Lampasas River Watershed Partnership

Agriculture and Wildlife Work Group Meeting
August 16, 2010

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Blackland Research & Extension Center

Introductions

Past Business

July Steering Committee Report

- Approved changes to the Partnership Ground Rules, merging Work Groups
  - Agriculture and Wildlife Work Group
  - Urban Nonpoint Source Work Group
- Approved Fecal Coliform Conversion Method
  - Texas Surface Water Quality Standards
    - *E. coli* geometric mean to fecal coliform geometric mean ratio (SWQS)
    - *E. coli*/ Fecal coliform = 0.63
- Approved Land Use analysis
- Approved SELECT model results

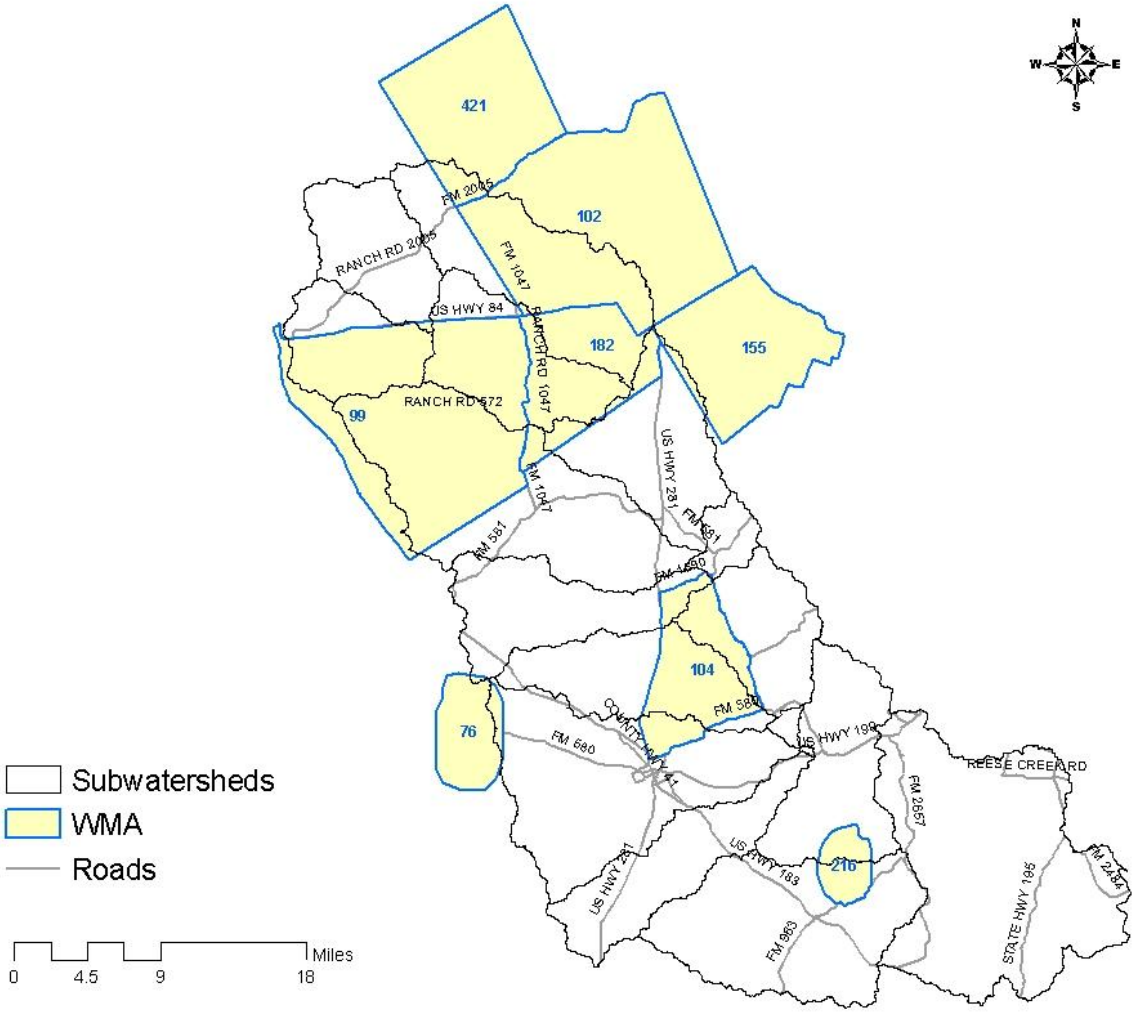
July Steering Committee Report

- Approved Water Quality Goals for the Lampasas River WPP
  - Adopt State Surface Water Quality Standards
    - Fecal Coliform: geomean < 200 cfu per 100 ml
    - *E. coli* : geomean < 126 cfu per 100 ml
    - Chloride: mean < 500 mg/l
    - Sulfate: mean < 100 mg/l
    - Total Dissolved Solids: mean < 1200 mg/l
    - Dissolved Oxygen: ≥3.0 mg/l
    - Nitrate Nitrogen**: mean < 2.76 mg/l
    - Orthophosphate**: mean < 0.5 mg/l

