

# APPENDIX E

## THE HISTORY OF NONPOINT SOURCE MANAGEMENT

*The need to protect the environment from nonpoint source pollution has resulted in the creation of a number of pollution control laws, regulations, and programs over the past 30 years. The implementation of these programs takes place at all levels - federal, state, and local. This Appendix presents a historical overview of some of the major legislation and programs that have been implemented to address nonpoint source pollution.*

### **Clean Water Act of 1972**

*The Clean Water Act (CWA) of 1972 forms the basis for water quality protection for surface water as well as groundwater. It was enacted as a series of amendments to the Federal Water Pollution Control Act of 1948. The 1972 Act was prompted by the worsening state of America's rivers and several high-profile oil spills. The stated objective of the Clean Water Act is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." The Act instituted a national program for cleaning up the nation's waters and required state programs be put in place to achieve the water quality goals. The statute employed a variety of regulatory and nonregulatory tools to reduce pollutant discharges into waterways, finance municipal wastewater treatment, and manage polluted runoff.*

*Congress did not directly regulate nonpoint source pollution in the original 1972 Act. Instead, early efforts at nonpoint source management were relegated to state and local governments through general area-wide waste management planning conducted under §208 of the CWA. Under the 208 program, state governors designated local management authorities for areas with waste treatment problems. These local authorities, in turn, engaged in comprehensive area-wide waste treatment planning. The Plans were primarily devoted to treatment works, but were also to take account of various nonpoint sources of pollution, including agricultural, silvicultural, mine-related, and construction related sources. §208 provided cost share funds to those areas of States which had approved waste management plans.*

*In the late 1970's, initial Water Quality Management Plans for Texas were prepared by the Texas Department of Water Resources (now the TCEQ) under the provisions of §208. These plans contained an assessment of NPS pollution conditions in each of the classified waters in Texas. Based primarily on these assessments, some fifteen individual NPS-related studies were conducted over a period of three years.*

*During the development of these initial Plans, two executive orders were issued to delineate the responsibilities of the two principle agencies involved with nonpoint source controls in the State of Texas. In 1979, the Texas Department of Water Resources was designated the State agency responsible for coordinating §208 planning, while the Texas State Soil and Water Conservation Board (TSSWCB) was designated as*

*the planning agency responsible for identifying management strategies for agricultural and silvicultural nonpoint sources of pollution.*

## **National Urban Runoff Program**

*For many years following the passage of the CWA, EPA and the states focused pollution control efforts mainly on regulating discharges from traditional "point source" facilities, such as municipal sewage plants and industrial facilities. These dischargers were considered the primary contributors to poor water quality conditions. However, as better point source control measures were developed, it became evident that more diffuse sources of water pollution were also contributing to water quality problems.*

*The National Urban Runoff Program (NURP) was developed by EPA in 1978 as a five-year program to obtain data on control of urban runoff quality and its impact on receiving waters. Between 1978 and 1983, NURP conducted studies that evaluated outfalls in 28 communities across the United States. These studies confirmed that contaminants contained in urban and suburban runoff, such as sediments, phosphorus, nitrates, coliform bacteria, as well as lead, and other heavy metals, impaired water quality in streams, lakes, wetlands, and estuaries. The data also showed that runoff from urban and industrial areas contained significant quantities of the same types of regulated pollutants that are found in wastewater and industrial discharges.*

## **National Pollutant Discharge Elimination System**

*To address the problem of stormwater runoff, Congress amended the Clean Water Act in 1987 to include urban stormwater discharges as a "point source," requiring the EPA to develop permit requirements for urban stormwater discharges even though the actual source of the pollution is from nonpoint sources. The National Pollutant Discharge Elimination System (NPDES) law was promulgated as a two-phase program. Phase One, implemented in 1990, addressed construction, industrial, and municipal discharges in cities with populations over 100,000. Phase Two for all municipalities under 100,000 became effective in 2003. The TCEQ assumed delegation of the Federal NPDES program (now known as TPDES) in September 1998.*

