Water Quality Education

In cooperation with the TCEQ/BRA
Watershed Protection Plan Development Project
OBJECTIVES

- Develop a water quality education program to help reduce nonpoint sources of pollution
- Provide information to the public: mass media
- Hold public meetings to educate stakeholders about water quality and its protection
- Provide public educational programs to help achieve improved water quality
- Conduct training events on proper operation and maintenance of on-site wastewater treatment systems and collective facilities

OUTCOMES

Develop a water quality education program to help reduce non-point sources of pollution

- Produced a series of water quality fact sheets
  - Agricultural best management practices
  - Bacteria and nutrients
  - Golden algae
  - Non-point source pollution
  - Urban best management practices
  - Urban stormwater
  - Watersheds
Develop a water quality education program to help reduce non-point sources of pollution

- Produced a series of on-site wastewater publications
  - Alternative collection systems
  - Soil particle analysis procedures
  - Septic tank/soil absorption field
  - Aerobic treatment units
  - Spray distribution systems
  - Liquid/tablet chlorination
  - Operation and maintenance

Provide information to the public: mass media

- Working with the Hood County Extension Agent, prepared radio news pieces on the following
  - Non-point sources of pollution
  - Bacterial impairment in the lake
  - Septic system health and maintenance
  - Water quality information
- Working with the North Central Texas Council of Government, developed a PSA on pet waste management
OUTCOMES

Hold public meetings to educate stakeholders about water quality and its protection
  • Presented information at Lake Granbury stakeholder meetings
    • Water quality standards
    • Overview of on-site wastewater treatment systems
    • Operation and maintenance of on-site wwts
    • Regional wastewater systems
    • Made a presentation at the Oak Trail Shores HOA – March 2007
      • Bacterial contamination in coves
      • Sources of bacteria
      • Septic system maintenance and preventative measures

OUTCOMES

Provide public educational programs to help achieve improved water quality goals
  • Small acreage landowner land management program, April 2007, 66 participants
    • Non-point sources of pollution
    • On-site wastewater treatment systems maintenance
  • Rainwater harvesting training – July 2007, 40 participants
    • Water quality and quantity issues
    • Impacts of stormwater to water quality
    • Non-point sources of pollution and control measures
  • Groundwater management areas – July 2007, 52 participants
    • Non-point sources of pollution and control measures
OUTCOMES

Conduct training events on proper operation and maintenance of on-site wastewater treatment systems and collection facilities

- Septic system installers training – July 2007, 11 installers
  - Overview of new technologies
  - State rules and regulations
  - Preventative maintenance of systems and correct instillation

OUTCOMES

Future Work

Educational program resources

- Develop fact sheets on the following:
  - Fecal coliform contamination and sources
  - Best management practices to minimize bacterial loadings
  - Nutrient loading and its consequences

Educational programs

- Continue educational programs:
  - Presentations to HOA
  - Hood County Extension programs
Conducted an evaluation and dye study of septic systems in the Oak Trail Shores subdivision

- Six homeowners allowed us access to their homes and systems to conduct the dye test
- Developing a model to determine the potential loading of bacteria from on-site wastewater treatment systems
- Collected soil cores to conduct nutrient analysis
- Worked with a contractor to replace a cracked lid

Project Web site

http://lakegranbury.tamu.edu
Lake Granbury is a critical water source in North Central Texas, providing water for over 100,000 people in more than 15 cities. It provides water for residential use, including cooling water for a natural gas-fired power plant and the Comanche Peak nuclear power plant. It is also a recreation haven for local water enthusiasts.

In recent years, blue-green algae blooms have caused a number of fish kills in Lake Granbury, with substantial economic and ecological losses. In addition, recent studies by the Brazos River Authority (BRA) have revealed concentrations of toxic metals in several areas of the lake, particularly in areas with poor water circulation. As a result, BRA will work with the Texas Commission on Environmental Quality (TCEQ) and a consortium of local entities and federal and state agencies to implement an integrated water quality protection plan designed to reduce bacterial contamination.

REPORTS AND PUBLICATIONS
Water Quality Education Fact Sheets
- Agricultural BMPs
- Bacteria and Nutrients
- Golden Algae
- Groundwater
- In Home Water Conservation
- Pollution
- Rainwater Harvesting
- Urban BMPs
- Urban Stormwater
- Water Conscious Landscapes
- Water Testing
- Waterworks

On-Site Wastewater Publications
- B-0077: Selecting and permitting
- B-6098: Alternative collection systems
- B-6171: Homeowner's guide to evaluating service contracts
- B-5173: Soil particle analysis procedure
- B-5176: Gravity filter
- L-5227: Septic tank-soil absorption field
- L-5228: Evapotranspiration bed
- L-5232: Leach drainage
- L-5237: Subsurface drain distribution
- L-5292: Aerobic treatment unit
- L-5293: Spray distribution system
- L-5311: Tablet chlorination
- L-5347: Operation and maintenance
- L-5348: Mound System
- L-5409: Liquid chlorination