

Lampasas River Watershed Partnership

Urban Nonpoint Source Work Group Meeting
April 29, 2011

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Introductions

Past Business

Work Group Report

March 2011

- ▶ Identified Outreach & Education Strategies to raise awareness and support implementation
 - Broad-Based Programs and Training Resources:
 - Lampasas River Watershed Partnership Awareness Campaign
 - Texas Watershed Steward Program
 - Illegal Dumping Campaign
 - Water Quality in the Classroom
 - Texas Waterway Cleanup Program
 - Household Hazardous Waste Collection Days



Work Group Report

March 2011

- ▶ Identified Outreach & Education Strategies to raise awareness and support implementation
 - Targeted Pollutant Source Outreach Efforts – Agriculture and Wildlife
 - Promote the enrollment of agricultural producers in the WQMP Program through workshops and promotional material
 - Encourage the beneficial use of soil test prior to adding soil amendments (organic and inorganic)
 - Lone Star Healthy Streams Program (LSHS)
 - Develop and/or adapt existing materials about the management of feral hog populations to the Lampasas River Watershed
 - Promote and encourage landowner enrollment into Wildlife Habitat Incentive Program (WHIP) to establish and improve fish and wildlife habitat
 - Educate hunters and recreationalist about proper disposal of waste effluent

Work Group Report

March 2011

- ▶ Identified Outreach & Education Strategies to raise awareness and support implementation
 - Targeted Pollutant Source Outreach Efforts – Urban NPS:
 - Coordinate with Texas AgriLife Extension to adapt and distribute existing technical guidance for owning and operating an OSSF through mailings, door hangers, point of sale displays in hardware/plumbing supply stores, real estate closing agreements, etc
 - Promote GBRA's Online Training for Septic System Owners
 - Collaborate with Texas AgriLife Extension Service to provide one-day workshops for homeowners to discuss operation, maintenance and repair
 - Promote GBRA's Online Wastewater Treatment Facility Training Program
 - Promote GBRA's Online Fats, Oils and Grease Module
 - Develop or adapt existing campaigns to educate the general public on the effects of pet waste on water quality and the importance of waste management at home and on public property
 - Adapt and promote programs like Grow Green (City of Austin) and Earth-Kind Landscaping and Master Naturalist/Gardener programs (both Texas AgriLife Extension Service) to encourage the general public to manage their landscape in a sustainable manner
 - Soil and Water Testing Campaign

