



Inland Fisheries Division

Environmental Response and Restoration Program

Inland Kills and Spills Team

Alan Butler

TPWD Kills and Spills Team Regional Contacts

Alan Butler

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Cell (512)422-8054

Email: alan.butler@tpwd.state.tx.us

24 Hour Hotline

Austin (512)389-4848

Houston (281)842-8100



Texas Parks and Wildlife Department Kills and Spills Team



If you see dead or dying fish and wildlife, or pollution threatening fish and wildlife, call one of the regional biologists or 24 hour Communications Centers below immediately! Or call your local Game Warden.

24 Hour Communications Centers

Main:
(512) 389-4848
4200 Smith School Road
Austin, Texas 78744

Houston Area:
(281) 842-8100
117 East Avenue A.
La Porte, Texas 77751

Region 1

Texas Parks and Wildlife Department
4200 Smith School Road
Austin, Texas 78744

Alan Butler

Office: (512) 389-8612
Mobile: (512) 422-8054
Fax: (512) 389-8160
Email: alan.butler@tpwd.state.tx.us

1601 East Crest Dr.
Waco, Texas 76705

Jennifer Bronson

Office: (254) 867-7986
Mobile: (512) 680-7470
Fax: (254) 867-6839
Email: jennifer.bronson@tpwd.state.tx.us

Region 2

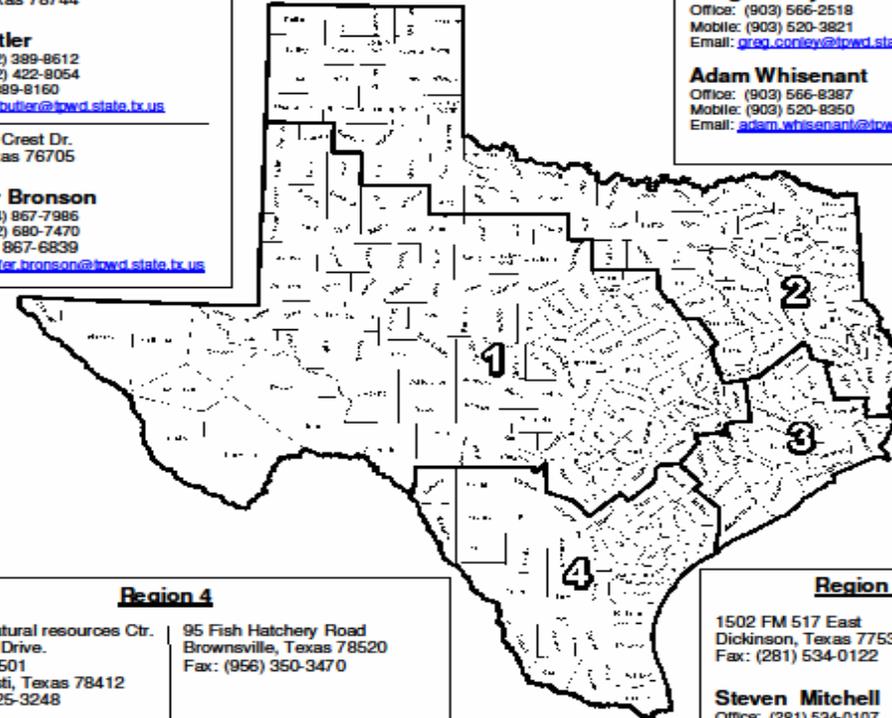
11810 FM 848, Tyler, Texas
Fax: (903) 566-2357

Greg Conley

Office: (903) 566-2518
Mobile: (903) 520-3821
Email: greg.conley@tpwd.state.tx.us

Adam Whisenant

Office: (903) 566-8387
Mobile: (903) 520-8350
Email: adam.whisenant@tpwd.state.tx.us



Region 4

TAMUCC Natural resources Ctr.
6300 Ocean Drive.
NRC Suite 2501
Corpus Christi, Texas 78412
Fax: (361) 825-3248

Alex Nuñez

Office: (361) 825-3246
Mobile: (361) 658-3181
Email: alex.nunez@tpwd.state.tx.us

95 Fish Hatchery Road
Brownsville, Texas 78520
Fax: (956) 350-3470

Willy Cupit

Office: (956) 350-4491
Mobile: (956) 465-9287
Email: willy.cupit@tpwd.state.tx.us

