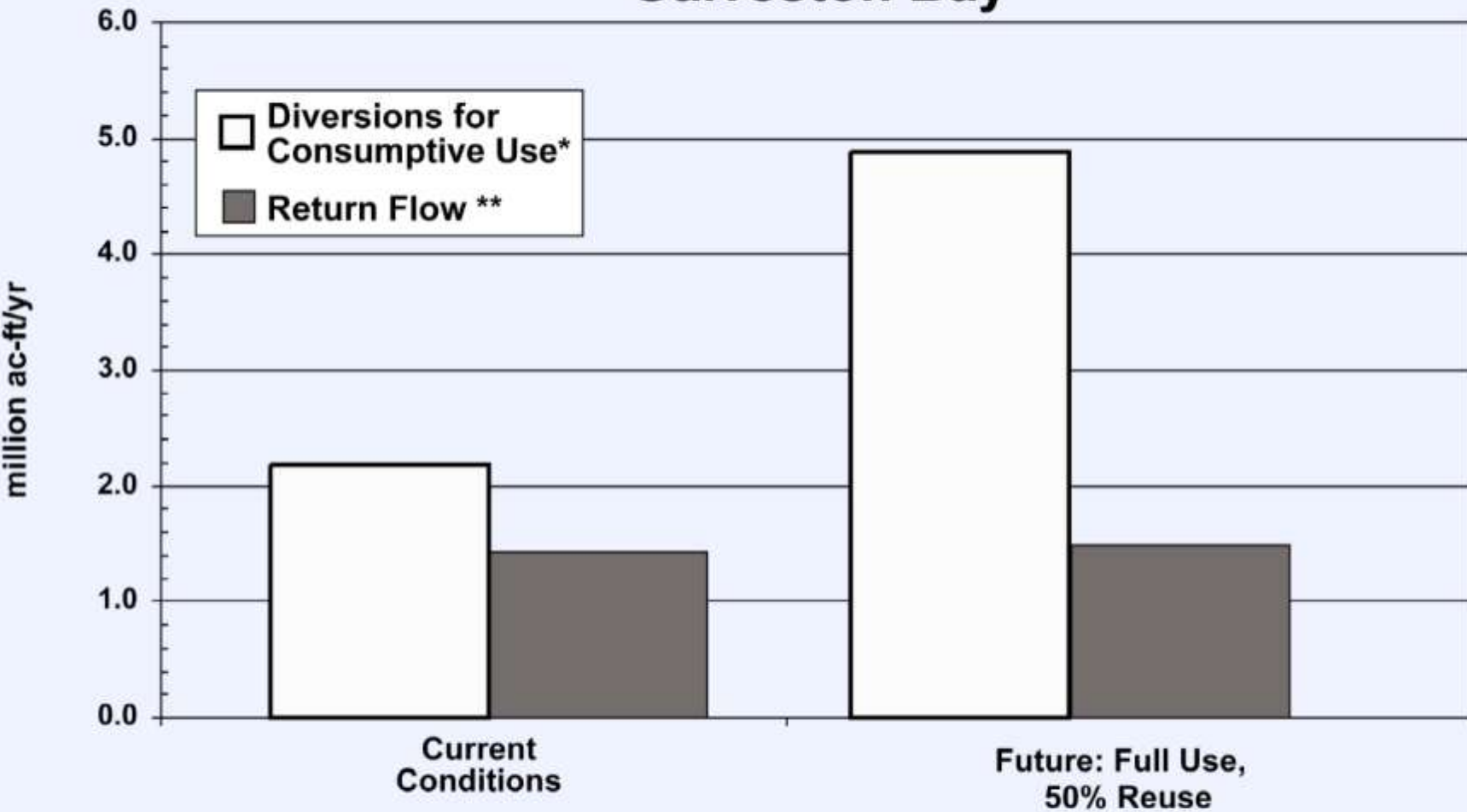
Water Use Characteristics for Rivers Draining to Galveston Bay



notes: * excludes hydropower and pass through cooling.

