

# Development of Upper Llanos Watershed Management Plan



*Tyson Broad*

# What is a Watershed?

- ▶ John Wesley Powell

- "that area of land, a bounded hydrologic system, within which all living things are inextricably linked by their common water course and where, as humans settled, *simple logic demanded that they become part of a community.*"

# Some Components of a Watershed Management Plan


- ▶ Build Partnerships and Outreach
  - ▶ Characterize the Watershed
  - ▶ Develop Action Plan
- 

# Build Partnerships and Outreach

- ▶ Brochure
- ▶ PowerPoint



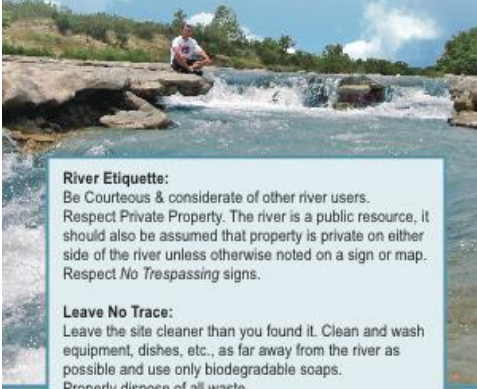
**WHAT IS A WATERSHED?**



An area of land that water flows across, through, or under on its way to a stream, river, lake, ocean or other body of water. We all live in a watershed.

**LAND OF LIVING WATERS**

Texas Hill Country spring-fed flows are legendary among outdoor enthusiasts and nature lovers alike. The Llano River watershed serves as both a diverse and productive natural ecosystem and a water supply to local and downstream communities, and is an integral component of our community. Preserving its flows are not only an environmental issue, but also an economic, cultural, and historical one as well. Future generations depend on our efforts to protect and preserve this valuable resource.



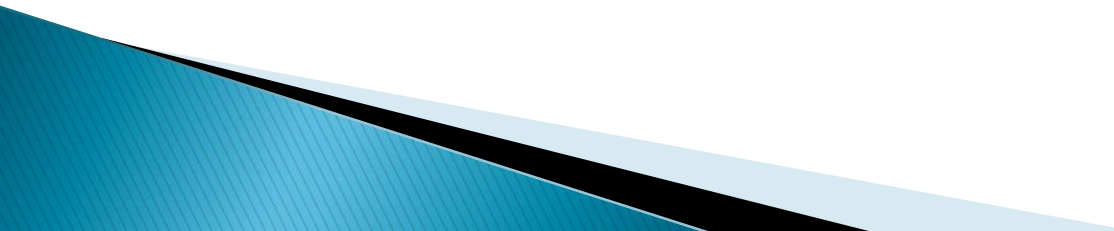
**River Etiquette:**  
Be Courteous & considerate of other river users.  
Respect Private Property. The river is a public resource, it should also be assumed that property is private on either side of the river unless otherwise noted on a sign or map.  
Respect No Trespassing signs.

**Leave No Trace:**  
Leave the site cleaner than you found it. Clean and wash equipment, dishes, etc., as far away from the river as possible and use only biodegradable soaps.  
Properly dispose of all waste.

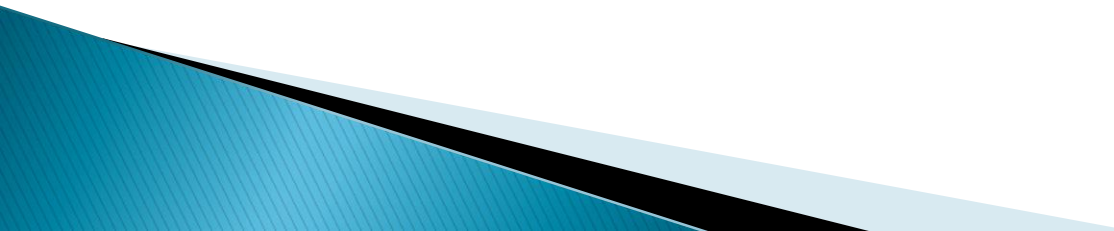
**South Llano Watershed Alliance** was established to ensure the long-term protection of the river and its associated spring-flows. *Join the alliance and together we can learn what the river means to our area... what threats it faces... and how you can help protect this precious resource.*