Region 3

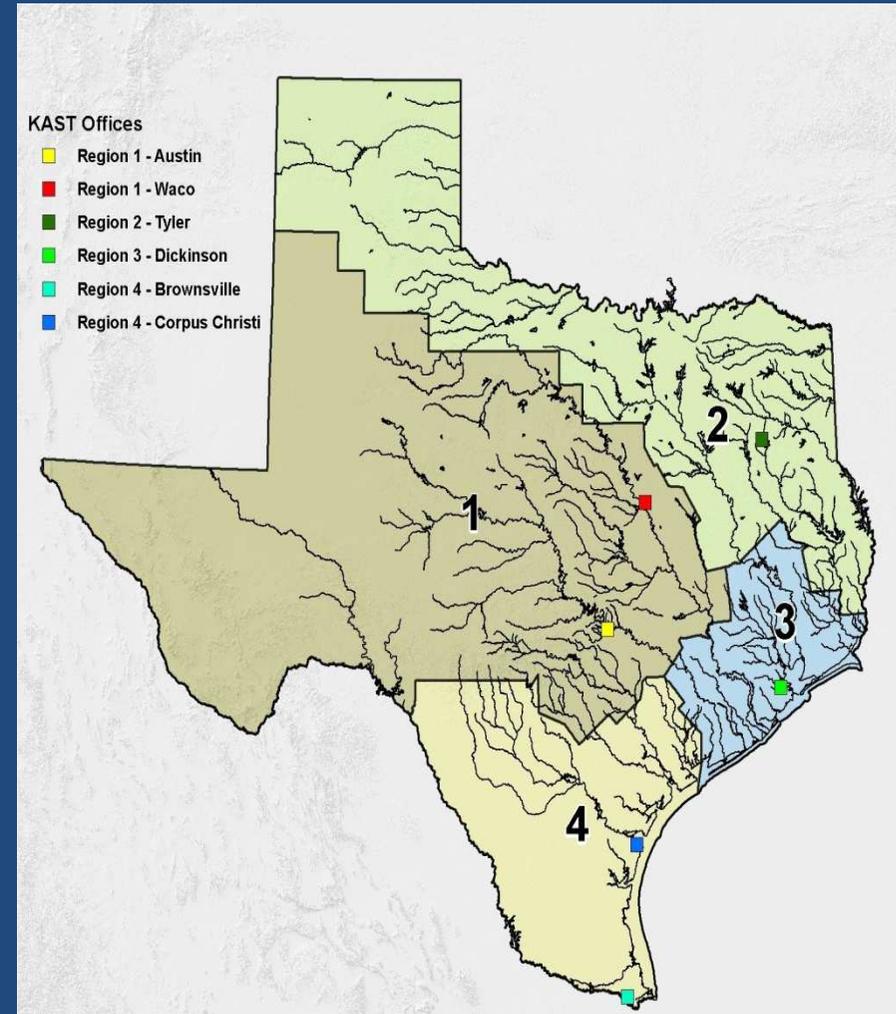
1502 FM 517 East
Dickinson, Texas 77539
Fax: (281) 534-0122

Steven Mitchell

Office: (281) 534-0107
Mobile: (281) 705-5692
Email: steven.mitchell@tpwd.state.tx.us

Challenges

- Fewer responders for a large geographic area.
- Same or increased workload.
- Cross divisional/program coordination.
- Adapt to a new model.



“Protection of State Fish and Wildlife Resources”

Reactive, Proactive, and Restoration

Reactive Priorities

Fish Kills

- **Natural events impacting sport and game fish, commercial, and other recreationally important species.**



Pollution Events

- **Impacts to fish, wildlife, and/or highly sensitive habitat.**
- **Natural disasters**