**includes groundwater based return flows

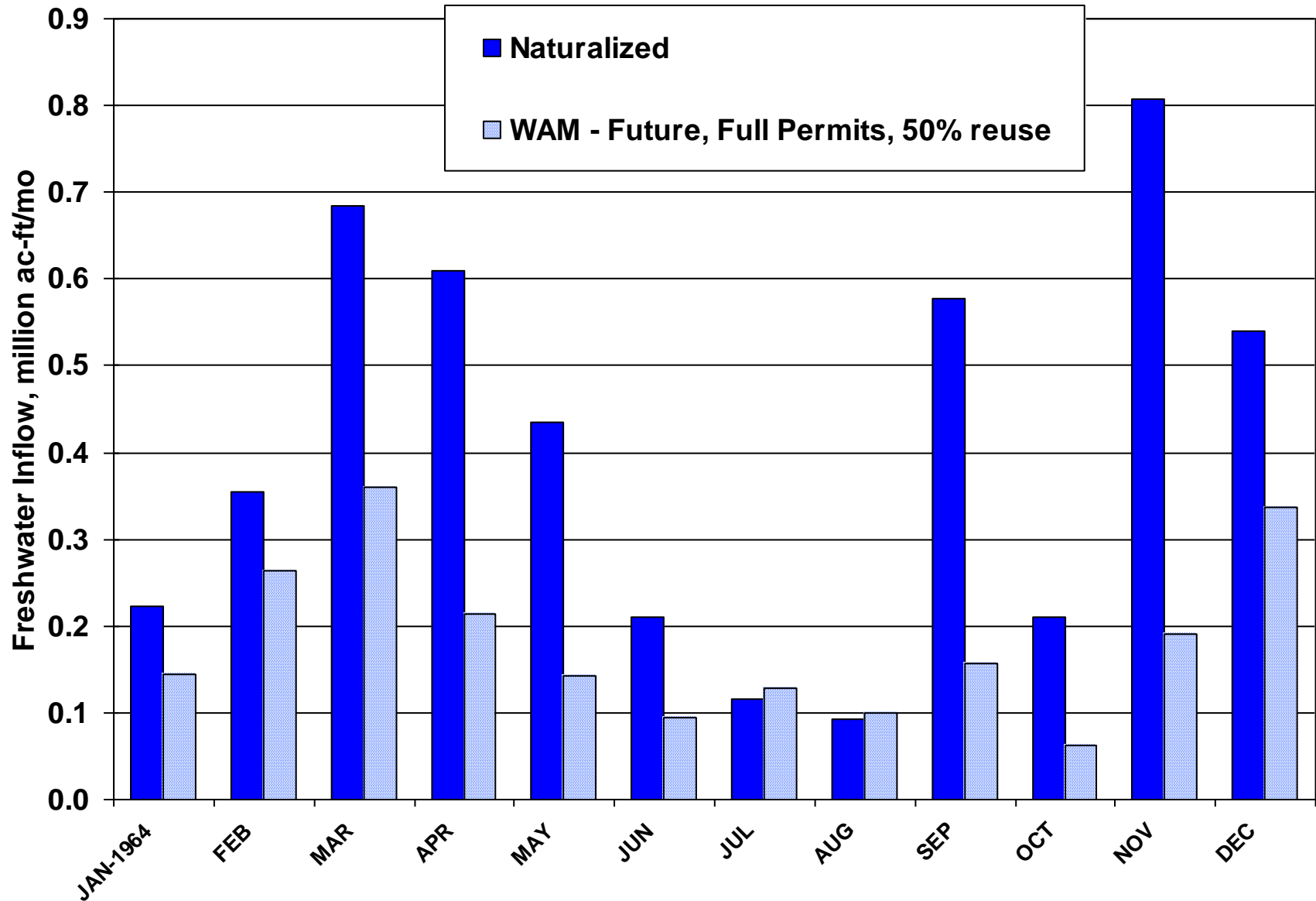
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