SOUTHLLANO.ORG

# How do I get involved?...

- 1) Name
  - 2) What can we do to make the watershed better?
  - 3) Are you a planner, an advisor, a doer, a watcher?
  - 4) What area of expertise can you bring to the plan?...communication, writing, research
- 

# *Identified Issues*

- ▶ Water Conservation
  - ▶ Junior and Senior Water Rights–water master
  - ▶ Range Improvements–prescribed burns
  - ▶ More community awareness
  - ▶ Riparian Improvement
  - ▶ Prevent trespassing and reduce litter
  - ▶ Small dams
  - ▶ Invasive Species
- 

# *Identified Issues*

All issues with the exception of water master identified in previous workshops with stakeholders...plus

... impacts of Oasis Pipeline Fire



# *Land of the Living Waters*

## A Characterization of the South Llano River, its Springs and its Watershed

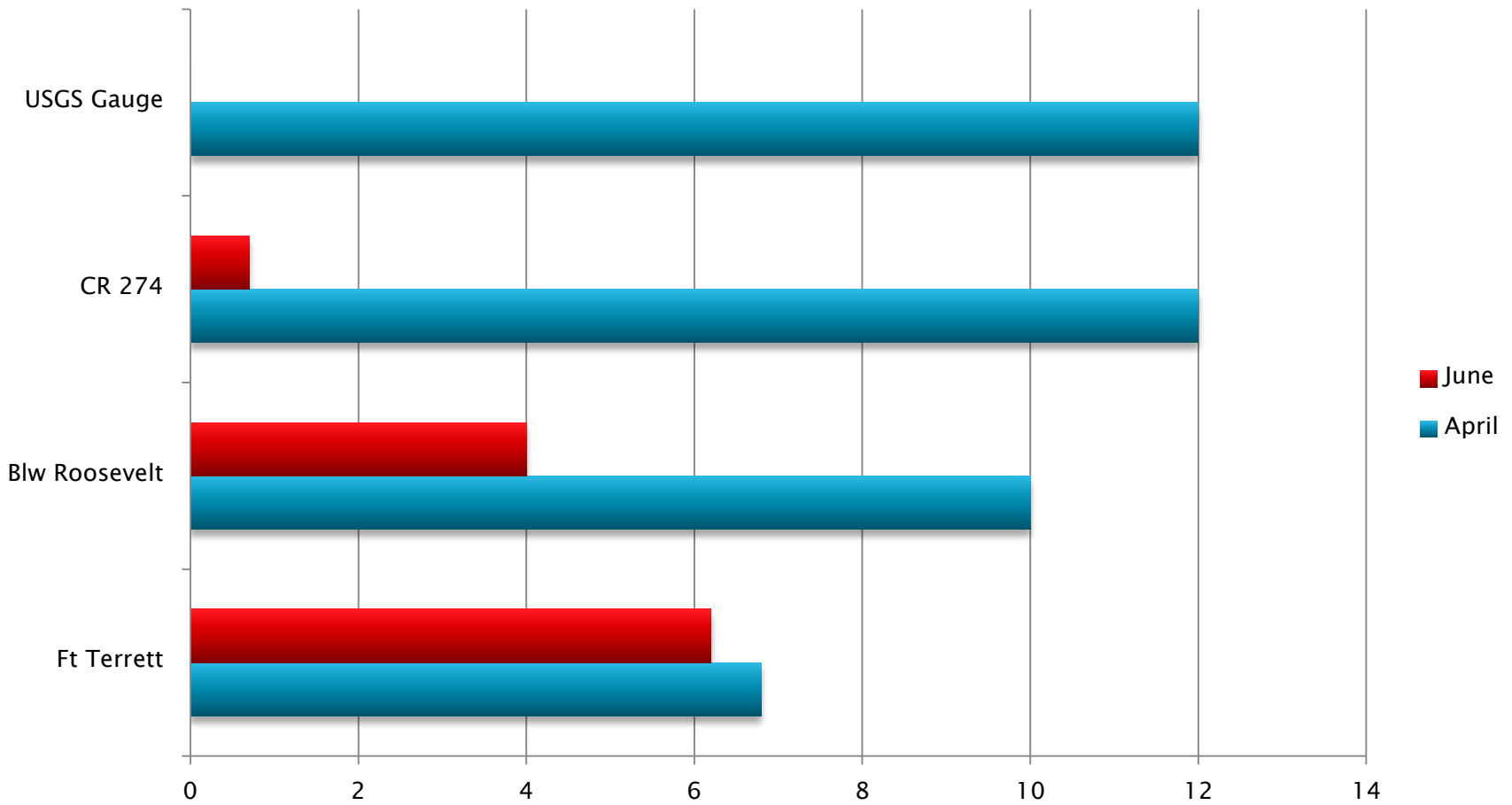


ENVIRONMENTAL DEFENSE FUND

finding the ways that work

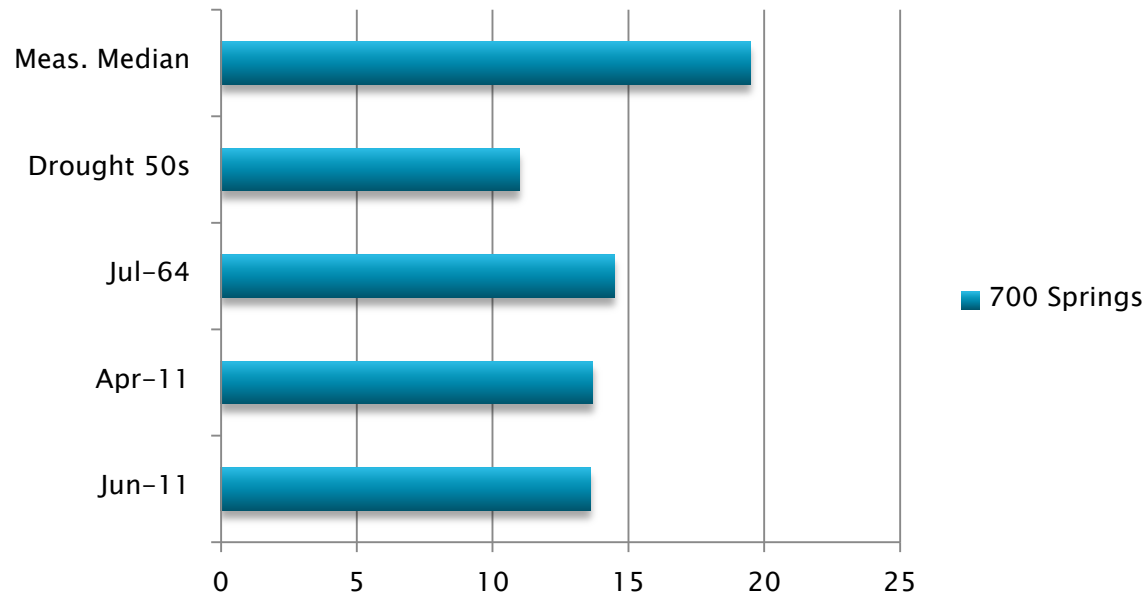


# Flows of 2011



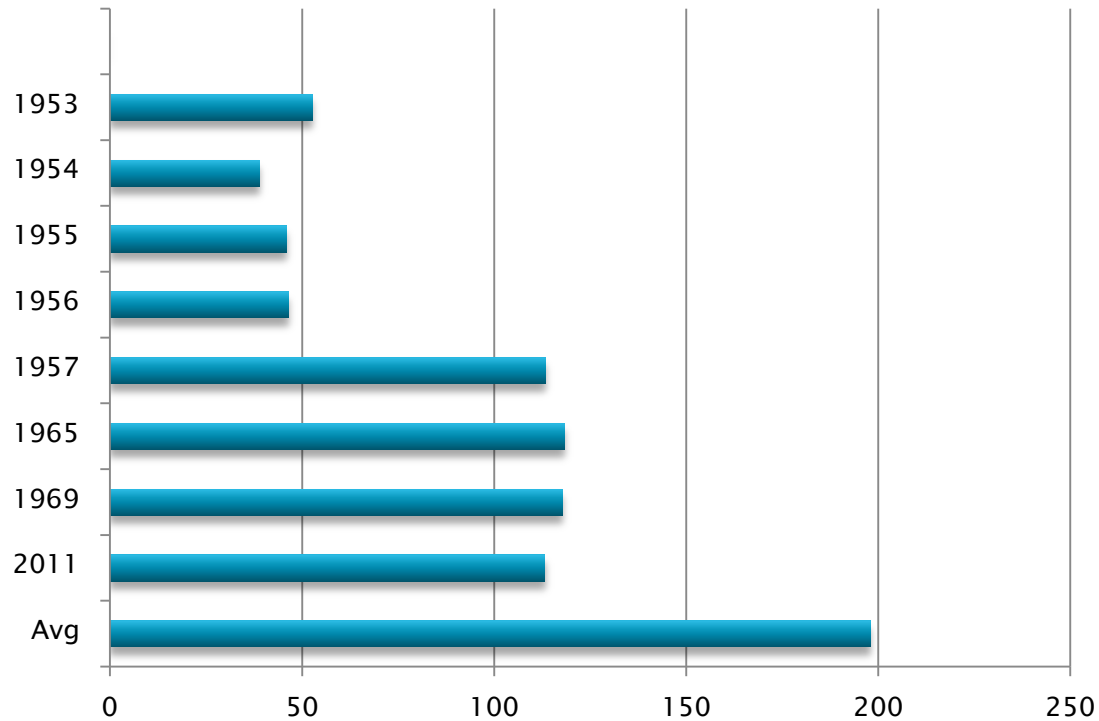
