

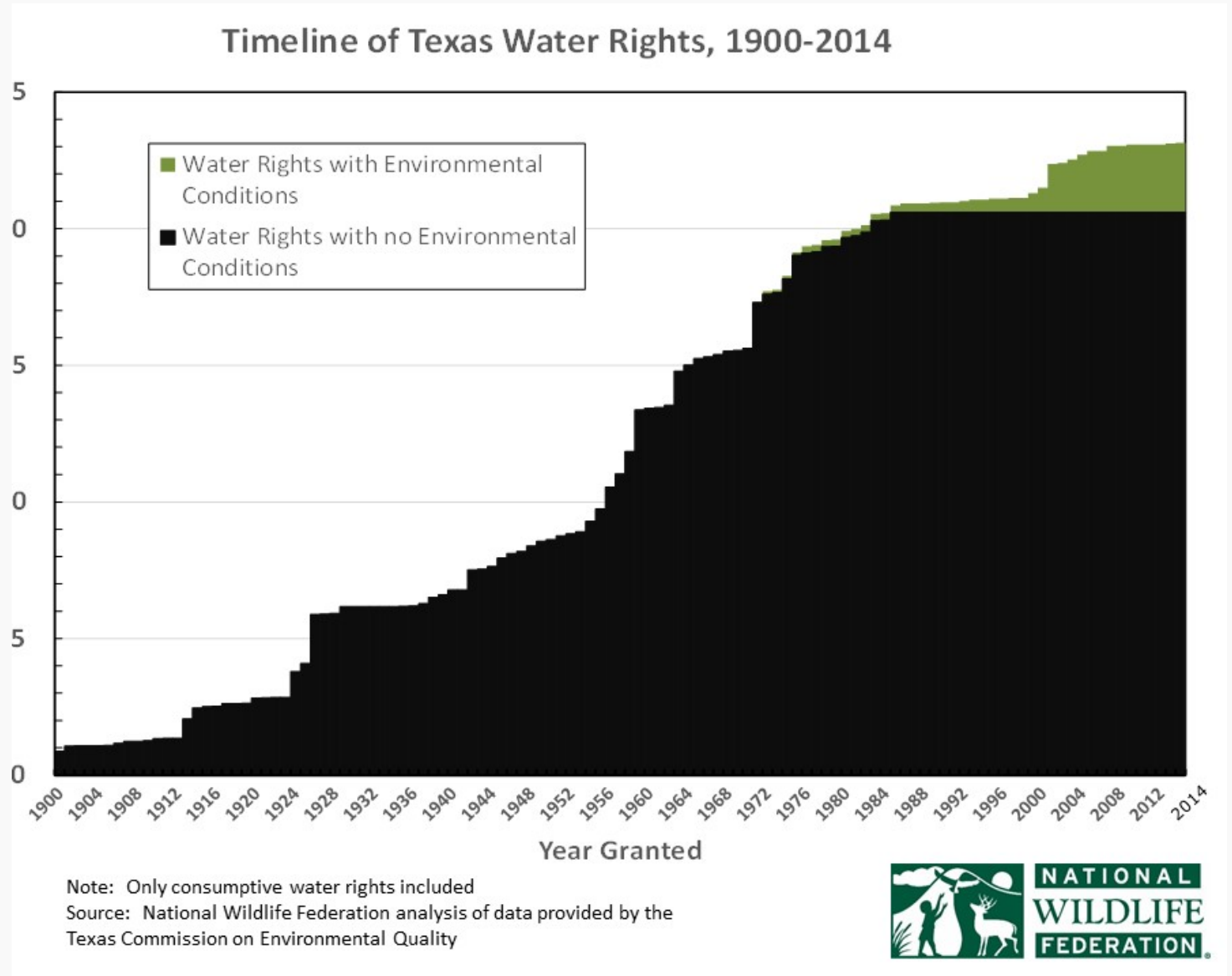


Market-based Strategies for Ensuring Freshwater Inflows in Texas

Sharlene Leurig | Texas Environmental Flows Initiative Project Director

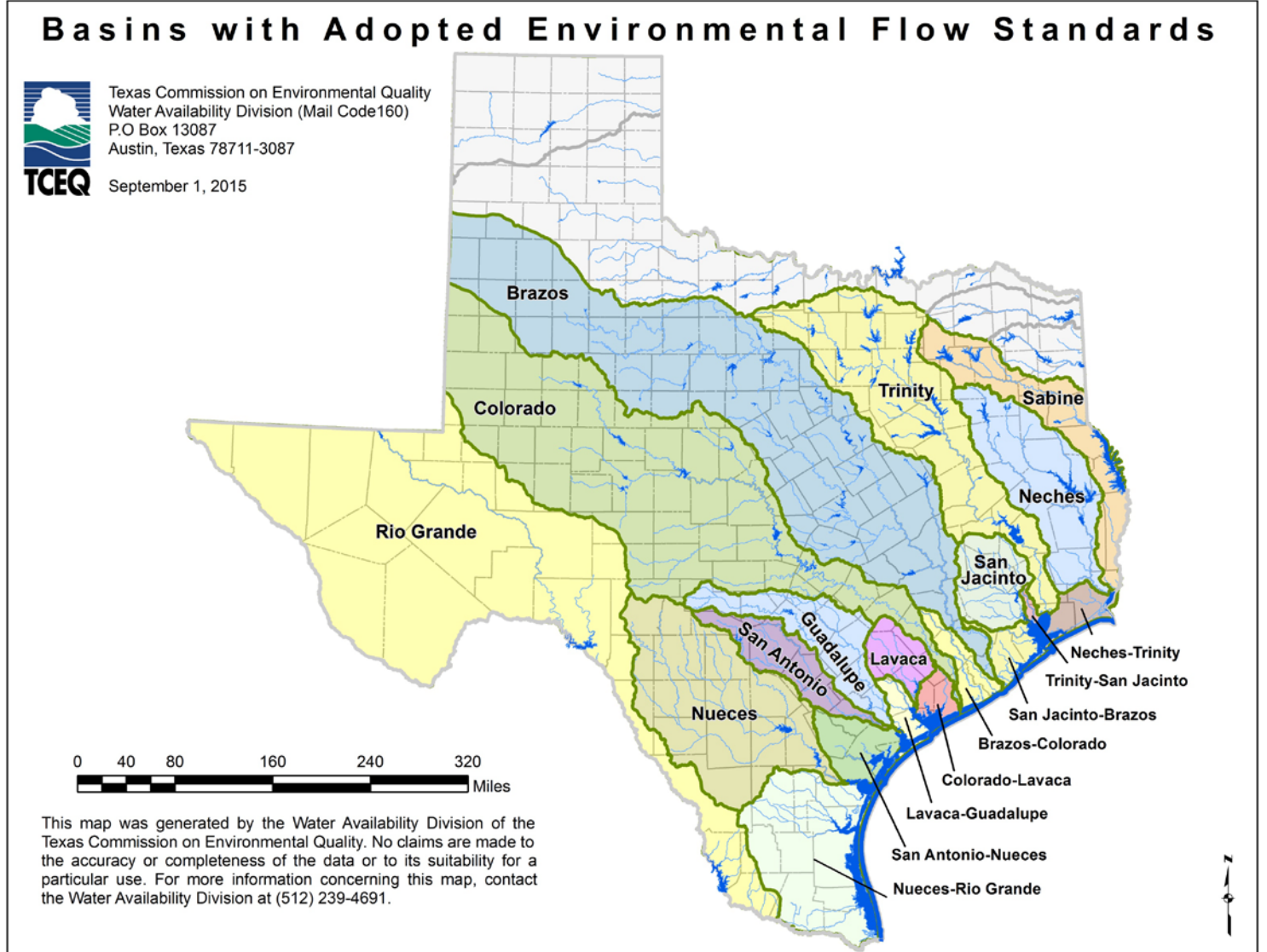
Current reality for environmental flows in Texas

- Only **ten percent** of water rights consider environmental flows
- Senate Bill 3 flows allocation only addresses pre-SB3 water rights
- Currently only Nueces Bay is considered ecologically unsound, yet numerous reaches and sub-bays are affected by freshwater deficiency
- Upstream consumptive use and diversions are increasing
- Result is that instream flows, freshwater inflows will be less reliable