State screening criteria – 85% of state's waterbodies are below this level

Updated Results from the Spatially Explicit Load Estimation Calculation Tool (SELECT) Model

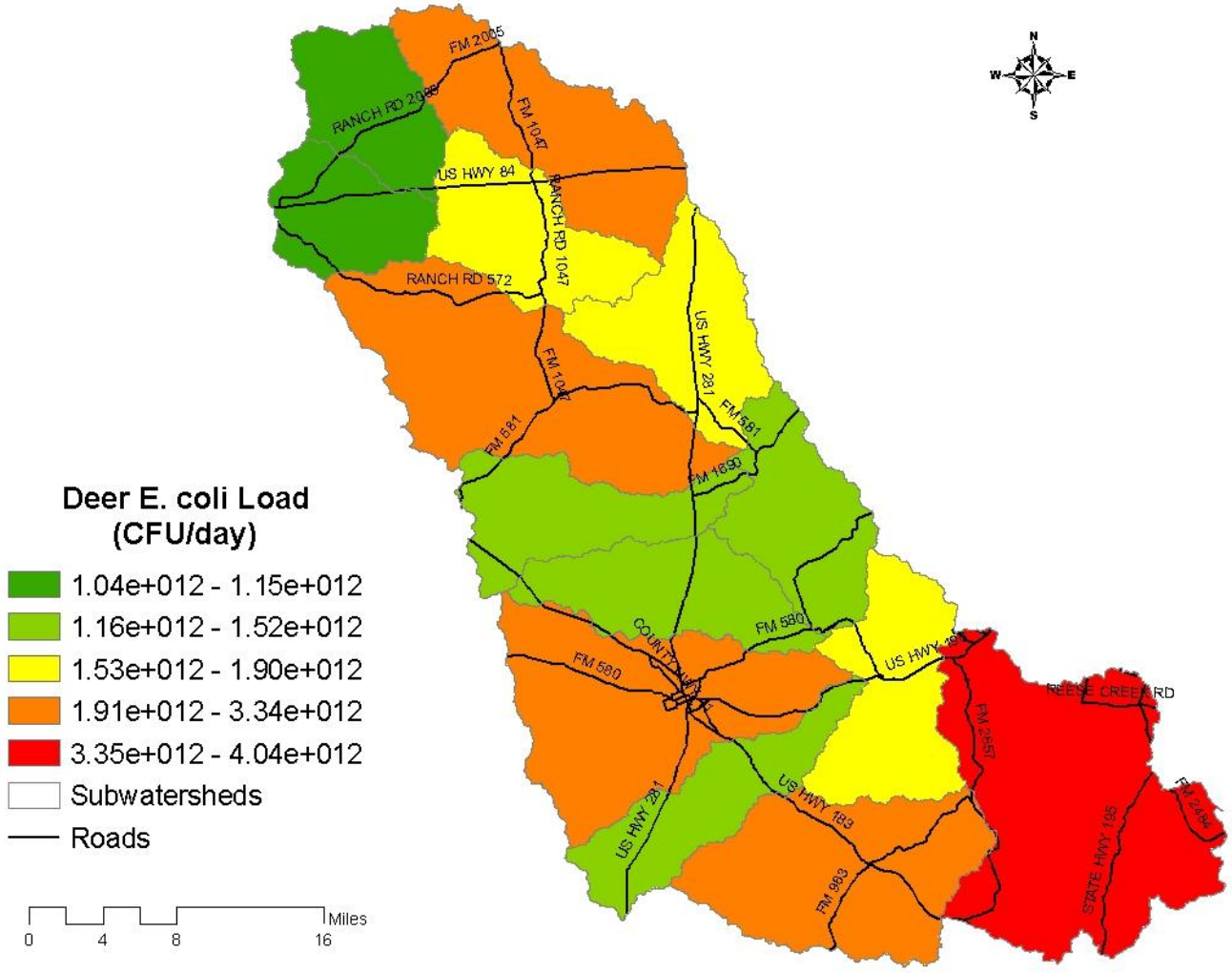
Deer