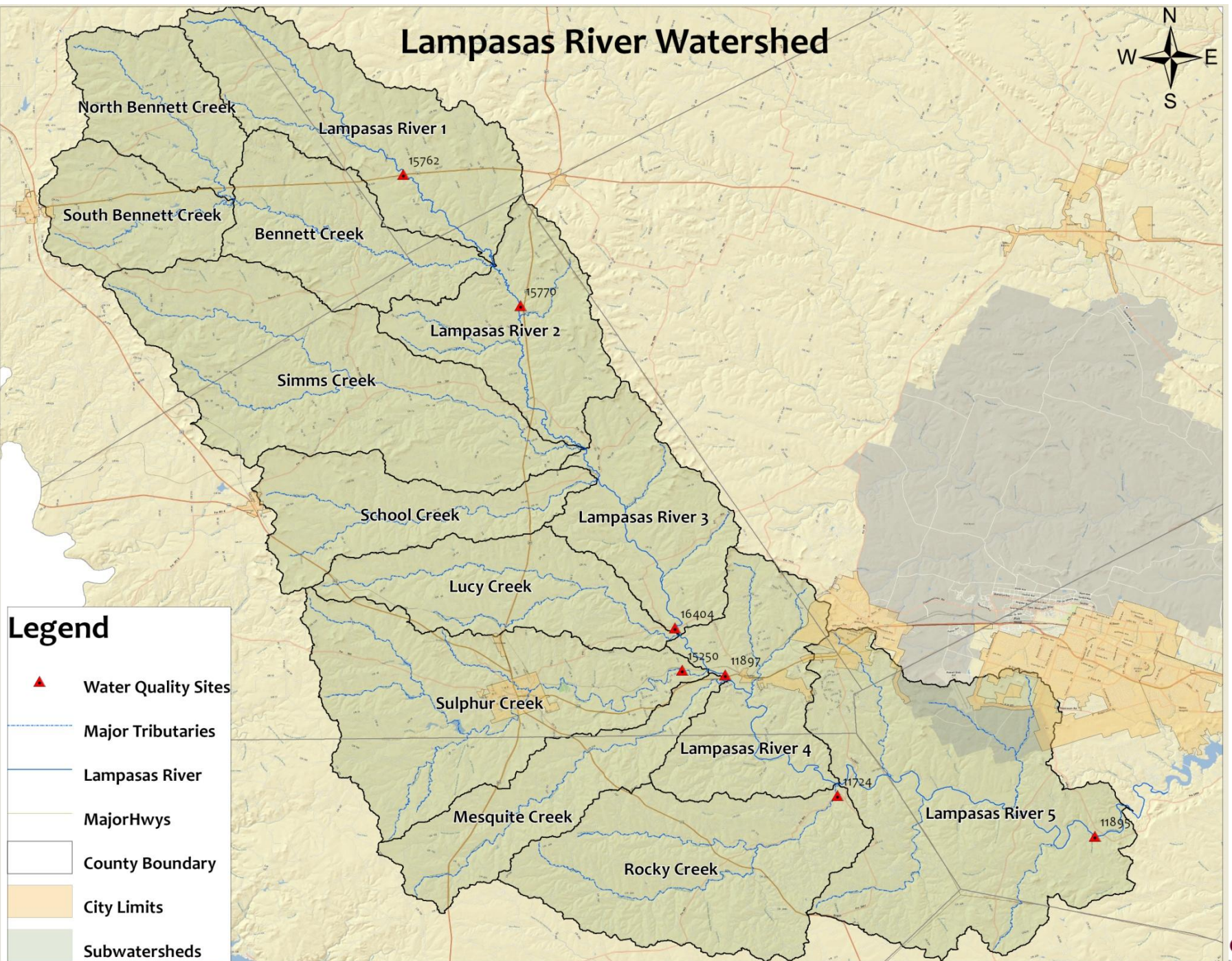
Work Group Report

March 2011

- ▶ Outlined a long-term water quality monitoring regime for river and tributaries to provide continued data on bacteria loadings
 - Monthly monitoring on mainstem
 - 15762 – Lampasas River at Hwy 84
 - 15770 – Lampasas River at CR 2925*
 - 11897 – Lampasas River at Hwy 190*
 - 16404 – Lampasas River at FM 2313
 - 11895 – Lampasas River at FM 2484*
 - Monthly monitoring of tributaries:
 - 18759 – Reese Creek at FM 2670
 - 99904 – Clear Creek at Oakalla Rd*
 - 3 sites on Sulphur Creek (above*/below* WWTP and at confluence* with river)
 - 11724 – Rocky Creek at FM 963*

* Denotes sites that are tentatively included in FY 2012 CRP monitoring

Lamparas River Watershed



Municipal Management Strategies and Responsibilities

Wastewater Treatment Facilities

Wastewater Treatment Facilities: General Recommendations

- ▶ Make a positive statement about plants currently operating well below state standards
- ▶ Encourage plants to maintain current housekeeping in regards to operation
- ▶ Encourage any additional WWTF that may be built or discharge into the watershed to operate at the same high standards previously set by the cities of Copperas Cove and Lampasas
- ▶ Implement voluntary reporting and/ or additional inspections