## **Rural Clean Water Program**

*In 1980, Congress established an experimental program to address agricultural nonpoint source pollution. The experiment was called the Rural Clean Water Program (RCWP). The RCWP combined land treatment and water quality monitoring to document the effectiveness of NPS pollution control measures.*

*Twenty-one experimental RCWP projects were selected throughout the country, representing a wide range of pollution problems and impaired water uses. Each of the projects involved the implementation of best management practices (BMPs) to reduce NPS pollution and water quality monitoring to evaluate the effects of the land treatment. BMP installation was targeted to land areas or sources of NPS pollutants identified as having significant impacts on the impaired or threatened water resource.*

*Cost-share funds and technical assistance were offered to producers as incentives for using or installing BMPs. The RCWP was administered by the U.S. Department of Agriculture in consultation with the U.S. Environmental Protection Agency.*

*The RCWP projects made significant contributions to the body of knowledge about NPS pollution, NPS pollution control technology, agricultural NPS pollution monitoring design and data interpretation, and the effectiveness of voluntary cost-share programs designed to assist producers in reducing agricultural NPS pollution. The RCWP program was phased out by 1990.*

#### *The 1987 Clean Water Act Amendment: Nonpoint Source Management*

*In 1987 Congress amended the 1972 Clean Water Act by adding §319. This amendment was the first concerted effort by the federal government to address pollution from nonpoint sources. §319 established a national policy requiring states to develop and implement programs for the control of nonpoint source pollution. The new §319 created a two step process for nonpoint source management. States first had to submit to EPA a report that identifies waters within the state that, without additional action to control nonpoint sources of water pollution, cannot reasonably be expected to attain or maintain applicable water quality standards or the goals and requirements of the Clean Water Act. States then had to submit a nonpoint source management program to the EPA for approval. In addition, §319 provided for continuing federal monitoring of state nonpoint source progress through annual reports to EPA, and EPA's annual reports to Congress.*

*Initially, the Texas Water Commission (predecessor to TCEQ) was given the authority to administer the §319 Nonpoint Source program for the State of Texas, and used its authority to provide federal funds to a small number of planning agencies and river authorities across the state. In response to the 1987 Amendment, the Commission completed its initial NPS Pollution Assessment Report and Management program in 1989, and prepared the first program update in 1991.*

*As part of the public participation process, the Texas Water Commission convened a 27 member panel representing industry, agriculture, environmental groups, and government from diverse areas of the state to recommend a program to reduce nonpoint source pollution in Texas. The group's initial meeting was held on March 30, 1989. The committee established three specialized subcommittees—Education, Monitoring & Database, and Best Management Practices—reflecting the major emphases and worked 16 months to produce a set of fourteen recommendations. The recommendations ranged from development of a BMP technical manual to enforcement activities and public education. The Funding Subcommittee recommended funding requirements of \$3.6 million to implement the program and recommended the Commission seek to implement the entire recommendation package. Specific methods for funding were not identified in order to allow the Commissioners flexibility in identifying funding sources. All fourteen recommendations were adopted by the TWC.*

*In 1993, the Texas Legislature authorized the Texas State Soil and Water Conservation Board to implement voluntary programs to assist agricultural and silvicultural producers to meet the state's water quality goals and standards. As a result of TSSWCB's new authority, the EPA began to award half of the annual Texas §319(h) grant allotment directly to the TSSWCB, with the other half awarded to the Texas Natural Resource Conservation Commission (renamed the Texas Commission on Environmental Quality in 2002.) The TSSWCB and TCEQ coordinate the §319 program for the State of Texas according to the terms of a Memorandum of Agreement executed in 1993 between the two agencies.*

*In 1996, the State of Texas initiated preparation of the second update to the State's Nonpoint Source Management Program which was approved by EPA in February 2000. The document was a collaborative effort between the TCEQ and the TSSWCB and was designed to complement the TMDL process underway in Texas.*

*Recent grant guidelines under §319 reflect the growing recognition that strategies built on specific watershed conditions are more effective at controlling nonpoint source than approaches based on jurisdictional roles of municipalities, counties, and states. Under the watershed approach, equal emphasis is placed on protecting healthy waters and restoring impaired ones. Involvement of stakeholder groups in the development and implementation of strategies for achieving and maintaining water quality goals will become an integral part of future nonpoint source management under the §319 PROGRAM.*

