

Onsite Wastewater Treatment Industry – Facing the Challenges

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Facing the Challenges

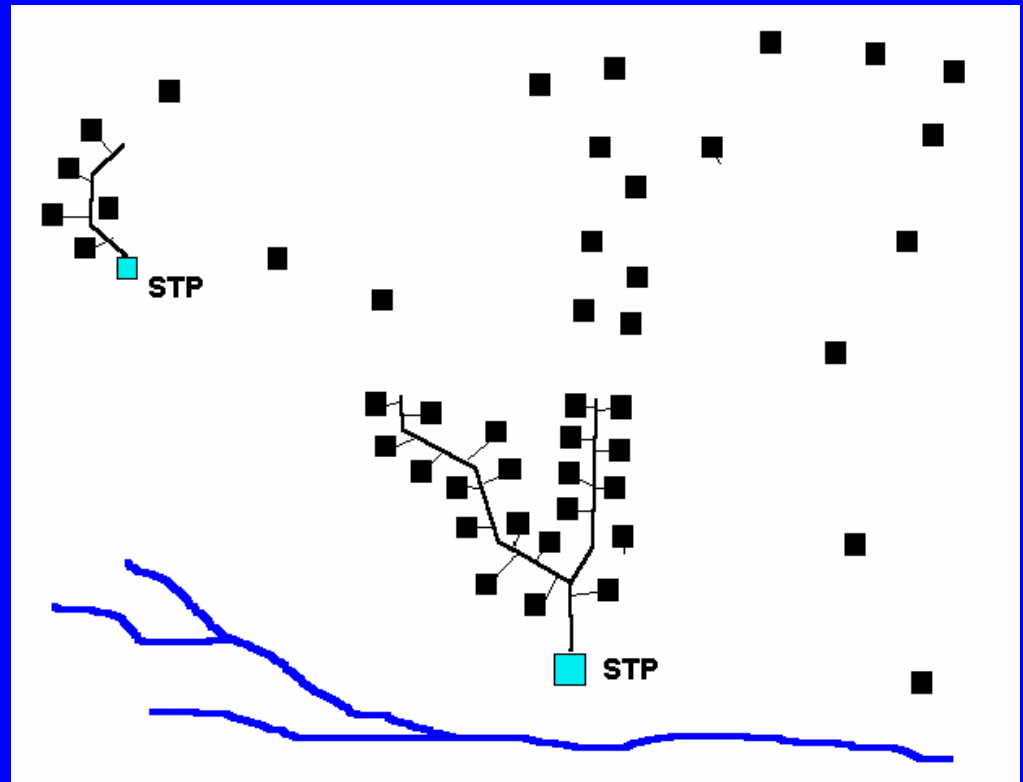
- *Solutions for the future*
- *Enforcement – Leveling the playing field*
- *Professionalism – Raise industry acceptance*
- *Training – Continue your education*
- *I or We - Support your Onsite Wastewater Associations*
- *Conservation and Protection of Water Resources*

Goals for the Onsite Wastewater Treatment System

- Accept the wastewater from the facility
- Remove contaminants from wastewater before it reaches surface water or groundwater
- Disposal vs. reuse

Solutions for the future

- Public perception
- Failed systems
- New Technologies
- Different from a centralized sewer



Onsite Wastewater Treatment Systems?