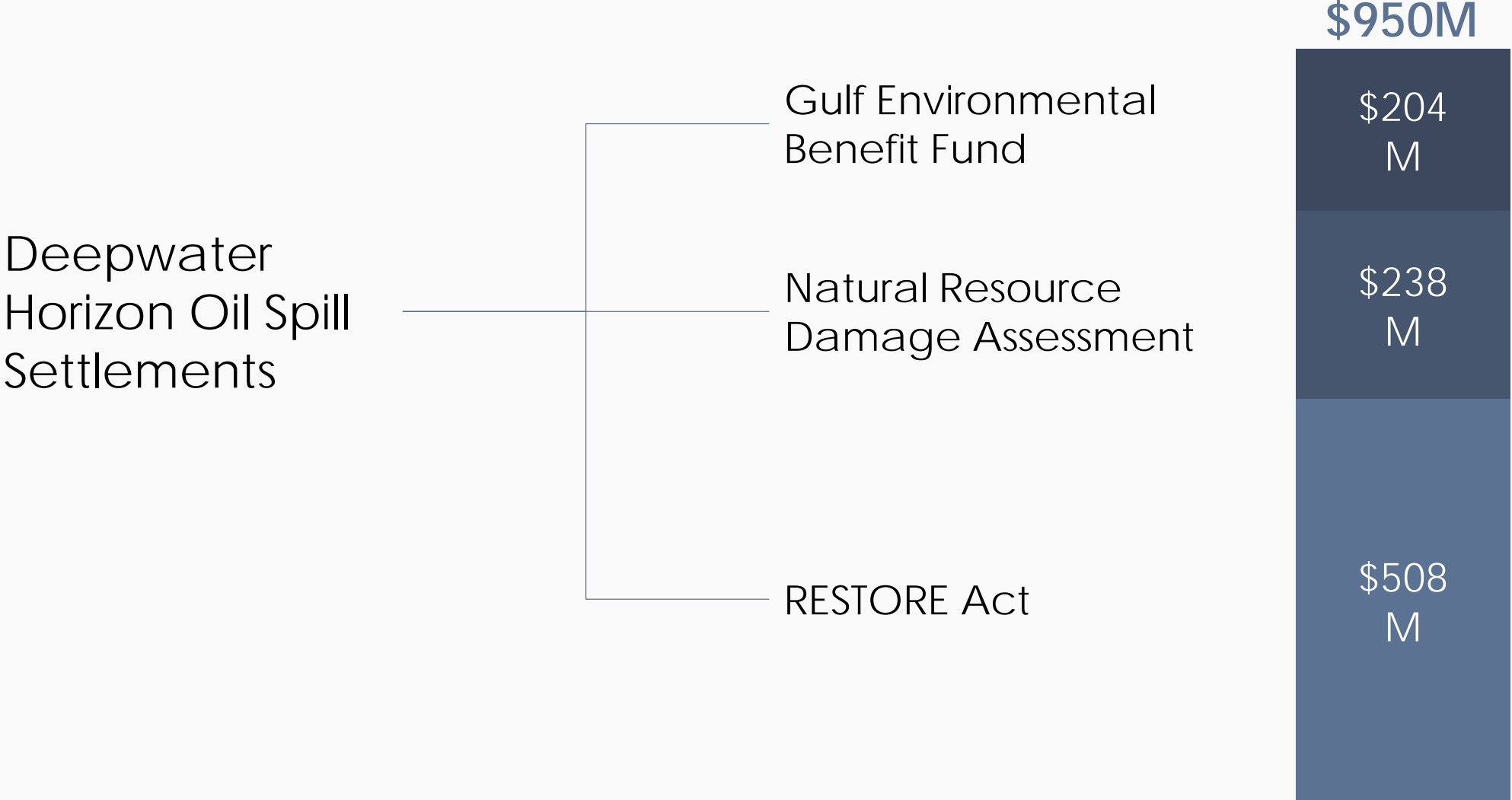


Significant science to build upon

- Nearly all basins and bays have adopted flow standards
- Standards:
 - are a composite of science and stakeholder committee recommendations
 - include subsistence, baseflow and pulse levels for instream flows and freshwater inflows
 - consider benthic, fish species and riparian seeding but not sediment transfer