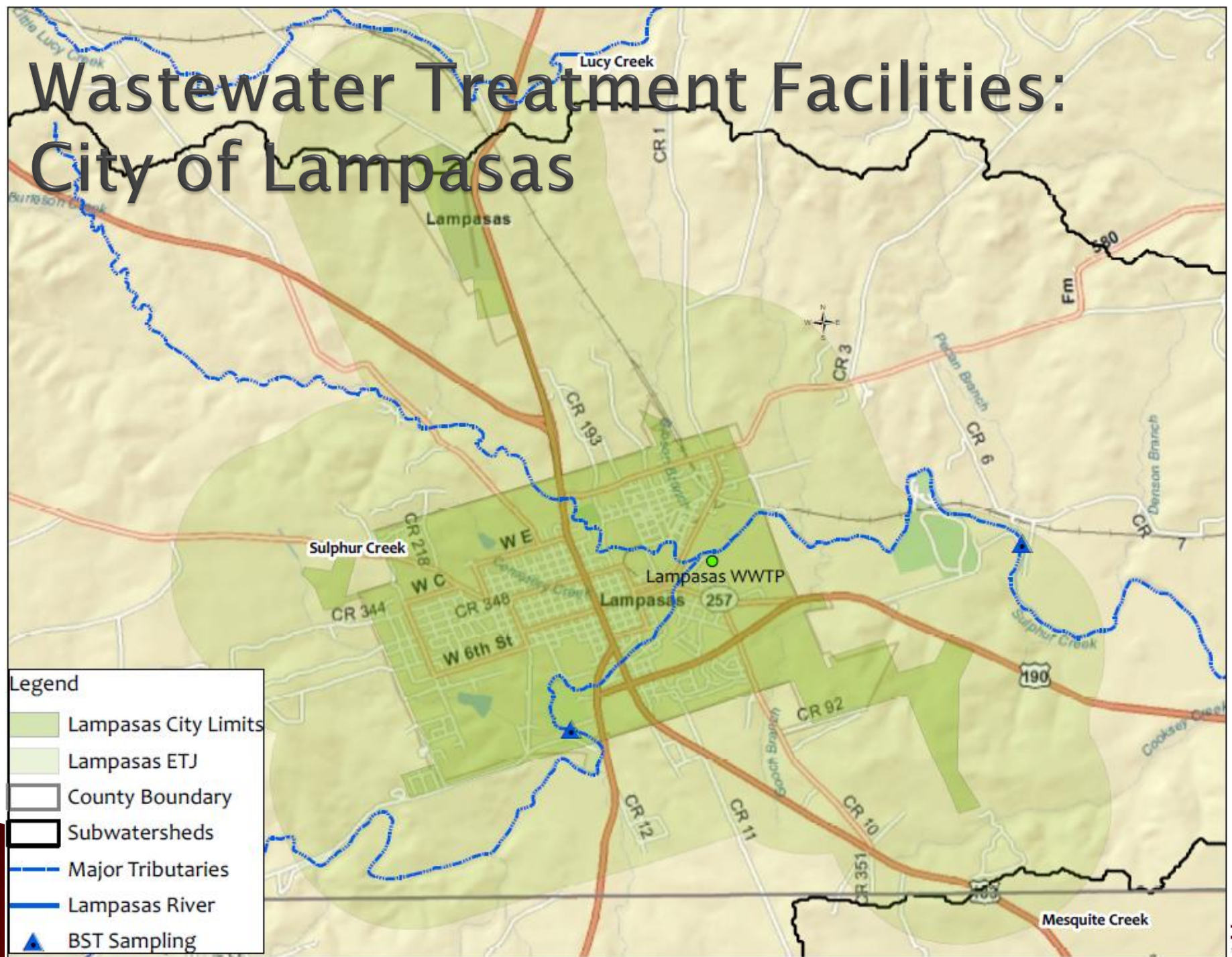
Lampasas River



Wastewater Treatment Facilities: City of Copperas Cove

- ▶ South WWTF; located at 2711 Big Valley Rd
- ▶ Permitted for 2.45 MGD, renewed in 2010
- ▶ New permit includes a limit on concentration of *E. coli* in effluent – 126 cfu/100ml
- ▶ Discharge to Clear Creek, LR 5 subwatershed
- ▶ Current standards:
 - Expansion in ~ 2005
 - UV treatment system
 - Daily *E. coli* testing per permit requirements
- ▶ No plans for additional expansions at this time