- Rural and Exurban wastewater infrastructure
- 40%, Wastewater Infrastructure

Onsite Wastewater Treatment System



Failing Onsite System

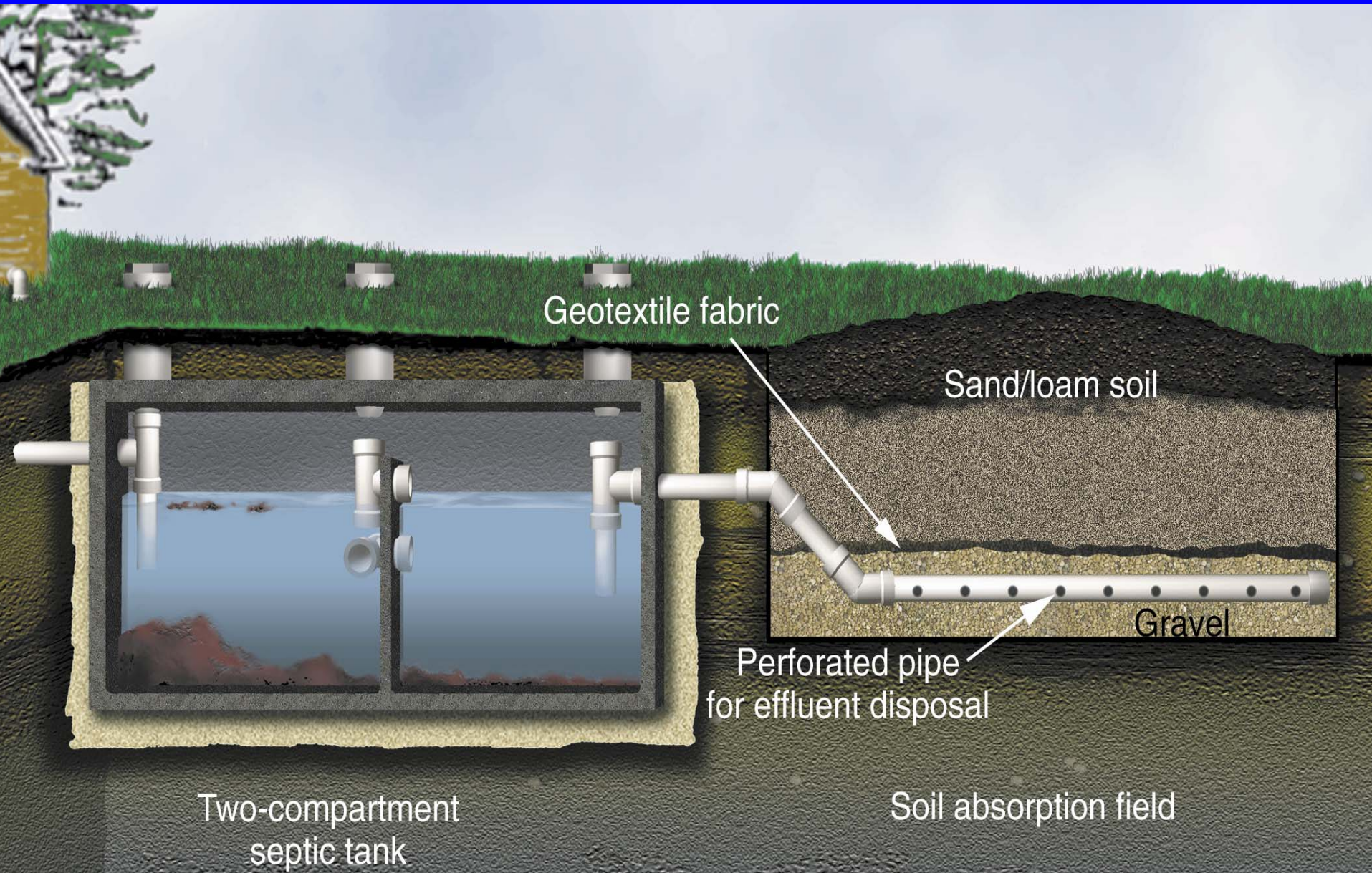


Range of Technology Options

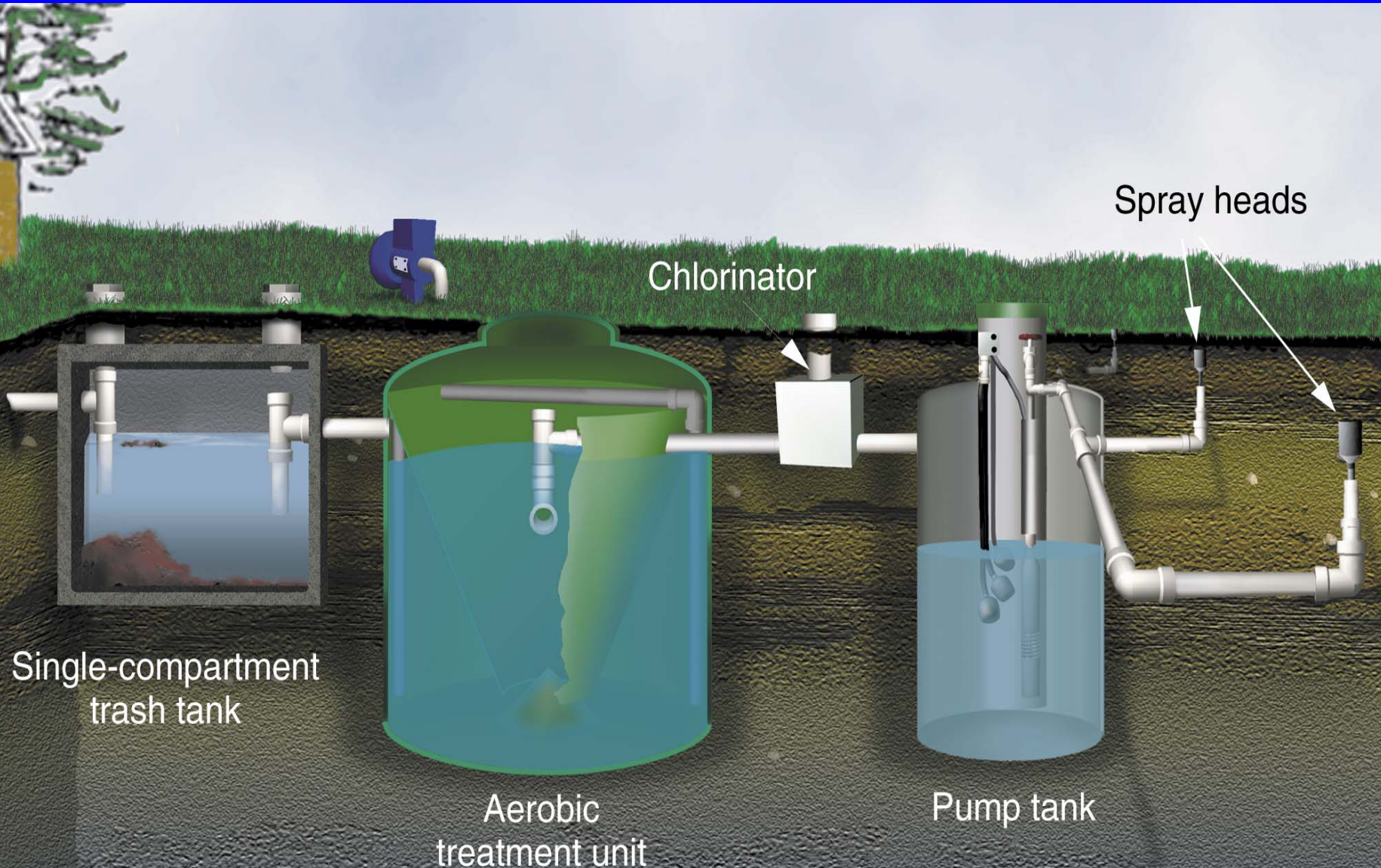
- Septic tanks
- Aerobic treatment units
- Media filters
- Constructed wetlands