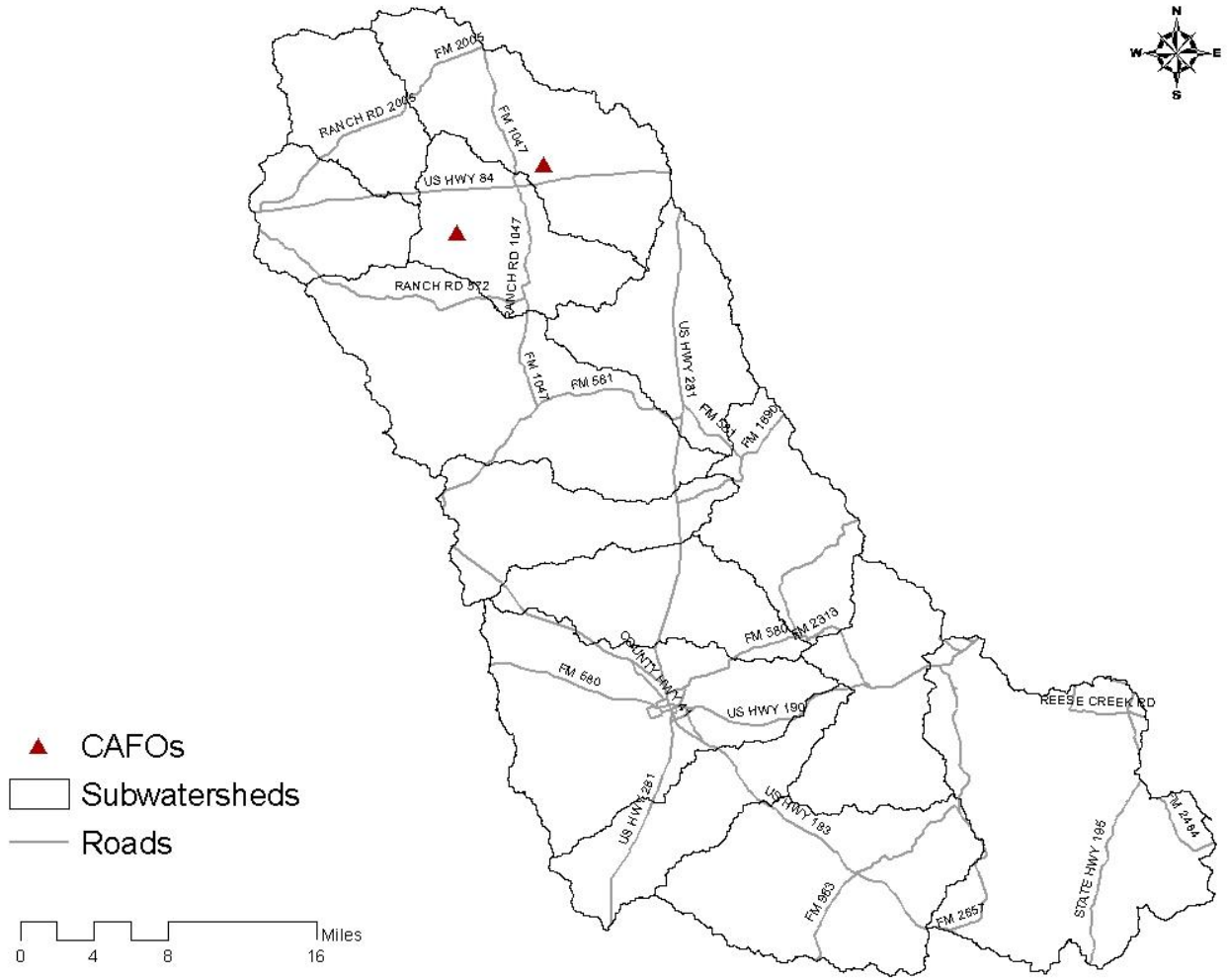
Deer

- Within the WMAs used the WMA density
- Outside of the WMAs applied a density of 100 deer per 1000 acres over the entire area of the watershed
- Estimated Population: 84,739