## **CLEAN WATER ACTION PLAN**

*A major enhancement to the §319 grant program came about in 1998 through the EPA's and USDA's Clean Water Action Plan (CWAP). In his 1998 State of the Union Address, President Bill Clinton announced a new Clean Water Initiative to speed the restoration of the nation's waterways. This new initiative aimed to achieve clean water by strengthening public health protections, targeting community-based watershed protection efforts at high priority areas, and providing communities with new resources to control polluted runoff.*

*The CWAP emphasized four tools in achieving water quality: (1) a watershed approach to water pollution; (2) stronger federal and state water quality standards; (3) better natural resource stewardship for cropland, pasture, rangeland, and forests; and (4) better information for citizens and government officials. All of these tools affect nonpoint source pollution control and incorporate federal and state or local measures. In conjunction with the plan, the CWAP initiative was budgeted additional funds by Congress for water pollution control. §319 nonpoint source control programs received \$200 million of additional funding, known as incremental funding, and NOAA received a new allocation to control polluted runoff and toxic contaminants. Since award of the first incremental funds in 1999, Congress has budgeted both base and incremental grant funding to EPA and the States for control of nonpoint source pollution.*

## **Total Maximum Daily Load Program**

*The 1972 Clean Water Act did provide another mechanism for addressing nonpoint source pollution through §303. This Section required states to set ambient water quality standards for all water bodies within the state and identify the beneficial uses of each water body. In 1985 and 1992, EPA issued rules for implementing §303(d) under which States were required to identify those waters not meeting water quality standards; prioritize those waters; and set Total Maximum Daily Loads, or TMDLs, of pollutants for each such waterbody in order of priority. The TMDL process was designed to address load allocations for nonpoint sources as well as point sources. In addition, the rule required States TMDLs to restore those impaired waters but did not provide for actual implementation of the TMDLs.*

*In the 1970's and 1980's, EPA and the States focused on bringing point sources of pollution into compliance with NPDES requirements. Setting TMDLs for both point and nonpoint source pollution was viewed as an expensive and complicated process. The lack of widespread TMDL development was perceived by many groups around the country as a source of contention. As a result, a string of court cases filed in the early to mid-1990's, under the citizen suit provision of the CWA, forced EPA and the states to stop avoiding TMDL implementation.*

*Although the State of Texas was not involved in litigation, the TCEQ committed itself in 1998 to developing TMDLs for all impaired waterbodies within 10 years of their first placement on the state's 303(d) list. The 76th (1999) and 77th (2001) Texas Legislatures appropriated funds to the TCEQ and the TSSWCB to support the development of TMDLs. Texas has already completed a number of TMDLs for nonpoint source affected waterbodies and submitted them to the EPA. Currently, the TCEQ and TSSWCB operate under the 1992 EPA TMDL guidelines. Control of nonpoint sources remains voluntary through the implementation of best management practices.*

## **National Estuary Program**

*In response to pollution in coastal waters, Congress established the National Estuary Program (NEP) under §320 of the Clean Water Act of 1987. The mission of the NEP is to protect and restore the health of estuaries while supporting economic and recreational activities. Under the Act, the administrator of the EPA was given authorization to convene management conferences to develop Comprehensive Conservation and Management Plans (CCMPs) for estuaries of national significance that are threatened by pollution, development, or overuse. Two Texas estuaries were named Estuaries of National Significance under §320 and were accepted into the National Estuary Program: Galveston Bay in July 1988, and Corpus Christi Bay in October 1992.*

*Both Texas estuaries have been impacted by nonpoint source pollution. The Coastal Bend Bays & Estuaries Program (CBBEP), established in 1994, submitted a CCMP in 1998. Contaminated stormwater flowing into the bay has been identified as a primary*