Conventional Septic Tank System



Aerobic Treatment Unit System



Different from a Centralized Sewer

- Restaurants
 - Quick Stops
 - Strip Malls
 - Residences
- Single or small number of sources
 - System must treat peaks and normal flow



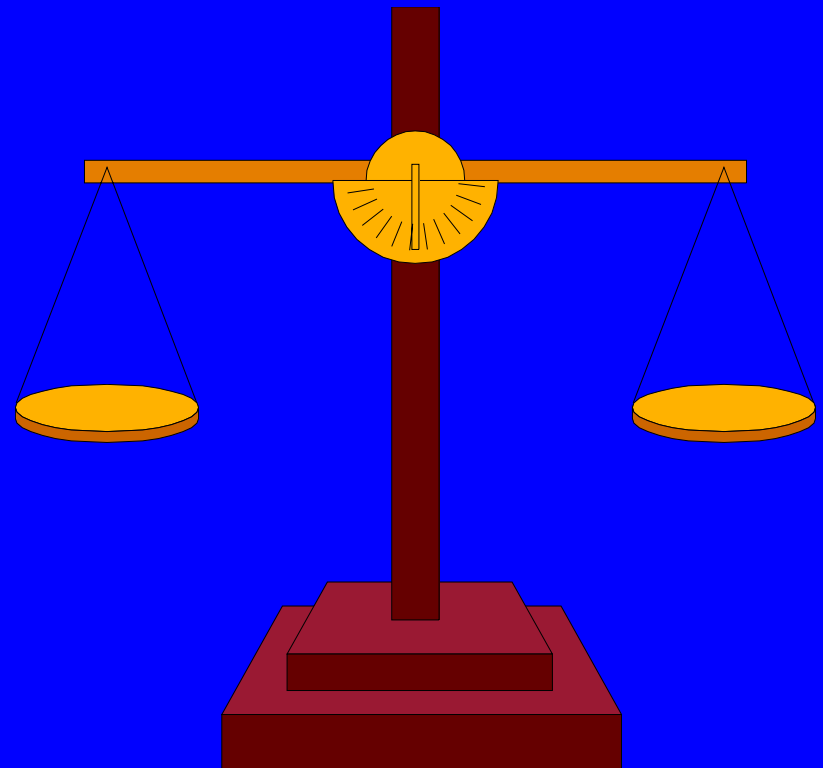
Different -Management Aspect?