Potential *E. coli* loads resulting from Deer



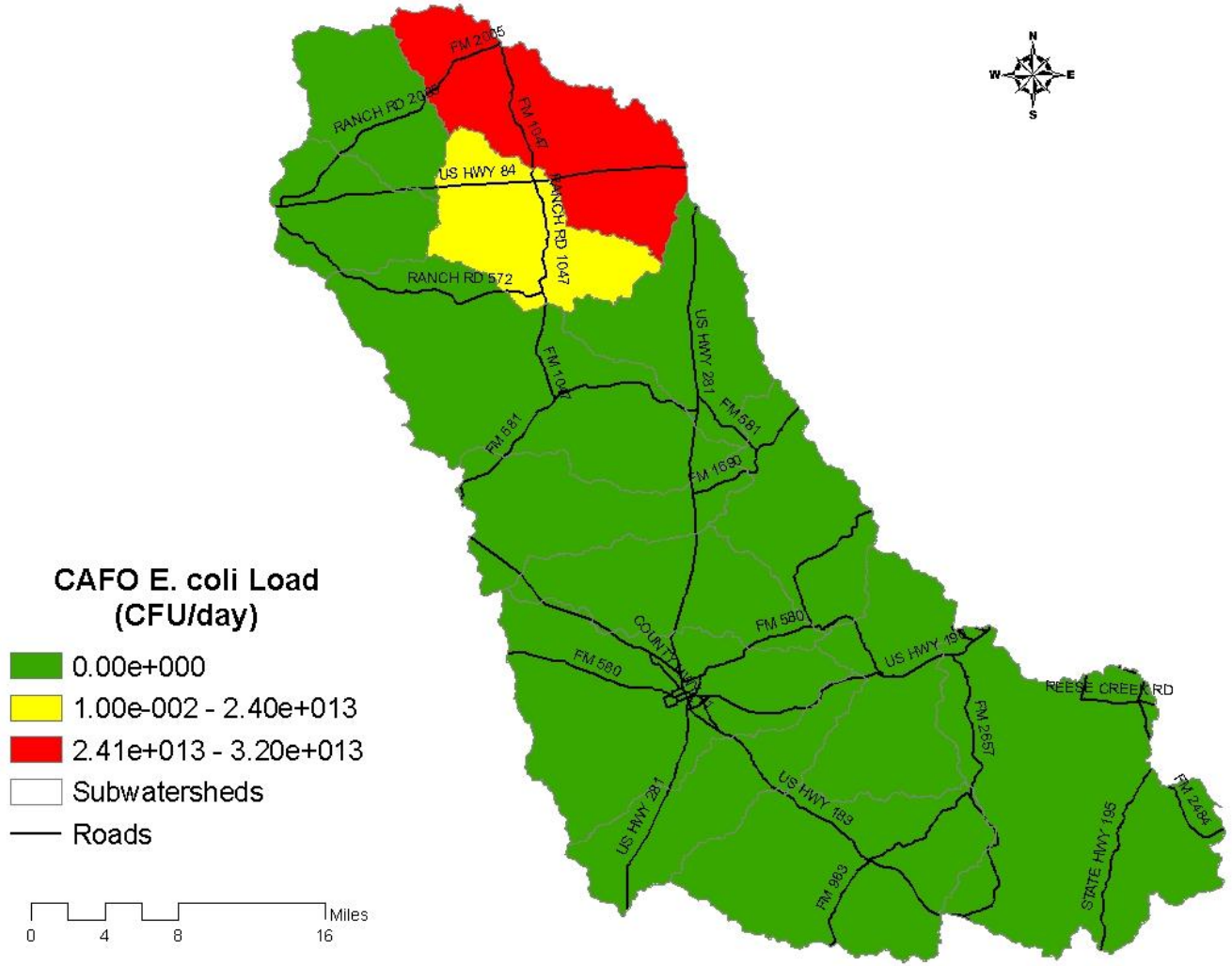
Confined Animal Feeding Operations



Confined Animal Feeding Operations

- Used TCEQ permitted head of cattle
  - Dairy#1 : 1598 head
  - Dairy#2: 1200 head
- Assumed a treatment efficiency of 80%