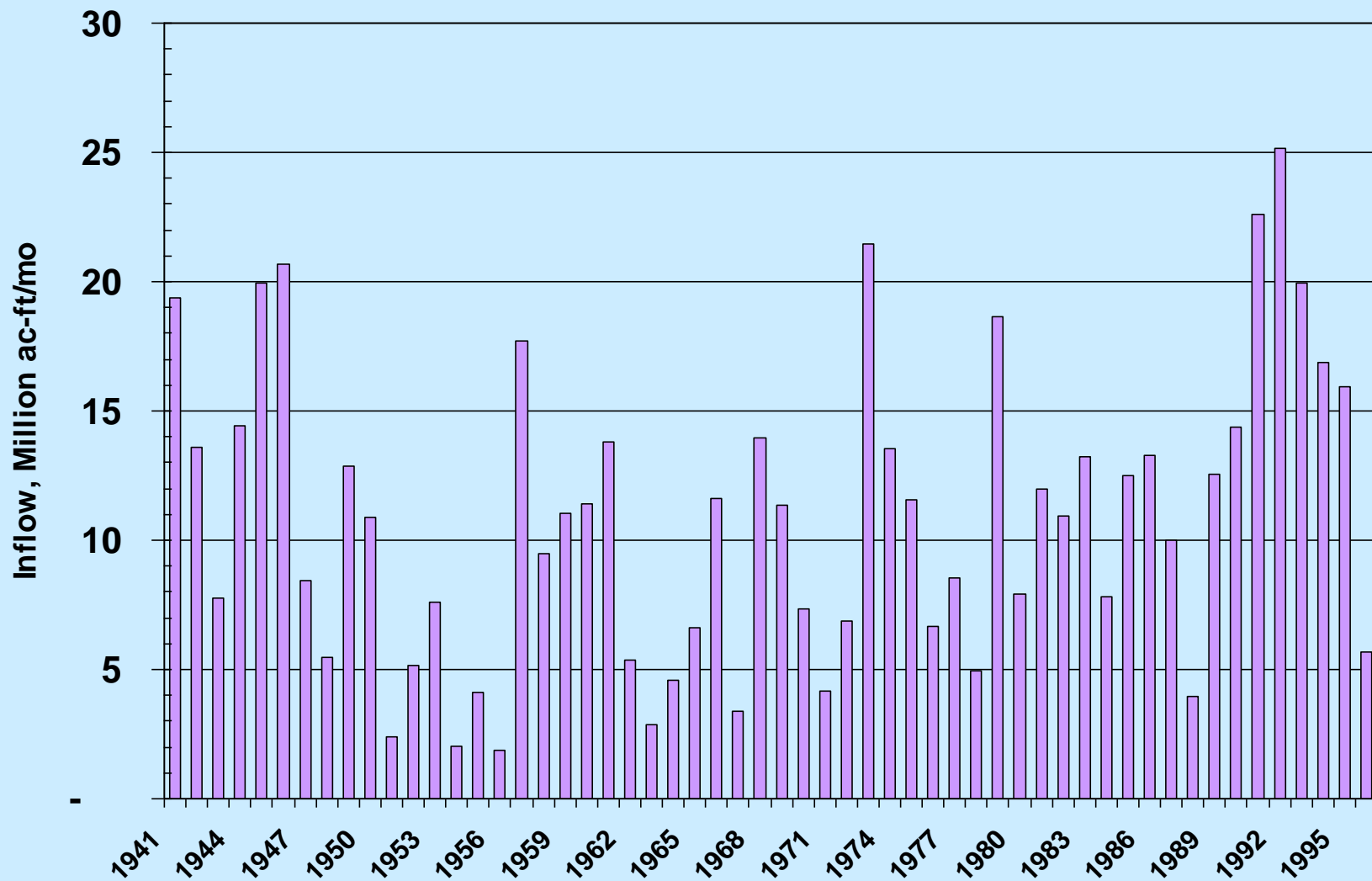
Galveston Bay, WAM-Predicted Freshwater Inflows