- What does the homeowner want?
 - 24-7-12 service
 - Flush and forget
- Intimacy factor
 - Inputs
 - Alarms
 - Telemetry



Enforcement

- Regulations
- Leveling the playing field
- Consumer protection
- Handles bottom 5% of practitioners and homeowners



Regulations

- Minimum Standard
- Personal Opinion –
Shorter is better
- Problem – short rules
do not address all
ways people will try to
get around rules
- History – 1997 rule
revisions, a new start

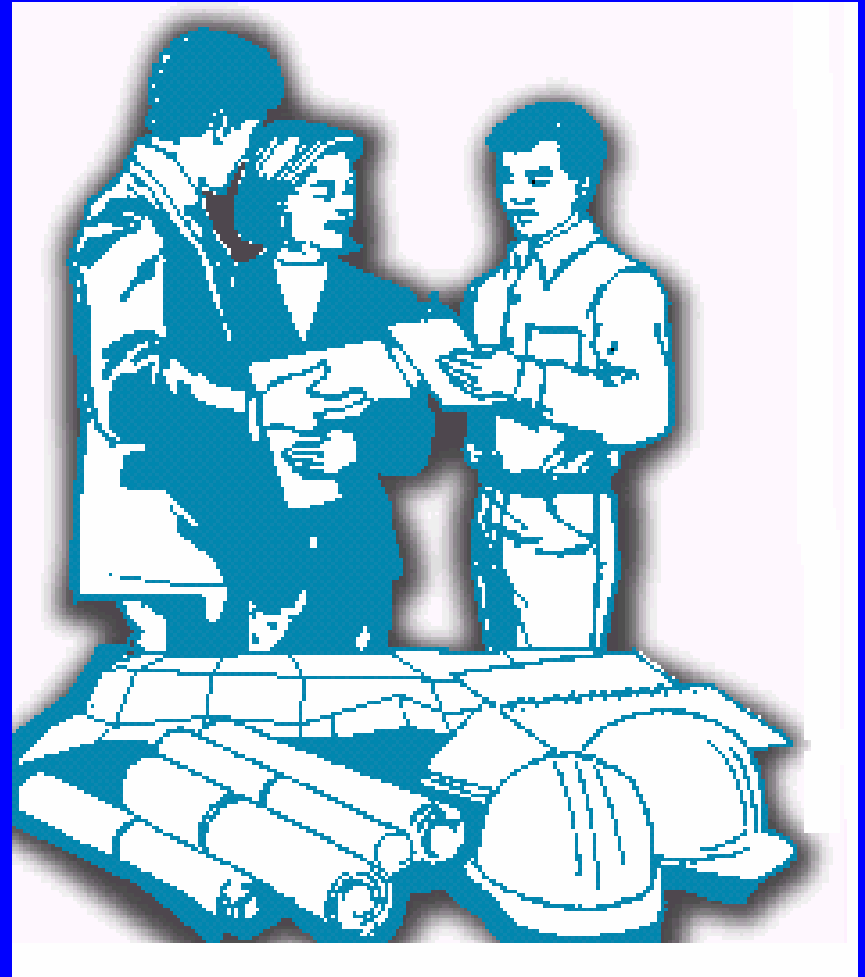
Poor Decisions

- Cutting corners
- Poor professional judgment



Professionalism

- Representative for the industry to public
- Educate homeowner
- Conduct - appearance
- Financially viable
- Responsive
- What role in the industry?
- Defined Services - Contracts



Training

- Training and Certification
- Continuing Education
- Training Centers
- Hands-on Training



Training and Certification

- Range of Licenses
- Installer I
- Installer II
- Site Evaluator
- Maintenance Provider
- Designated Representative