Potential *E. coli* loads resulting from CAFOs



Best Management Practices for Bacteria Reduction

Structural and Non-structural Agricultural BMPs

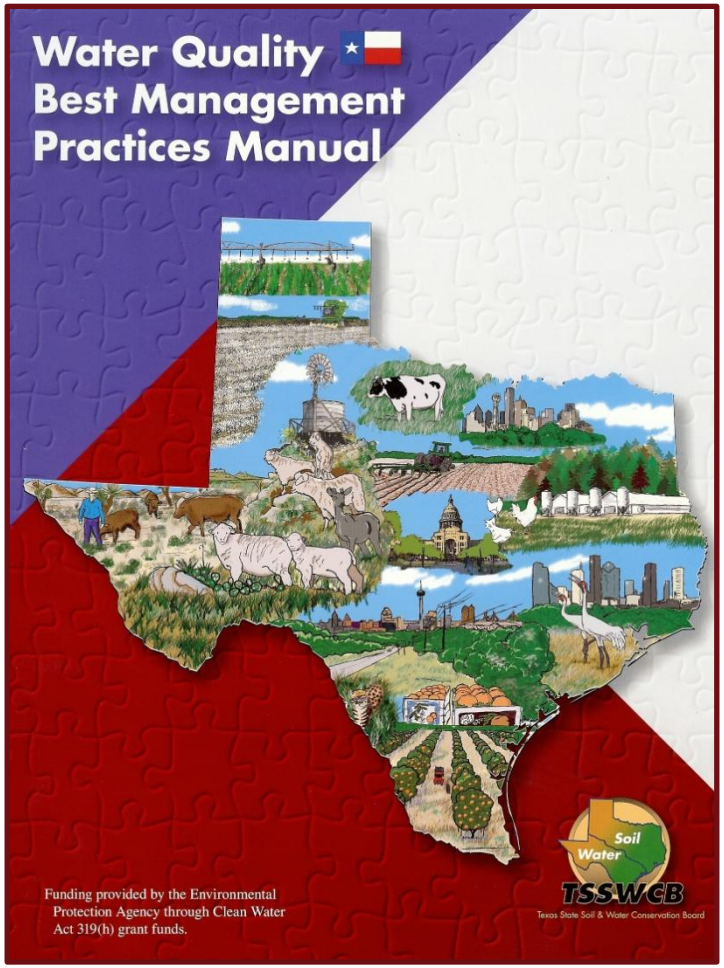
BEST MANAGEMENT PRACTICE	EFFECTIVENESS IN CONTROLLING NONPOINT SOURCE POLLUTANTS			
	Sediment	Nutrients	Pesticides	Pathogens
Management practices				
Nutrient management	-	+	-	-
Integrated pest management	-	-	+	-
Irrigation system, tailwater recovery	+	+	+	-
Irrigation water management	+	+	+	+
Regulating water in drainage systems	-	+	+	-
Soil salinity management	/	/	/	-
Structure for water control	+	+	/	-
Water table control	-	+	+	-
Waste management system	+	+	-	+
Runoff management system	+	+	-	+
Vegetative and tillage practices				
Conservation tillage	+	+	+	-
Contour farming	+	+	+	/
Contour stripcropping	+	+	+	/
Buffer or filter strips	/	/	/	/
Cover and green manure crop	/	/	/	-
Conservation cropping sequence	+	+	+	-
Field windbreaks	/	/	/	-
Pasture and hayland management	/	/	-	/
Structural practices				
Terrace	+	+	+	-
Water and sediment control basin	+	+	+	-
Grade stabilization structure	/	/	-	-
Grassed waterway	+	+	-	-
Streambank and shoreline protection	+	+	-	-
Wetland development and restoration	+	+	+	/

KEY
+ Medium to high effectiveness
/ Low to medium effectiveness
- No control to low effectiveness

NOTE
These practices may not perform as indicated at all sites and in all situations.

Adapted from Texas Watershed Stewards Handbook

Best Management Practices to Reduce Bacteria



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Nutrient Management

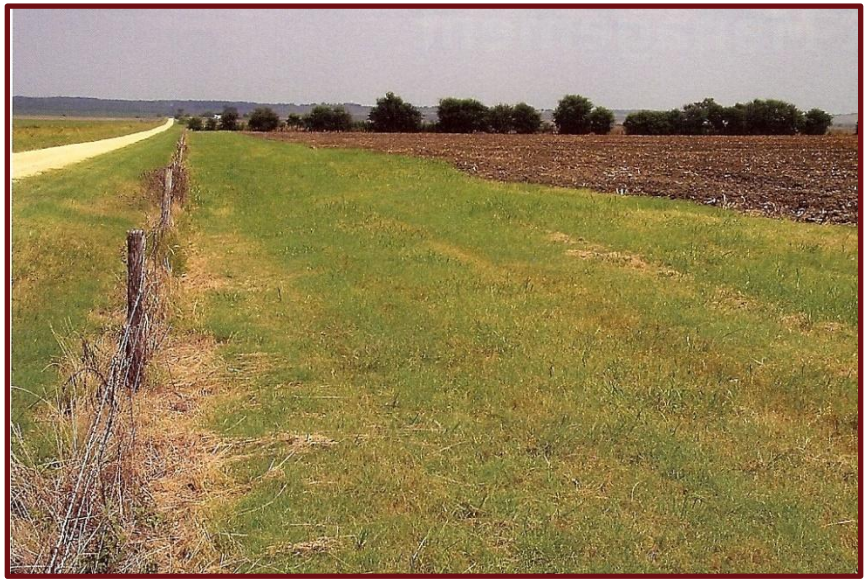
- Manages the amount, source, placement, format and timing of the application of plant nutrients and soil amendments
- Minimizes agricultural nonpoint source pollution of surface and groundwater resources