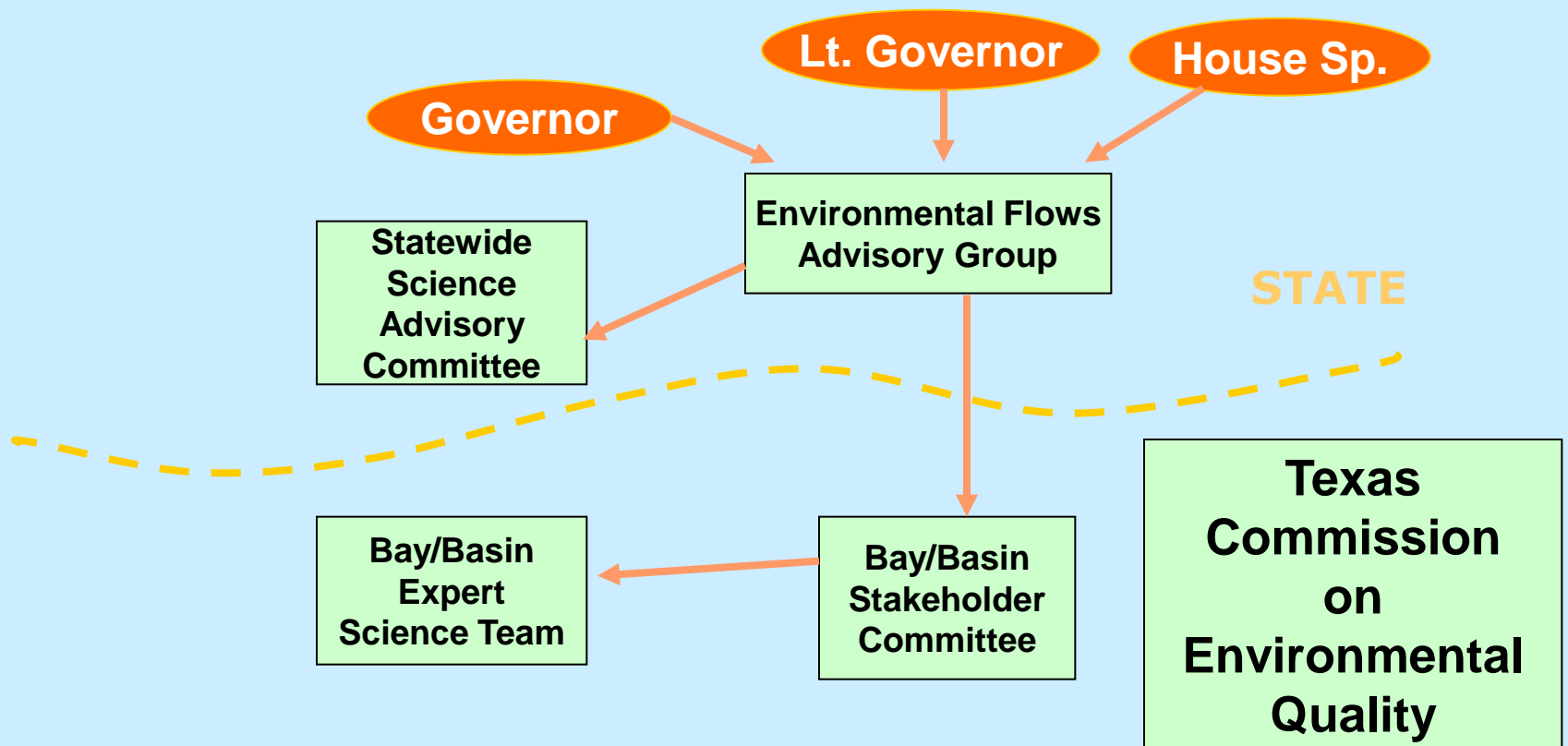
New Environmental Flows Allocation Process: the Challenge