Wastewater Treatment Facilities: City of Lampasas



Wastewater Treatment Facilities: City of Lampasas

- ▶ Lampasas WWTF; located at 100 Brown Street
- ▶ Permitted for 1.547 MGD, renewed in 2010
- ▶ Discharge to Sulphur Creek; Sulphur Creek subwatershed
- ▶ New permit does NOT include a limit on the concentration of *E. coli* in effluent
- ▶ Current standards:
 - WWTF built in 1998
 - UV treatment system
 - Daily *E. coli* testing per permit requirements
 - No violations on record
 - Operating at approximately 1 / 3 of capacity
- ▶ Voluntary quarterly DO, pH and *E. coli* testing on Sulphur Creek above and below WWTF
- ▶ Beneficial landuse application, incorporated and crops are grown, applied on 40 acres

Municipal Management Strategies and Responsibilities

Sanitary Sewer Systems

Work Group Recommendations: Sanitary Sewer Systems

- ▶ Cities will routinely inspect sewer lines to identify problem areas
- ▶ Cities will replace old clay pipe sewer lines
 - Develop target number of miles of pipe that needs replacement
- ▶ Clean & maintain existing sewer lines
- ▶ Individual city ordinances to determine proper size for grease traps, to inspect them and require grease traps be properly cleaned & maintained
- ▶ Stormwater mapping of drainage, detention facilities and storm sewer systems
- ▶ Inlet protection systems

Sanitary Sewer Systems: City of Copperas Cove

- ▶ City has currently focused its concern and efforts outside of the Lampasas River Watershed
- ▶ Current:
 - City owns 1 camera unit
 - Sewer lines are inspected on an as needed basis
 - Consideration is being given to developing a routine inspection scheme; additional labor would be needed
 - Not actively replacing old/existing lines
 - Lift stations are currently inspected twice daily, 7 days per week by Department of Sewer personnel
 - Implementation of SCADA system or phone monitoring not deemed necessary at this point
 - SSO Plan in place and in strict compliance with all TCEQ requirements

Sanitary Sewer Systems: City of Killeen

- ▶ Current:
 - Clean 350,000 ft of sewer line per year in 2011 and 2012*
 - TV 12,000 ft of sewer line per year in 2011 and 2012*
 - Dry weather screening on Reese, Rock and Trimmier Creek in 2012
 - Illicit Discharge hotline to report illegal dumping
 - City is transitioning all lift stations to SCADA; last remaining stations to be installed this year
 - Fat, Oil and Grease Ordinance enacted in March 2010
 - FOG Prevention Program targeted initial areas of concern in July 2010 for non-residential users of wastewater system
- ▶ Most of the current city and therefore its water, sewer and drainage resources are outside of the Lampasas River Watershed, however, future development will most certainly be within the watershed. As the city develops, current operating standards will be met.

* Within entire city; only 17% of Killeen is in the watershed, so the number of feet of sewer line will be proportional

Sanitary Sewer Systems: City of Lampasas

► Current:

- Actively replacing/repairing aging clay sewer lines
 - \$100,000 budgeted annually from city funds
 - Approximately \$250,000 in CBDG grants biennially
 - Key Avenue Development – as part of the roadway construction, utility upgrades will be completed; drainage, manholes, sanitary and storm sewer lines will all be upgraded; estimated cost = \$740,000
- Has a FOG ordinance in place, but no routine inspections or follow-up

► Projected:

- Continue level of maintenance (pending CBDG funding)
- Conduct Wastewater Collection System Study, years 1 – 4, estimated cost = \$50,000
 - Evaluation of existing sewer system, including municipal and OSSF, last study completed in 1993
- Re-initiate Sanitary Sewer Inspection Program
 - Purchase of a new camera unit is necessary, estimated cost = \$20,000