# Future of Drought in 2011

## 700 Springs



# Future of Drought in 2011

*Llano River @ Junction  
4- year annual average*



# Some Components of a Watershed Management Plan

- ▶ Build Partnerships and Outreach
- ▶ Characterize the Watershed
- ▶ **Develop Action Plan**

# Develop Action Plan

## South Llano River Project Action Plan December 2008

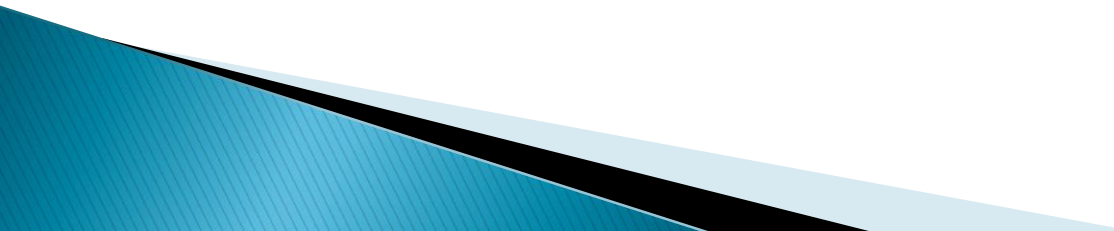
Participant Issues and Suggestions

Tasks: Short Range, Mid Range, Long Range

Community Involvement

Land Management Issues

Water Management Issues



# Draft Watershed Management Plan

## Terrestrial

...need N Llano info..may be able to fold it in w/ S Llano statement

The South Llano River is also a principal component of unique biological communities and ecological systems found in the Edwards Plateau region: Lacey–oak–Ashe juniper woodland, Southern Great Plains canyon forests, Edwards Plateau shaded cliff and rock outcrops, and Southern Great Plains streambed herbaceous vegetation. These unique areas provide habitat for native hardwoods such as Spanish oak, Escarpment Black Cherry, and Texas Mountain laurel, as well as a variety of moss found only in Edwards County. The Endangered Tobusch Fishhook Cactus is found in the South Llano River watershed, as are the Golden–Cheeked Warbler and Black–Capped Vireo. The riparian corridor along the river also provides critical wildlife habitat for Rio Grande Turkey and White–tailed deer.

Soils (need info for both basins)

Water Resources (need N Llano info and update with recent information re groundwater recharge and possible flow patterns)

Unlike many rivers in West Texas, the South Llano River has never ceased to flow in recorded history. The US Geological Survey (USGS) has maintained a stream gauge just below the confluence of the North and South Llano Rivers since 1915. Figure 2 shows the median monthly discharge

# *Guadalupe Bass Restoration Initiative*



**South Llano  
Watershed Alliance**

Enjoy the Llano!