PRISM Data Entry

Proactive Priorities



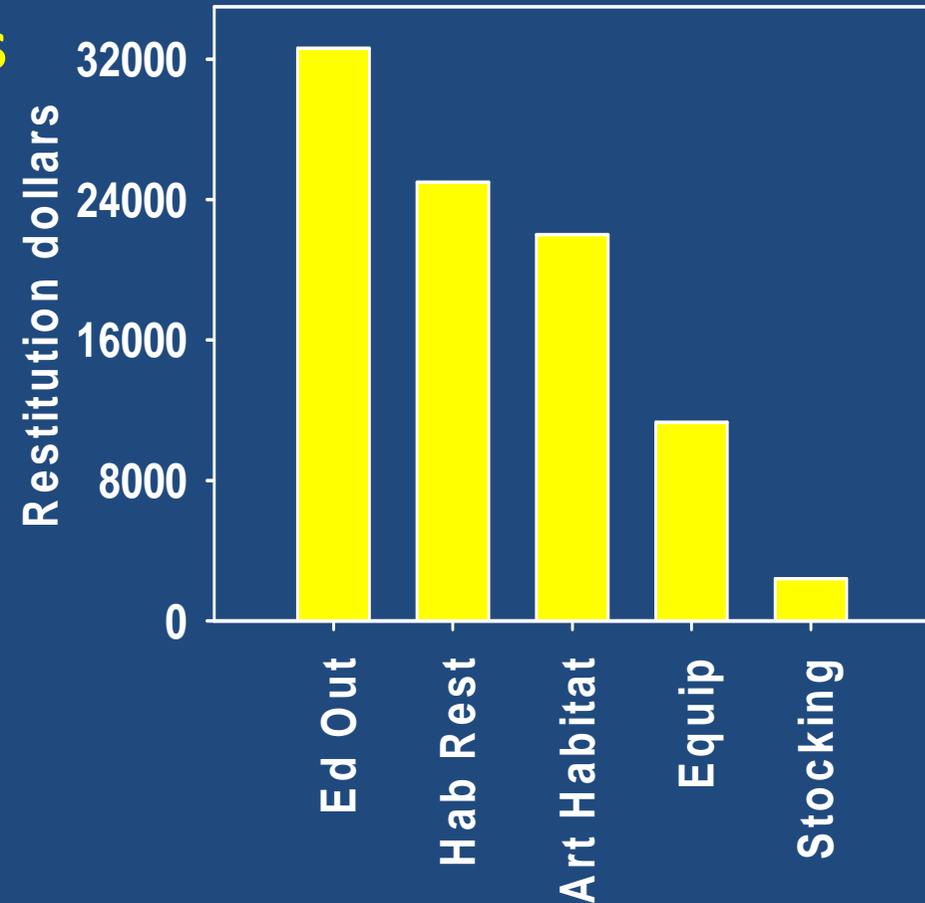
- **Technical Advisory**
 - **Workgroup and Committee Participation**
 - **Review and comment on permits directly impacting aquatic resources.**
 - **Review and comment on proposed state water quality standards impacting aquatic and wildlife resources.**
- **Technical Training**



Restoration Priorities

- Compensation for impacts to resources.
- Restoration
- Project Enhancement

Civil Restitution 2002-2012



Golden Alga



POLLUTION

Types

Can occur naturally:

**Weather related - hurricane,
thunderstorm, tornado, cold fronts.**

Man made:

Oil storage tank failure

Pipeline break

**Transportation related - Highway
vehicle accident, train derailment**

Intentional dumping or release.



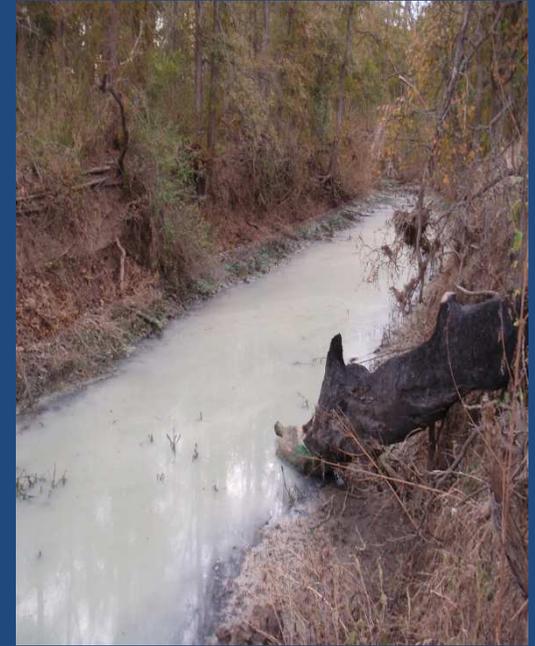
POLLUTION

Industrial

Petroleum – highway vehicle, oil spills, brine water and mud pit discharges, refinery, equipment failure (pipeline break, storage tank, valves).