Municipal Management Strategies and Responsibilities

Stormwater Management

Stormwater Management

General Recommendations

- ▶ Comply with MS4 Stormwater Permit (where applicable)
 - City of Copperas Cove
 - City of Killeen
- ▶ Smaller cities, Lampasas, may voluntarily implement the same measures
 - Public education and outreach
 - Public involvement or participation
 - Detection and elimination of illicit discharges
 - Controls for storm water runoff from construction sites
 - Post-construction storm water management in areas of new development and redevelopment
 - Pollution prevention and “good housekeeping” measures for municipal operations
- ▶ Encourage developers and builders to utilize Low Impact Development practices

Stormwater Management

City of Copperas Cove

- ▶ Small MS4 Permit issued by TCEQ on April 29, 2009
- ▶ City has prepared and implemented a five-year Storm Water Management Plan (SWMP)
- ▶ Components of SWMP include:
 - Development and maintain a City Stormwater website
 - Collaborate with Keep Copperas Cove Beautiful for monthly cleanup activities
 - O&E through utility bill inserts, book covers for local schools and distribution of brochures to public
 - Map entire city storm sewer system ~ complete
 - Stencil all city stormwater inlets ~ complete
 - Map stormwater system outfalls and receiving streams ~ planned for 2012
 - Require SWP3 required on all municipal projects
 - Ordinance in place and actively enforced that requires waste containers to control construction debris
 - Street sweeping ~ on average every street is swept quarterly

Stormwater Management

City of Killeen

- ▶ Small MS4 Permit issued by TCEQ on August 13, 2007
- ▶ City has prepared and implemented a five-year Storm Water Management Plan (SWMP)
- ▶ Components of SWMP include:
 - O&E through utility bill inserts, book covers for local schools and distribution of brochures to public
 - City Stormwater website developed and maintained
 - Collaborate with Keep Killeen Beautiful for yearly stream cleanup activities
 - Stormwater inlet marking
 - Storm Drain System Mapping:
 - Map Trimmier, Reese and Rock Creek Watersheds in 2012
 - Updated MS4 permit in 2010 to include support for and participation in the Lampasas River Watershed Protection Plan
 - Develop Illicit Discharge Ordinance ~ 2009
 - Develop Erosion and Sediment Control ordinance ~ 2011
- ▶ Projected need
 - Additional Vacuum/camera truck(s); estimated cost = \$280,700

Stormwater Management

City of Lampasas

- ▶ City does not operate under a MS4 permit, but is interested in pursuing voluntary measures
 - Storm Sewer Design and Installation, estimated cost = \$595,000 (funded)
 - Installation of concrete lined drainage ditches, estimated cost = \$35,000 – \$50,000 per year (funded)
 - Management & upkeep of storm water detention ponds, 6 grass ponds, estimated cost = \$1,500 per year (\$15,000 total – funded)
 - Continue routine street sweeping program, estimated cost = \$44,200 per year

Municipal Management Strategies and Responsibilities

On-Site Sewer Facilities

On-Site Sewer Facilities (OSSF): General Recommendations

- ▶ Develop database of OSSFs in watershed
 - Identify OSSFs within watershed
 - Map permitted and unpermitted septic systems within the watershed
 - Streamline permitting process throughout watershed
- ▶ Repair or replacement of failing septic systems
- ▶ Connections to municipal systems (where applicable) and removal of septic systems
- ▶ Enforcement of noncompliant systems
 - Hire an Watershed Environmental Officer/Septic Inspector
 - Increase number of system inspections
 - County ordinances
- ▶ Owner education for proper maintenance
 - Encourage repair and pump-out logs to be kept by homeowners &/or maintenance providers
- ▶ Public education
 - Coordinate with Texas Real Estate Commission to include OSSF educational materials at closings on the sale of properties with an OSSF

