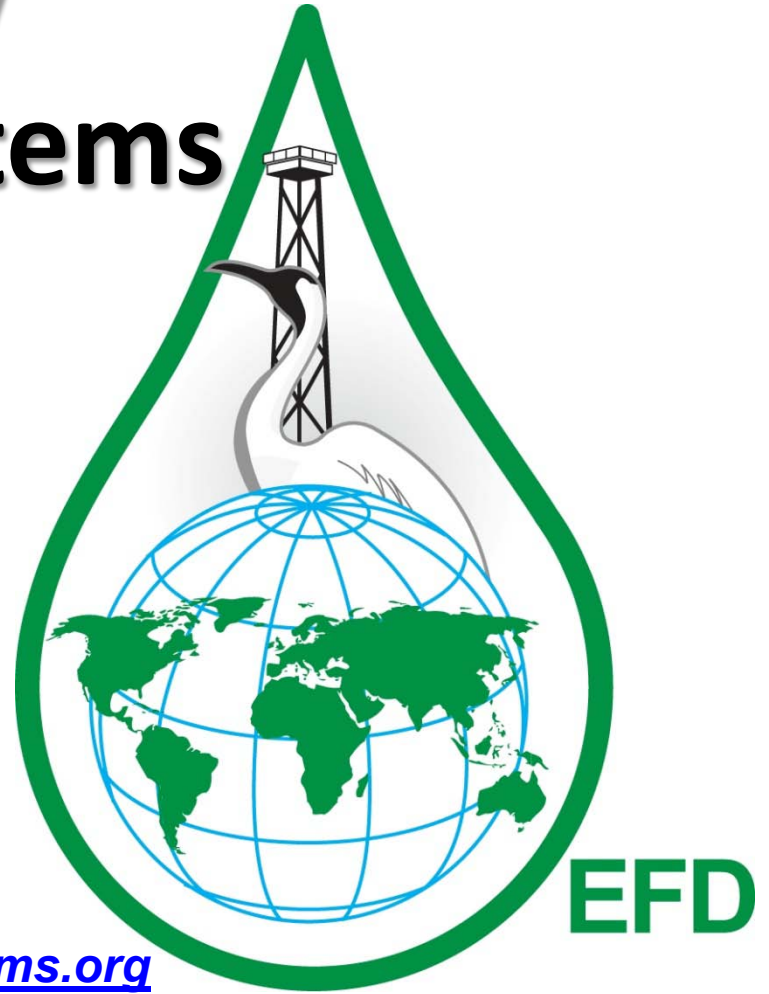


# Environmentally Friendly Drilling Systems Program



## Workshop May 26, 2011



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# The EFD Team

Co-funded by RPSEA, BOEMRE, Industry, Environmental Organizations

## SPONSORS



## MANAGEMENT TEAM



## ENVIRONMENTAL ORGANIZATIONS



## COLLABORATORS



American Association of Petroleum Geologists  
An International Geological Organization

