



Nine Elements of a Watershed Protection Plan

David Waidler
Watershed Coordinator
Texas Agricultural Experiment Station



Nine Elements of Watershed Protection Plans

1. Identify the sources and causes of pollution
2. Estimate the necessary load reductions
3. Describe Point Source and Non-Point source management measures
4. Assess the technical and financial assistance needed
5. Design an informational/ educational component
6. Develop a schedule of implementation
7. Set interim measurable milestones for progress
8. Establish criteria to determine load reductions
9. Create a monitoring component



Element 1: Identify Causes of Concern

- Point Source Pollution
 - Wastewater Treatment Plant Discharges
 - Industrial Discharges
 - Confined Animal Feeding Operations (CAFO)
- Non-Point Source Pollution
 - Stormwater
 - Agricultural Run-off
 - Sediment
 - Nutrients
 - Toxic chemicals



Element 1: Identify Causes of Concern

- Pollution loads and sources were identified by Tarrant Regional Water District and the Texas A&M University Spatial Sciences Laboratory using the following techniques:

Modeling:

- SWAT Modeling- Watersheds
- WASP Modeling- Reservoirs
- QUAL2E- Streams



Element 2: Estimate Load Reductions

Load Reductions based on:

- SWAT model outputs
- Effectiveness of Best Management Practices (BMP) tied to land use and changes



Element 3: Nonpoint Source Management

Best Management Practices Implementation

- Structural
- Behavioral

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Element 3: Point Source Management

- Infrastructure upgrades to WWTP's
- Permitting programs
- Stormwater development planning

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Element 4: Assess Technical and Financial Assistance Needed

Technical:

- TCE
- TCEQ
- SWCD
- USDA-NRCS
- TRWD
- TPWD
- Others

Funding:

- EPA
- TCEQ
- TSSWCB
- USDA-NRCS
- Local Grants
- Local Government
- TRWD
- Others

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Element 5: Design Education Component

- Mass Media
- Demonstration sites
- Meetings and workshops
- Onsite technical assistance
- Citizen monitoring programs
- Training and certification programs

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Element 6: Develop a Schedule of Implementation

- Nonpoint source structural improvements
- Point source discharge (based on improved standards)
- Educational programs

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Element 7: Set Interim Measurable Goals

Watershed

- Implementation of BMP's

Reservoir

- Water Quality improvement

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Element 8: Establish Criteria to Determine Load Reductions

Watershed

- Number of feet of structural BMP's established
- Percentage increase in holding capacity

Reservoir

- Achievement of TCEQ Standards
- 303(d) status

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Element 9: Create a Monitoring Program

Watershed

- Quarterly Water Quality Monitoring of Strategic Locations

Reservoir

- Quarterly Monitoring of Ambient Water Quality in Cedar Creek Reservoir

Educational

- Behavioral changes resulting from education programs