Chemical – highway vehicle, rail car, chemical plant.

Power Generation – power plants



POLLUTION

Sources

Municipal

Sewage Treatment Plant

unauthorized discharge
(lift station, manhole, pipeline
break, chlorine)

Water Treatment Plant

unauthorized discharge
(pipeline break, chlorine)

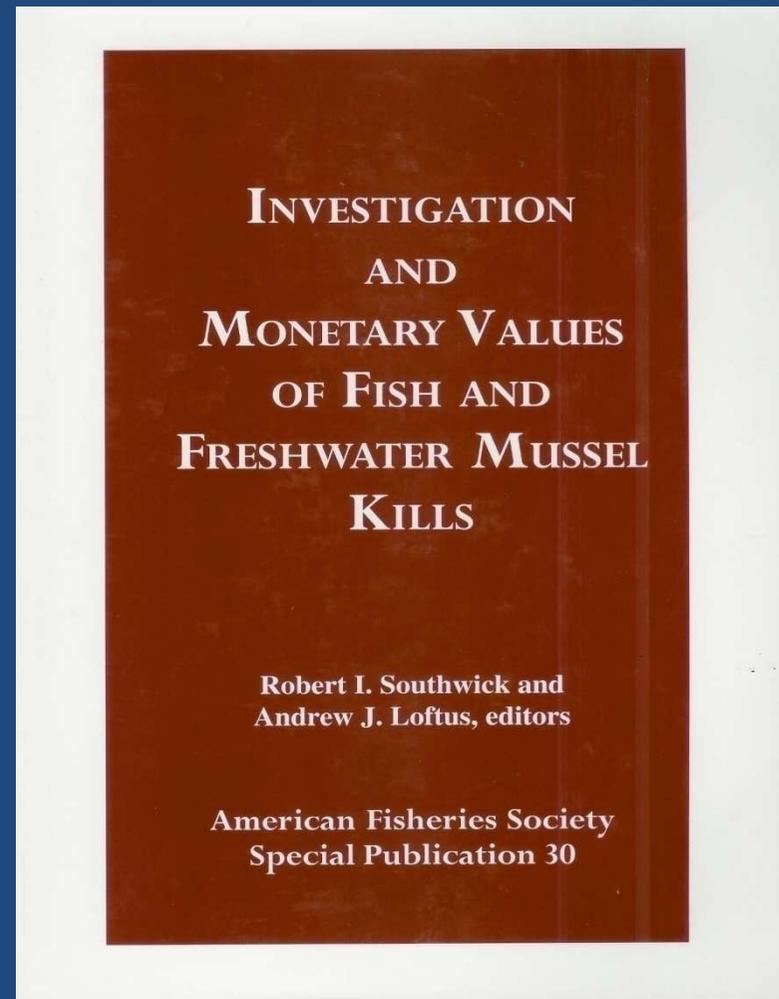


Early Notification is the Key to Any Successful Investigation



Investigation Methods

- Follow KAST standard operating procedures based on AFS guidelines for investigations.
- Use AFS guidelines in estimating total number of dead fish.



Civil Restitution

- *Section 9.11 (e)(1) (N) of Title 31 of the Texas Administrative Code states the following: “In accordance with Texas Parks and Wildlife Code, Section 12.301, a permittee or contractor is liable to the State for the value of the fish and wildlife taken, killed, or injured by work under a permit.”*
- *This agency is authorized by Sections 12.0011 (b)(1) and 12.301 of the Texas Parks and Wildlife Code to investigate fish kills and any type of pollution that may cause loss or injury to fish or wildlife resources, to identify the cause and parties responsible for the fish kill or pollution, and to seek restitution for these losses or injuries.*
- *The [Potential Responsible Party] could be asked to pay restitution for the resources lost or injured during the above referenced incident.*