## ALLIANCE MEMBERS

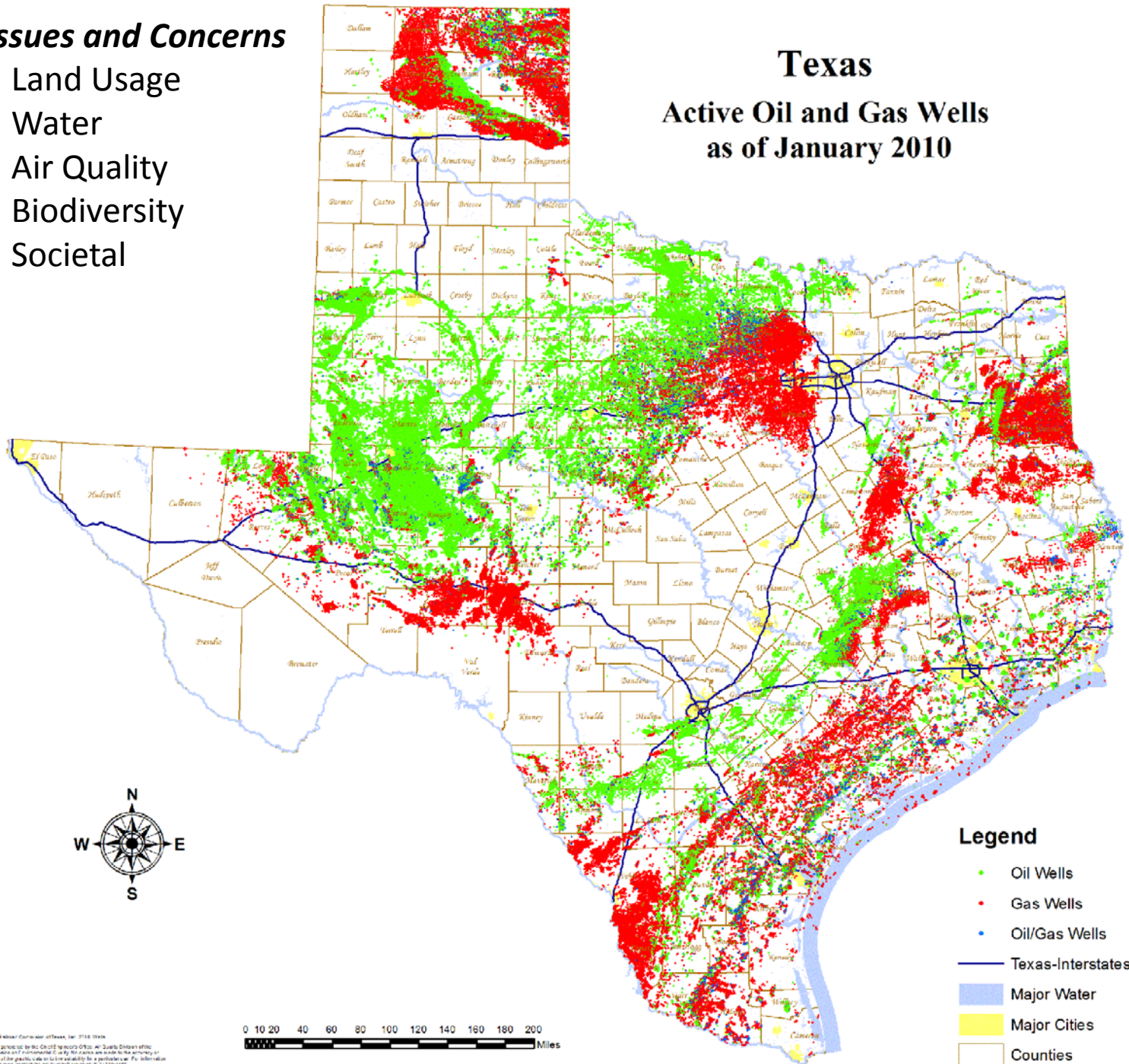


## Issues and Concerns

- Land Usage
- Water
- Air Quality
- Biodiversity
- Societal

# Texas

## Active Oil and Gas Wells as of January 2010





# Tradeoff Scorecard Development

## EFD Facts

Project:

Location:

Ecosystem:

	Max	Score
<b>AIR</b>	<b>10</b>	<b>0</b>
<b>WATER</b>	<b>15</b>	<b>0</b>
<b>SITE</b>	<b>15</b>	<b>0</b>
<b>WASTE MANAGEMENT</b>	<b>20</b>	<b>0</b>
<b>BIODIVERSITY/HABITAT</b>	<b>20</b>	<b>0</b>
<b>SOCIETAL</b>	<b>20</b>	<b>0</b>
	<b>100</b>	<b>0</b>



## Environmentally Friendly Drilling Scorecard

Project:  
Location:  
Ecosystem: Semi-Arid  
Date:

0 Points Achieved Possible Points: 100

★ 55 - 64 points   ★★ 65 - 74 points   ★★★ 75 - 84 points   ★★★★ 85 - 94 points   ★★★★★ 95 - 100 points

0 Air		Possible Points: 10	0 Biodiversity/Habitat		Possible Points: 15	
<input type="checkbox"/>	Prerq 1	Compliance w/Air Quality Regs	<input type="checkbox"/>	Prerq 1	Species Protection	
<input type="checkbox"/>	Credit 1	Contractual Obligations for Logistics	2	<input type="checkbox"/>	Prerq 2	Habitat Protection/Enhancement
<input type="checkbox"/>	Credit 2	Site Emissions	2	<input type="checkbox"/>	Prerq 3	Regulatory Requirements
<input type="checkbox"/>	Credit 3	Dust Suppression	2	<input type="checkbox"/>	Credit 1	Restoration/Interim Reclamation
<input type="checkbox"/>	Credit 4	Clean Power	3	<input type="checkbox"/>	Credit 2	Reduction of Surface Disturbance
<input type="checkbox"/>	Credit 5	Green Completions	1	<input type="checkbox"/>	Credit 3	Erosion Prevention
				<input type="checkbox"/>	Credit 4	Voluntary Offsite Mitigation
				<input type="checkbox"/>	Credit 5	Invasive Species Prevention
				<input type="checkbox"/>	Credit 6	Reintroduction of Species, Habitat
				<input type="checkbox"/>	Credit 7	Avoidance of High Value Areas
				<input type="checkbox"/>	Credit 8	Wildlife and Habitat