Continuing Education

- Range of options
- Conferences
- General programs
- Targeted programs



Overview of a Training Center



Static Displays



Hands-on Training: Digging in the Soil



I or We

- Onsite Association
- Shared voice
- Services for members
- Implement new programs

Texas Onsite Wastewater Association

- Commenting on new regulations
- Legislative voice
- Industry service – Insurance, Equipment
- Certification Programs



Certified Maintenance Provider

- Maintenance provider
- Maintenance contract
- Standards of practice
- Standard contracts
 - Responsibility of parties
 - Operational functions
- Renewal/revocable operating permit



Conservation and Protection of Water Resources

- Groundwater resources
- Streams, rivers, ponds and lakes
- Bays and estuaries
- Wastewater reuse and recycling

Water Protection

Water Resource	Regulations
Drinking water: sole source aquifer	Wellhead protection Groundwater Protection Strategy, Class V Injection Wells
Fresh water resources: river, lakes and streams	Total Maximum Daily Loads
Salt water resources: bays estuaries, ocean	Coastal Zone Management Program

National Guidelines for Management

- 5 “Model Programs”
- Cover new and existing systems
- Surface and subsurface discharge
- Do not supersede existing laws

Program 1: System Inventory/ Maintenance Awareness

- Conventional septic systems
- Database of system locations
- Proper siting, installation
- Record, reminder of maintenance

Program 2: Management through Maintenance Contract

- Enables more complex options
- Homeowner contracts with service provider
- Routine maintenance assured

Program 3: Management through Operating Permits

- Performance requirements requiring engineered designs
- Renewable operating permits
- Regular reporting, monitoring
- Homeowner responsible

Program 4: Utility Operation and Maintenance

- “Utility” management entity
- Responsible for O&M, permit
- Routine inspections
- Consistent performance
- Private ownership retained

Program 5: Utility Ownership and Management

- Professional management of all functions
- Consistent with other utility services (gas, electric, phone...)
- Enables area-wide planning