Civil Restitution

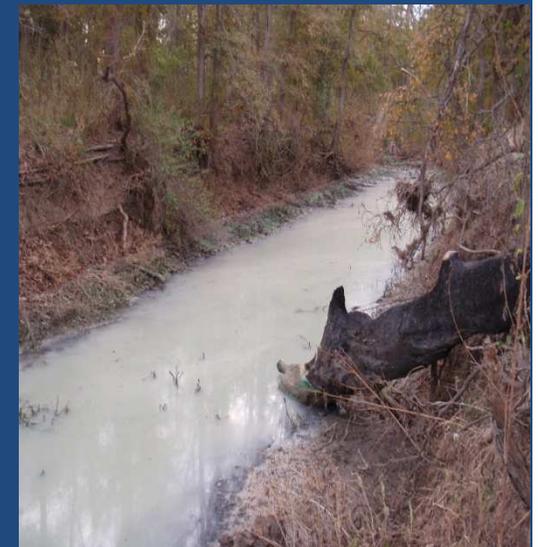
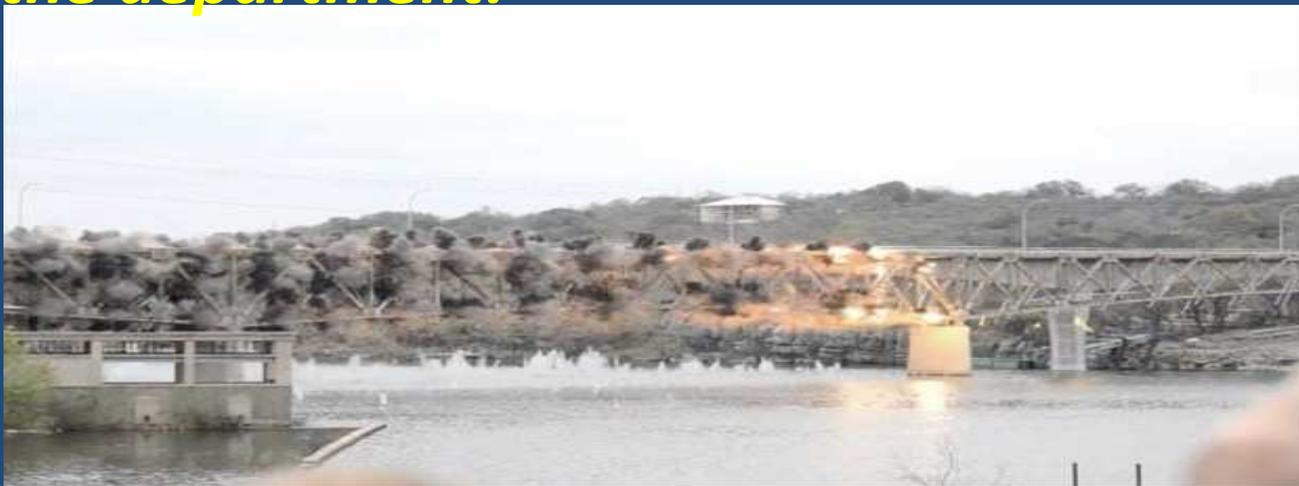
- Restitution is not a penalty or fine, but the total calculated sum of monetary value of the resources lost or injured plus the investigation/response costs incurred by TPWD. It is TPWD policy to use these funds to restore, replace, or complete studies on resources similar to those that were lost or injured.

Explosives

66.003 PLACING EXPLOSIVES OR HARMFUL SUBSTANCES IN WATER.

(a) No person may place in the water of this state an explosive, poison, or other substance or thing deleterious to fish.

(b) Subsection (a) of this section does not apply to the use of explosives necessary for construction purposes when the use is authorized in writing by the department.



Illegal Means and Methods

Texas Administrative Code §57.973:

Lists the authorized devices, means and methods for taking fish and other aquatic life. The list of authorized means and methods does not include dewatering/asphyxiation, explosives, construction or maintenance activities, electroshock, or poisons.



Leaving Fish to Die

Killing Fish During In-Stream Activities

A person commits an offense if the person leaves edible fish or bait fish taken from the public waters of this state to die without the intent to retain the fish for consumption or bait. (P&W Code 66.011)



Section 66.015 of the TPW Code States:

The department is required to consider the impacts of any taking or stocking of species on the existing biological ecosystem.

The department may enter into written agreements with other entities to take, transport, or release fish and wildlife.



Texas Administrative Code

Stocking Permit Section 12.301

If any aquatic organisms are to be stocked or relocated within the State a Permit to Introduce Fish, Shellfish, or Aquatic Plants into Public Waters needs to be completed. The Aquatic Relocation Plan is a part of this permit process to ensure that best management practices are used.



Aquatic Resource Relocation Plans



Aquatic Resource Relocation Plans

Exact location.

Purpose of the activity.

Notification in advance to develop plan.

Method of collecting and moving the aquatic life.