0 Water		Possible Points: 20	0 Societal		Possible Points: 15	
<input type="checkbox"/>	Prerq 1	Stormwater Management Plan	<input type="checkbox"/>	Prerq 1	Regulatory Compliance	
<input type="checkbox"/>	Prerq 2	Integrity Testing of Surface Casing	<input type="checkbox"/>	Prerq 2	Communication Plan	
<input type="checkbox"/>	Credit 1	Water Management Plan	9	<input type="checkbox"/>	Credit 1	Public Outreach
<input type="checkbox"/>	Credit 2	Setbacks from Streams/Sources	4	<input type="checkbox"/>	Credit 2	Noise and Lighting Control
<input type="checkbox"/>	Credit 3	Mitigation Measures/Protect Waters	4	<input type="checkbox"/>	Credit 3	Training of Local First Responders
<input type="checkbox"/>	Credit 4	Reduce Water Usage	2	<input type="checkbox"/>	Credit 4	Air Quality Monitors
<input type="checkbox"/>	Credit 5	Reuse of Water/Fluids	1	<input type="checkbox"/>	Credit 5	Emergency Response Plan
				<input type="checkbox"/>	Credit 6	Dispute Resolution Plan
				<input type="checkbox"/>	Credit 7	Surface Use Plan
				<input type="checkbox"/>	Credit 8	Unintended Consequences Program

0 Site		Possible Points: 20
<input type="checkbox"/>	Prerq 1	Regulatory Compliance
<input type="checkbox"/>	Prerq 2	Erosion & Sedimentation Control
<input type="checkbox"/>	Credit 1	Pre-Existing Site
<input type="checkbox"/>	Credit 2	Pad Drilling
<input type="checkbox"/>	Credit 3	Protect and Restore Habitat
<input type="checkbox"/>	Credit 4	Contractor Guidelines
<input type="checkbox"/>	Credit 5	Site Restoration Plan
<input type="checkbox"/>	Credit 6	Well Design Considerations
<input type="checkbox"/>	Credit 7	Living Quarters and People
<input type="checkbox"/>	Credit 8	Organic Materials
<input type="checkbox"/>	Credit 9	Pre-Plan for Production
<input type="checkbox"/>	Credit 10	Match Site/Access to Topography
<input type="checkbox"/>	Credit 11	Logistics Plan - Offsite Storage
<input type="checkbox"/>	Credit 12	Planting of Native Vegetation

0 Waste Management		Possible Points: 20
<input type="checkbox"/>	Prerq 1	Waste Management Plan
<input type="checkbox"/>	Prerq 2	Pit Design Pre-site Assessment
<input type="checkbox"/>	Credit 1	Drilling Fluid Handling System
<input type="checkbox"/>	Credit 2	Lubricants, Fluids, Bulk Materials
<input type="checkbox"/>	Credit 4	Spill Prevention System
<input type="checkbox"/>	Credit 5	Cuttings Reuse
<input type="checkbox"/>	Credit 6	Cuttings Reinjection

## EFD Facts

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<b>WASTE MANAGEMENT</b>	<b>20</b>	<b>0</b>
<b>BIODIVERSITY/HABITAT</b>	<b>15</b>	<b>0</b>
<b>SOCIETAL</b>	<b>15</b>	<b>0</b>
	<b>100</b>	<b>0</b>





# Scorecard Status

- **Guidebook Drafted**
- **Need to Benchmark and Test Scorecard**
- **Work with Operating Companies**
  - Hold discussions with drilling engineer(s)
  - Review well file(s)
  - Visit sites (if practicable)
  - No changes to plans/activities
  - All information kept confidential



# It's not so hard to be green



Questions?

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**Thank you**