*water quality concern. With funds from federal, state, and local governments, private industry and foundation grants, the CBBEP has provided funding for nonpoint source control projects in the coastal bend region. The Galveston Bay Estuary Program (GBEP), established in 1989, drafted and adopted a CCMP in April 1995 to improve water quality and enhance living resources in Galveston Bay. Water and sediments in tributaries and near-shore areas of Galveston Bay have been degraded by contaminated runoff from nonpoint sources, primarily from urbanized areas. During the 1995 Texas legislative session, funds were approved for the GBEP to proceed with Plan implementation.*

*In 1999, the Texas Legislature passed the Texas Estuaries Act (HB 2561), which recognized the economic and environmental value of publicly held resources in Texas estuaries. The Act identified the TCEQ as the lead management agency and directs other state agencies to work together.*

## **Other Federal Programs**

*The Clean Water Act, which recently celebrated its 30th anniversary, has been credited with significant water quality improvements to surface water. Under the CWA, municipal and industrial wastewater facilities have been built or upgraded and industrial point source discharges have been regulated and controlled. Despite this progress, many waterbodies remain impaired from nonpoint sources. Congress has not significantly amended the Clean Water Act's nonpoint source provisions since 1987, however, the CWA is not the only vehicle through which Congress has extended federal control over nonpoint source pollution.*

## **Coastal Zone Nonpoint Source Management**

*In 1972 Congress passed the Federal Coastal Zone Management Act (CZMA) in response to reports on coastal pollution and erosion. With this Act, the federal government established a program to encourage coastal states and territories to develop land-use plans that would protect coastal resources, including wetlands, dunes, and barrier islands. The CZMA provided funding to states to develop programs to define and regulate permissible land and water uses within this zone.*

*The Coastal Zone Management Reauthorization Amendments of 1990 (CZARA) created the Coastal Nonpoint Source Program under §6217. As a prerequisite for receiving continued CZMA funding, CZARA required the 29 coastal states, with federally approved coastal zone management plans, to develop and submit coastal nonpoint source pollution control programs for approval by the National Oceanic and Atmospheric Administration (NOAA) and the Environmental Protection Agency (EPA). States were required to issue management measures for certain categories of runoff and erosion, and to evaluate nonpoint sources and identify coastal areas that would be negatively affected by specified land uses. In 1991, EPA proposed guidance on management measures for five major categories of nonpoint sources. In 1992, EPA provided updated guidance for an agricultural management measure for erosion and*

*sediment control and confined animal facility management, and a management measure for urban runoff in developing areas. The Coastal Nonpoint Source Program also established shared responsibility for managing coastal waters between state Coastal Zone Management programs and state agencies responsible for overseeing implementation of §319 programs.*

*In 1991, the Texas Legislature directed the General Land Office to head up a Coastal Coordination Council, which developed a Coastal Zone Management Plan in response to the requirements of the CZARA. The Plan, which became effective in 1995, sets policies, standards and regulations affecting private and public property in all counties contiguous to the Texas coastline. Activities such as development permits, fill-and-dredge operations, siting of oil and gas waste-disposal pits, agricultural activities, and highway construction are addressed in the plan. The Texas Coastal Management Program was approved by the National Oceanic and Atmospheric Administration (NOAA) on January 10, 1997.*

*As a requirement for federal approval of its coastal management program, Texas was required to develop and implement a program to specifically address coastal nonpoint source pollution. The purpose of the Coastal NPS Program is to identify sources of coastal NPS pollution and develop recommendations for its prevention.*

*The Coastal NPS Program for Texas has been under development since 1997. To facilitate the development of the NPS Program, the Coastal Coordination Council established a work group comprised of staff from the General Land Office, Texas Commission on Environmental Quality, Texas Railroad Commission, Texas Department of Transportation, Texas Parks and Wildlife Department, Texas State Soil and Water Conservation Board, and a public member from the Council. This work group has addressed comments submitted by the National Oceanic and Atmospheric Administration (NOAA) and the Environmental Protection Agency (EPA) regarding Texas' Coastal NPS Program, reviewed and recommended proposed NPS pollution control projects, and researched possible options to enhance the program.*