Unprecedented funding opportunity



Source: National Wildlife Federation

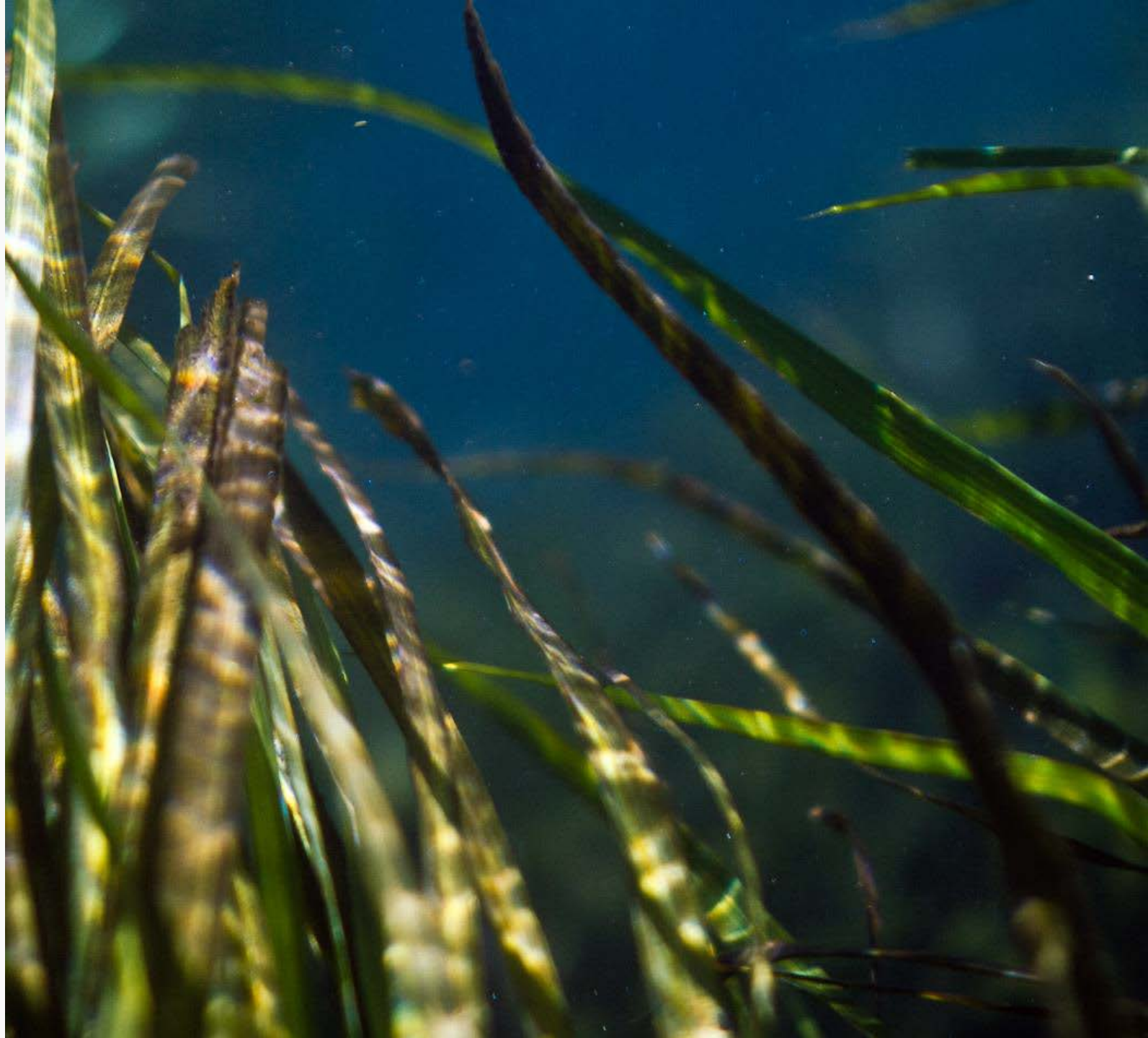


Texas Environmental Flows Initiative



Tx E Flows
Initiative's goals
are twofold

1. **Capitalize on Deepwater Horizon Oil Spill funds** to launch a water market that benefits bays and estuaries
2. **Lay groundwork for ongoing funding** for water transactions that protect the environment



Broad funding support

- Harte Charitable Foundation
- Houston Endowment
- LH Holdings, Inc.
- The Meadows Foundation
- The Cynthia & George Mitchell Foundation
- National Fish and Wildlife Foundation
- The Water Funder Initiative



Transaction 1: Freshwater Restoration in Chenier Plain



Build coastal resilience

- Use oil spill funding to sustain inflows
- Manage storm surge and erosion

Adapt infrastructure

- Cooperate with agriculture to sustain water supplies
- Invest in opportunities to secure e-flows and keep farmers on land

Restore marshes

- Increase freshwater flow in the National Wildlife Refuges
- Support restoration in priority Chenier Plain

Transaction 2: Ag/land combo deal



Create refugium

- Dedicate substantial portion of water right to sustain inflows
- Establish refuge for oysters in drought years
- Prevent water export

Transition farming

- Support continued dryland farming
- Find private investment to lower deal cost

Replicable deal

- Leverage private financing to upsize scale of potential deals

Transaction 3: Storage for bay flows



Create refugium

- Reserve storage for dry period inflows
- Accelerate drought recovery for marine species



Timed delivery

- Establish precedent for River Authority cooperation
- Tap into economic development funds for e flows



Replicable deal

- Evidence that infrastructure and e flows can be co-financed
- Risk of greenlighting water development must be managed

Challenges

- Lower basin water rights are highly consolidated
- Oil spill funding wants aquatics + avian benefits
- SB3 science focused on needs, to get funding we need science of benefits
- Need transactors that specialize in types of water and ecologies



Funding Diversification

- Need to look beyond the Gulf, beyond RESTORE
- RESTORE will bring \$1 billion over 15 years
- Texas Water Development Board (TWDB) funds \$1 billion every 2-3 years
- In 2019, TWDB will allow for permanent or long-term water rights acquisitions to be funded through Clean Water State Revolving Fund, a source of up to \$550 million a year





Goals Ahead

- Recruit new transactors
- Provide core funding & technical support
- Test new funding tools
- Define near- and long-term goals for freshwater protection through transactions
- Advance policy adjustments, e.g. requirement to divert water to protect inflows
- Develop monitoring frameworks to ensure water delivery and ecological benefit



Thank You