Types and sizes of containers to be used.

Transportation methods and destination.

Documentation and disposal of dead and non-native fishes.

The best management practices (BMPs).

Estimation of the time expected to complete the fish and mussel removal operation.

Identify any state or federally threatened or endangered species that may occur.

Identify all freshwater mussels that may become stranded due to the operation. Explain what methods will be used to protect the mussels.



What did we learn?



Seeling Channel Woodlawn Lake

| Species Relocated | Day 1 | Day 2 | Day 3 | Day 4 | TOTAL |
|---|------------|-------------|-------------|-------------|-------------|
| Largemouth Bass (<i>Micropterus salmoides</i>) | 15 | 4 | 1 | 3 | 23 |
| Bullhead Catfish (<i>Ameiurus melas</i>) | 5 | 44 | 36 | 110 | 195 |
| Channel Catfish (<i>Ictalurus punctatus</i>) | 0 | 0 | 1 | 0 | 1 |
| Bluegill (<i>Lepomis macrochirus</i>) | 87 | 815 | 1022 | 1794 | 3718 |
| Warmouth (<i>Lepomis gulosus</i>) | 48 | 433 | 454 | 975 | 1910 |
| Rio Grande Cichlid (<i>Cichlasoma cyanoguttatum</i>) | 1 | 188 | 30 | 236 | 455 |
| Green Sunfish (<i>Lepomis cyanellus</i>) | 8 | 59 | 27 | 135 | 229 |
| Golden Shiner (<i>Notemigonus crysoleucas</i>) | 4 | 247 | 528 | 678 | 1457 |
| Red Shiner (<i>Cyprinella lutrensis</i>) | 0 | 20 | 1 | 7 | 28 |
| Mosquitofish (<i>Gambusia affinis</i>) | 0 | 1 | 18 | 25 | 44 |
| Longear Sunfish (<i>Lepomis megalotis</i>) | 0 | 2 | 1 | 0 | 3 |
| Texas Shiner (<i>Notropis amabilis</i>) | 0 | 0 | 1 | 0 | 1 |
| Common Carp (Invasive) (<i>Cyprinus carpio</i>) | 17 | 3 | 0 | 1 | 21 |
| Blue Tilapia (Invasive) (<i>Oreochromis aureus</i>) | 2 | 9 | 16 | 4 | 31 |
| Koi (Invasive) (<i>Cyprinus carpio</i>) | 0 | 0 | 1 | 1 | 2 |
| GRAND TOTAL | 187 | 1825 | 2137 | 3969 | 8118 |

| Species Killed | Day 1 | Day 2 | Day 3 | Day 4 | TOTAL |
|---|-----------|-----------|-----------|-----------|------------|
| Bluegill (<i>Lepomis macrochirus</i>) | 12 | 8 | 31 | 34 | 85 |
| Warmouth (<i>Lepomis gulosus</i>) | 1 | 2 | 2 | 9 | 14 |
| Rio Grande Cichlid (<i>Cichlasoma cyanoguttatum</i>) | 0 | 0 | 0 | 1 | 1 |
| Green Sunfish (<i>Lepomis cyanellus</i>) | 0 | 3 | 0 | 0 | 3 |
| Golden Shiner (<i>Notemigonus crysoleucas</i>) | 3 | 0 | 44 | 35 | 82 |
| Red Shiner (<i>Cyprinella lutrensis</i>) | 0 | 0 | 0 | 1 | 1 |
| GRAND TOTAL | 16 | 13 | 77 | 80 | 186 |

| Non-Fish Species Relocated | Day 1 | Day 2 | Day 3 | Day 4 | Total |
|--|-------|-------|-------|-------|-----------|
| River Cooter (<i>Pseudemys concinna</i>) | 1 | 3 | 0 | 5 | 9 |
| Red-eared Slider (<i>Trachemys scripta elegans</i>) | 4 | 6 | 2 | 19 | 31 |
| Diamond Back Water Snake (<i>Nerodia rhombifer</i>) | 1 | 0 | 0 | 0 | 1 |
| Box Turtle (<i>Terrapene Carolina</i>) | 0 | 1 | 0 | 0 | 1 |
| Yellow Mud Turtle (<i>Kinosternon flavescens</i>) | 0 | 4 | 0 | 3 | 7 |
| Map Turtle (<i>Graptemys geographica</i>) | 0 | 1 | 0 | 1 | 2 |
| Common Snapping Turtle (<i>Chelydra serpentine</i>) | 0 | 0 | 1 | 5 | 6 |
| Rio Grande Leopard Frog Tadpoles (<i>Rana berlandieri</i>) | 0 | 1 | 0 | 8 | 9 |
| Crawfish | 0 | 0 | 1 | 3 | 4 |
| TOTAL | | | | | 71 |

