# Chapter 4 – WPP Management Measures

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#### Purpose of Management Measures

- Proposed primarily to address bacteria concentrations in the watershed
  - Measures may be identified to address other types of pollution
  - All measures are voluntary
  - Heavy focus on public outreach and education





#### Management Measures

- Agricultural
  - Develop conservation plans
- Wildlife and Non-Domestic Animals
  - Remove feral hogs
- On-site Sewage Facility
  - Replace failing systems
- Illegal Dumping
  - Reduce illegal dumping

- Urban
  - Stormwater planning and management
  - Structural measures
  - Pet waste programs
- Wastewater Treatment Facility
  - Wastewater reuse
- Sanitary Sewer Overflow
  - Infrastructure maintenance and replacement





#### Agricultural Management Measure

- Development of conservation plans
  - Work with local landowners to develop conservation plans through incentive programs
  - Implement 9 conservation plans annually
  - Priority sub watersheds 1, 4, 10, 12, and riparian areas
- Host education programs
  - Lone Star Healthy Streams, Riparian Education, TX Watershed Stewards, etc.
- Expected Annual Loading Reduction
  - 2.61 × 10<sup>14</sup>





#### Wildlife and non-domestic animals

- Reduce feral hog population by 20% (1,000 hogs) and maintain population
  - Fencing around deer feeders, trapping, aerial gunning, etc.
  - Priority sub watersheds include 1, 4, 6, 10, 12, 17 and riparian areas
- Develop online tracking tool
- Host Feral Hog Workshops
- Loading reduction
  - $2.65 \times 10^{10}$





# On-Site Sewage Facilities (OSSFs)

- Bring OSSFs within compliance
  - Identify and Inspect Failing OSSFs
  - Repair or Replace as 30 systems funding allows
  - Maintain database of OSSF systems
- Priority Sub watersheds 1, 4, 18, 19 and riparian areas
- Education Maintenance Education Programs
- Loading Reduction
  - $\bullet$  1.22  $\times$  10<sup>13</sup>





## Illegal Dumping

- Reduce Dumping at road crossings and proper disposal of animal carcasses
  - Posting signage at bridge crossings
  - Maintenance
  - Motion cameras
- Priority Areas
  - Bridge crossings and areas with high hunting demand
- Education and outreach
- Loading Reductions
  - N/A





#### Urban Management Measures

- Storm water planning
  - Planning for a future storm water permit
- Priority Areas
  - City of El Campo
- Education Component
  - N/A
- Loading Reduction
  - N/A





#### Urban Management Measures Cont.

- Implement Storm water BMPs
  - Urban storm water detention pond capturing 50 acres
- Priority Areas
  - City of El Campo
- Education Component
  - Deliver programs to local residents
- Loading Reduction
  - 1.74 × 10<sup>10</sup>





#### Urban Management Measures Cont.

- Pet Waste Program
  - Install and maintain pet waste stations
- Priority Areas
  - City of El Campo, Markham, Midfield
- Education Component
  - Deliver programs to local residents, 1 annually
- Loading Reduction
  - $9.58 \times 10^{13}$





#### Wastewater Treatment Facility Mgmt. Meas.

- Wastewater Reuse
  - Identify and implement a wastewater reuse system
- Priority Areas
  - City of El Campo
- Education Component
  - N/A
- Loading Reduction
  - $\bullet$  1.28  $\times$  10<sup>12</sup>





### Sanitary Sewer Overflow Mgmt. Meas.

- Infrastructure repair and replacement
- Priority Areas
  - City of El Campo, Markham, Midfield
- Education Component
  - Deliver programs to utility staff on aging infrastructure and replacement
- Loading Reduction
  - N/A





#### **Education and Outreach**

- The Watershed Coordinator
- Public Meetings
- Future Stakeholder Engagement
- Education Program
  - Feral Hog Management Workshops
  - Lone Star Healthy Streams
  - OSSF Operation and Maintenance
  - Texas Well Owner Network
  - Riparian Education
  - Wildlife Management
- Public Meetings
- Newsletters and News Releases





## Questions?

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