Work Group Report

February 2011

- ▶ Develop a timeline and priority subwatersheds for OSSF implementation
- ▶ Years 1–3:
 - Identify and map all OSSFs within watershed
 - Develop and populate OSSF database
- ▶ Years 4–10:
 - **Repair/replace :**
 - *Primary Focus:*
 - Sulphur Creek
 - Lampasas River 1
 - Lampasas River 2
 - Lampasas River 4
 - Lampasas River 5
 - *Secondary Focus:*
 - All others
 - **Education and outreach:**
 - *Primary Focus:*
 - Sulphur Creek
 - Lampasas River 4
 - Lampasas River 5
 - *Secondary Focus:*
 - All others

On-Site Sewer Facilities (OSSF): City of Copperas Cove

- ▶ All OSSFs within the City of Copperas Cove boundaries are under the jurisdiction of either Coryell or Lampasas County for permitting, inspection and compliance
- ▶ No consideration has been given to connecting OSSFs to municipal system
 - Many existing OSSFs are either financially unfeasible to connect to the municipal system or located on lots sized 1 acre or more
- ▶ City ordinance enacted that requires all new systems within the city limits be an aerobic system

On-Site Sewer Facilities (OSSF): City of Kempner

- ▶ No municipal wastewater collection system within Kempner
- ▶ All residences and businesses are on an OSSF
- ▶ City of Kempner has conducted exploratory studies to determine the feasibility of constructing a WWTF and municipal system
 - In order to secure funding, the WWTP must serve the entire city limits
 - Because of far-reaching city limit boundaries, this would be cost prohibitive
- ▶ City of Kempner has an MOU giving Lampasas County jurisdiction over OSSF systems for permitting and inspections and compliance

On-Site Sewer Facilities (OSSF): City of Killeen

- ▶ All OSSFs within the City of Killeen boundaries are under the jurisdiction of Bell County for permitting, inspection and compliance
- ▶ 796 OSSFs identified within the Killeen city limits in watershed (as of June 2010)
- ▶ No future Septic Tank Elimination Programs are planned within the watershed

On-Site Sewer Facilities (OSSF): City of Lampasas

- ▶ City of Lampasas has an MOU giving Lampasas County jurisdiction over OSSF systems for permitting and inspections and compliance
- ▶ An Unsewered Area Study was completed in 2000 but hasn't been updated since; a Wastewater Collection System Study would update this data
- ▶ Most of remaining OSSFs within the city limits are not economically feasible to connect to municipal system

Municipal Management Strategies and Responsibilities

Domestic and Non-Domestic Animals

Domestic, Non-Domestic Animals and Wildlife: General Recommendations

- ▶ Identified potential management strategies to mitigate bacteria contribution
 - Dog Waste:
 - Recommend installation of pet waste stations in parklands and trails, particularly in areas of high pet density
 - Educate pet owners about the effects of improperly disposed pet waste on water quality
 - Focus efforts in the Sulphur Creek, Lampasas River 4 and Lampasas River 5 subwatersheds

Domestic, Non-Domestic Animals and Wildlife: City of Lampasas

- ▶ City currently manages resident waterfowl population at Brook Park through annual relocation; estimated cost \$1,000 per year
- ▶ Three locations have been identified in Brook Park that pet waste stations would be appropriate; implementation would occur in years 4–6; estimated cost = \$620 installation + \$85 annual maintenance (unfunded)
- ▶ Feral cat trapping program; estimated cost = \$5,000 annually (unfunded)
- ▶ City council is considering the development of an ordinance to prohibit the feeding of whitetail deer within the city limits
 - Potentially include the development of a deer relocation/removal program; estimated cost = \$4,000 per year (unfunded)
 - Development and distribution of outreach and educational materials on the effects of feeding residential deer populations; estimated costs = \$2,500 per year (unfunded)

Next Steps

Upcoming Meeting

- ▶ Final Steering Committee to review all Work Group recommendations
- ▶ Tentatively scheduled for May or June