- How much flow?
- Where do we get it?
- What do we do if we're wrong?

Galveston Bay Measured Freshwater Inflows



New Environmental Flows Allocation Process: the Players



New Environmental Flows Allocation Process: the Stakeholders

Electrical generation

Agricultural irrigation

Livestock

Water recreation businesses

River authorities

Environmental interests

Concentrated animal feeding operations

Recreational water users

Refining industries

Soil and water conservation districts

Municipalities

Chemical manufacturing

Commercial fisherman

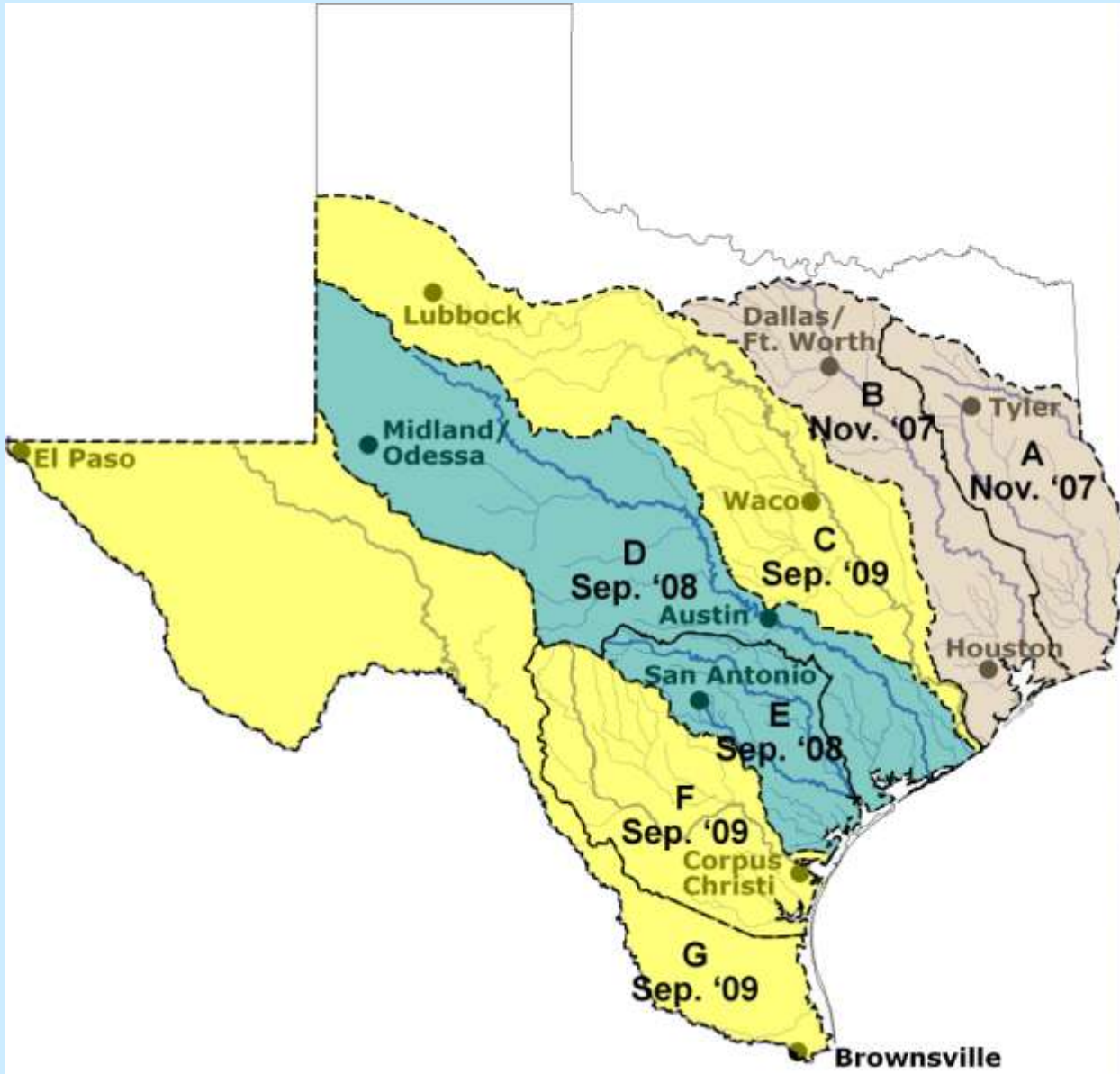
Public interest groups

Groundwater conservation districts

Regional water planning groups

Timber and paper industries

New Environmental Flows Allocation Process: the Timeline



A photograph of a sunset over a body of water. The sky is a deep orange-red, and a large, bright yellow sun is in the upper right. A bird is silhouetted in flight against the sky. In the foreground, two people are silhouetted against the water, fishing. The water reflects the orange light of the sunset.

WHAT NATURAL HERITAGE WILL
WE LEAVE FOR OUR CHILDREN
AND GRANDCHILDREN?

To be determined by those who show up.