Grassed Waterways

- Natural or constructed channel-shaped or graded and established with suitable vegetation
- Protect and improve water quality

Field Borders

- Establishes a strip of permanent vegetation at the edge or around the perimeter of a field
- Protects soil and water quality



Filter Strips

- Establishes a strip or area of herbaceous vegetation between agricultural lands and environmentally sensitive areas
- Reduce pollutant loading in runoff

Conservation Cover

- Establishes permanent vegetative cover through the establishment of grass and forb species on land that is being taken out of production
- Protect soil and water

Riparian Herbaceous Buffers

- Establishes an area of grasses, grasslike plants, and forbs along water courses
- Improves and protects water quality by reducing sediment and other pollutants in runoff as well as nutrients and chemicals in shallow groundwater

Riparian Forest Buffers

- Establishes area dominated by trees and shrubs located adjacent to and up-gradient from waterways
- Reduces excess amounts of sediment, organic material, nutrients and pesticides in the surface runoff and excess nutrients and other chemicals in shallow groundwater flow

Prescribed Grazing

- Controlled harvest of vegetation by grazing animals to improve or maintain the desired species composition and vigor of plant communities
- Improves surface and subsurface water quality and quantity

Alternative Livestock Watering Facilities

- Places a device (tank or trough) that provides animal access to water
- Protects streams and ponds from contamination through alternative access to water

Alternative Shade

- Creation of shade to reduce time spent loafing in streams and riparian areas
- Reduces direct contamination into waterways

Stream Crossings

- Creates a stabilized area or structure constructed across a stream to provide a travel path for people, livestock, equipment or vehicles, improving water quality by reducing sediment, nutrient, organic and inorganic loading of the stream

Deer Population Management

- Control population by establishment of Wildlife Management Associations
- Development of TPWD-approved Wildlife Management Plans
- Encourage landowner participation in Managed Lands Deer (MLD) Permits program
- Request for higher harvest limits county or watershed basis

Feral Hog Control

- Reduce population through hunting and trapping
- Construct fencing around deer feeders to deny hogs access

Feral Hog Control and Alligator Relocation

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Agency Management Programs

Texas State Soil and Water Conservation Board Water Quality Management Plan Program

Steve Jones – TSSWCB Regional Manager
6011 E. Blackjack
Dublin, TX 76446
(254) 445-4814
sjones@tsswcb.state.tx.us

Natural Resource and Conservation Service Farm Bill Programs

Rick Cantu – NRCS District Conservationist
407 E. Plum Street, Suite E
Lampasas, TX 76550
(512) 556-5572 ext 3
rick.cantu@tx.usda.gov

Texas Parks and Wildlife Department Landowner Programs

Derrick Wolters, TPWD Wildlife Biologist
20175 Maxdale Rd
Killeen, TX 76549
254-501-4125
derrick.wolter@tpwd.state.tx.us

Texas Forest Service Stewardship Program

Shane Harrington, TFS BMP Forester
101 South Main Street
Temple, TX 76501
(254) 742-9874
sharrington@tfs.tamu.edu

Discussion

Next Steps

Update on NRCS Riparian Function workshop

- NRCS will host a Proper Riparian Function workshop
- One-day course; ½ Classroom, ½ Field
- Two course are planned:
  - One in upper portion of watershed (Mills/ Hamilton/ Lampasas Counties)
  - One in lower portion of watershed (Lampasas/ Burnet/ Bell Counties)
- We need volunteers for field sites; must have river or stream-front property,
  - Preferably on small tributaries
- October 28 & 29

Upcoming Meetings

- To Be Announced
- Information will be sent out in newsletter