Effluent Quality Considerations

- Wastewater reuse
- Sensitivity of receiving environment
- Development density

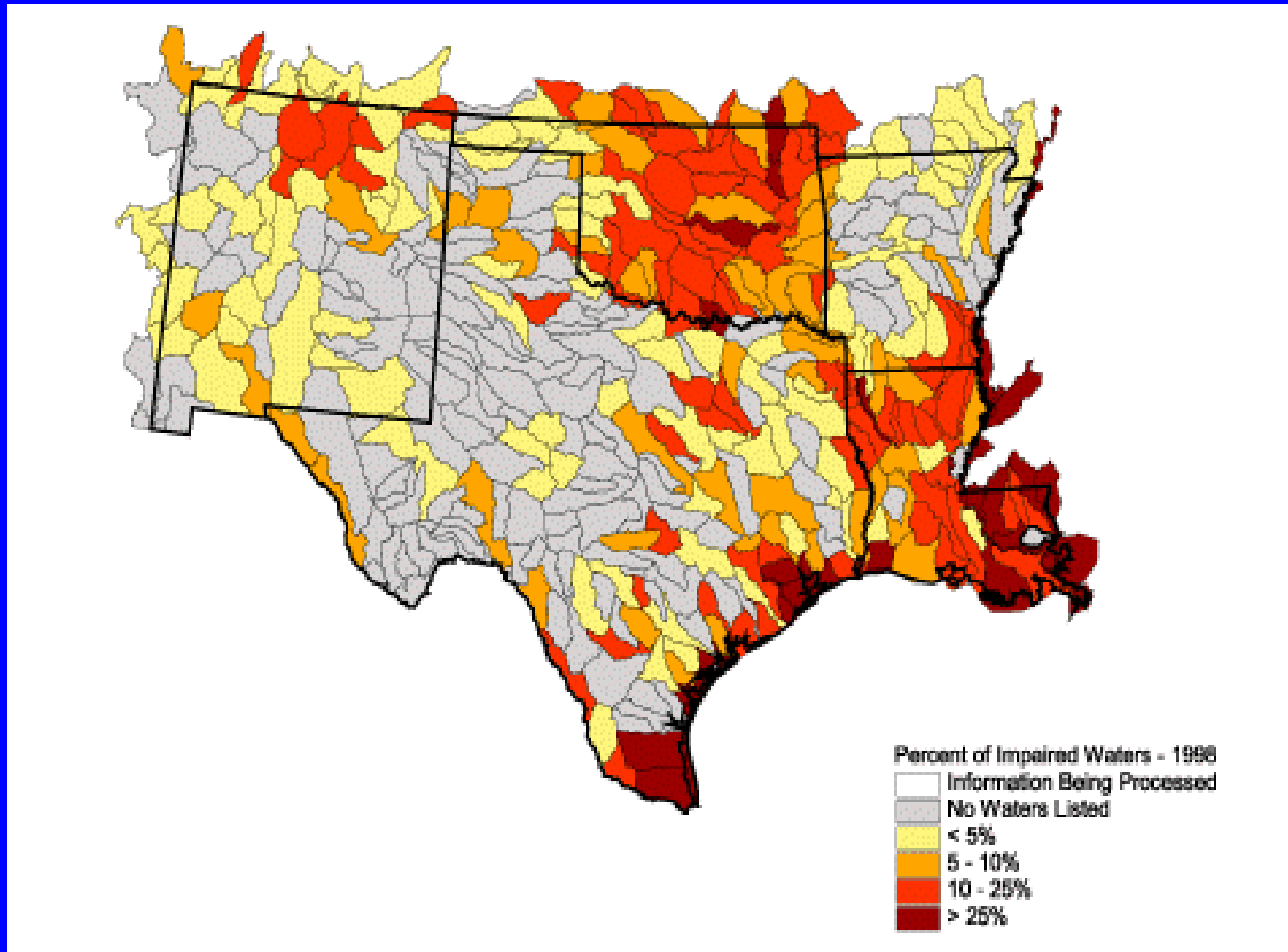


Contaminants of Concern

- Organic matter
- Nitrogen
- Phosphorous
- Pathogens



Impaired Watersheds in Region VI



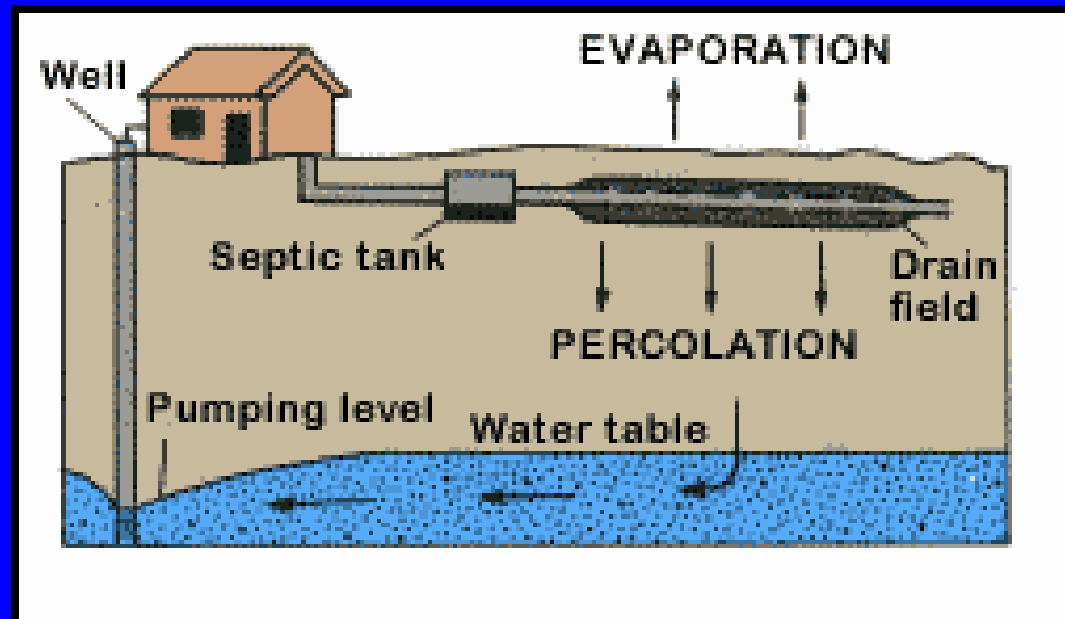
Watershed Management Programs

Water Quality Monitoring



Groundwater Recharge

- Dispersal field
- Percolating water recharges groundwater
- Regional water planning includes recycled water from onsite wastewater treatment system





Wastewater Reuse and Recycling

Wastewater
applied in a
landscaped bed
and yard.



Wastewater Reuse

- Accessibility
- Potential for human contact
- Distribution system
- Plants being grown



Summary

- *Solutions for the future*
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Thank you for your time