Marble Falls Bridge Demolition



Case Scenario

Hydrochloric Acid (HCL)

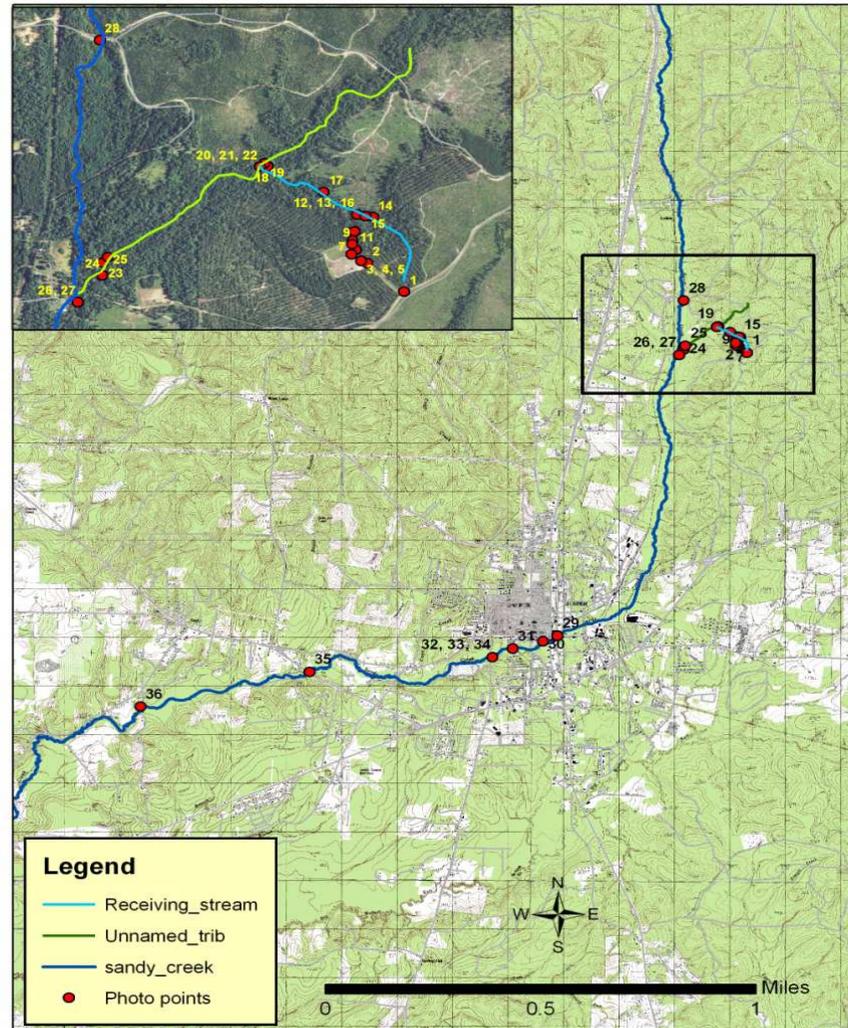
- Jasper County, February 2011
- Sandy Creek and two of its tributaries
- Source == oil field - hydraulic fracturing
- Could have been prevented

Sandy Creek Fish Kill

- **11 mile long fish kill**
- **Water quality impacts in excess of 15 miles**
- **Killed an estimated 3,897 fish consisting of 24 species, and aquatic invertebrates, including crayfish.**

Sandy Creek fish kill

Sandy Creek fish kill, Jasper County, February 2011



There is no claim to the accuracy of this map. It is for reference only.

Sandy Creek Fish Kill



Sandy Creek Fish Kill



Sandy Creek Fish Kill



Sandy Creek fish kill



pH 1.9 su



pH 2.9 su



CIVIL RESTITUTION

Total value of dead fish = \$21,770.47

Total Investigation Costs = \$8,200.73

Total Civil Restitution recovered from RP

\$29,970.20

Questions?