*In December 1998, Texas submitted its Coastal NPS Program to NOAA and EPA. After two and a half years of discussion between Texas and the federal agencies, NOAA and EPA published in the Federal Register, in late September 2001, their intent to approve the Texas Coastal NPS Program with certain conditions. NOAA and EPA identified six areas (encompassing 18 of the 52 required management measures) that Texas must strengthen or correct prior to receiving full approval of the Coastal NPS Program. These areas are:*

- *development and site development*
- *watershed protection and existing development*
- *construction site chemical control*
- *new and operating onsite disposal systems*
- *roads, highways, and bridges; and*

- *hydromodification*

*On December 24, 2002, NOAA and EPA emailed a memo concerning policy clarification on the overlap of §6217 Coastal NPS Programs with Phase I and Phase II Storm Water Regulations. This memo clarifies which activities are no longer subject to the requirements of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA) Coastal NPS Control Program.*

*The second notice to conditionally approve Texas' Coastal NPS Program was posted in the Federal Register on April 7, 2003. The Final Conditional Approval Letter was received on July 9, 2003. Texas was given five years to meet the remaining conditions. The Coastal NPS Program coordinates with other programs, such as the Galveston Bay Estuary Program and the Coastal Bend Bays and Estuaries Program, to ensure wide participation and input into the Coastal NPS Program.*

## **Safe Drinking Water Act: Source Water Protection**

*The Safe Drinking Water Act (SDWA), promulgated by Congress in 1974, established a Federal program to monitor and increase the safety of the nation's drinking water supply. The SDWA authorized the EPA to set and implement health-based standards to protect against both naturally occurring and man-made contaminants in drinking water. The 1986 Amendment to the SDWA included a provision for States to establish wellhead protection (WHP) areas to protect groundwater from all sources of contamination including nonpoint sources. Texas was the first state in the nation to implement a wellhead protection project, having adopted a voluntary approach. The 1996 Amendment to the SDWA expanded the WHP program to strengthen protection for all sources of drinking water including surface water.*

## **Intermodal Surface Transportation Efficiency Act**

*Another major piece of legislation passed in 1991 was the Intermodal Surface Transportation Efficiency Act (ISTEA) designed to expand and improve the quality and condition of the nation's highway and transportation system. This Act contained provision for the planning and developing of highway systems and a host of transportation enhancement activities including the mitigation of water pollution due to highway runoff. ISTEA established a block grant program in which States could use a portion of their federal highway funding allotment for runoff pollution control devices and other best management practices to reduce the amount of polluted runoff that reaches lakes and rivers. ISTEA also required that Departments of Transportation develop national erosion control guidelines for states to follow when carrying out federal-aid construction projects. Federal Highway Administration guidelines for erosion and sediment control in coastal areas must be consistent with both CZARA Guidance and the state 319 program.*

## **The Food Security Act of 1985**

*Since 1985, farm bills have recognized the environmental problems caused by or associated with agricultural nonpoint source pollution. Congress passed the federal Food Security Act in 1985 to help prevent erosion of cropland and, incidentally, to control sediment runoff from farms. Conservation compliance provisions of the act required farmers who farm highly erodible land to have a conservation plan developed by 1990 and installed by 1995 to be eligible to participate in federal farm programs. The Act also established the Conservation Reserve Program (CRP) to provide financial incentives to farmers who take highly erodible cropland and other environmentally fragile land out of production.*

## **Federal Agriculture Improvement and Reform Act of 1996**

*In 1996 Congress reauthorized the Farm Bill (the Federal Agriculture Improvement and Reform Act) which refunded and restructured the Conservation Reserve Program and made changes to the program including the addition of environmental criteria in recognition that agriculture is a major cause of nonpoint source pollution. The programs of the Farm Bill are administered by the USDA - Natural Resource Conservation Service (NRCS).*

*The 1996 Bill also created the Environment Quality Incentives Program (EQIP) which offered financial, educational, and technical assistance to encourage persons involved in agricultural or livestock production to adopt conservation practices to protect water quality.*

## **Farm Security and Rural Investment Act of 2002**

*The Farm Security and Rural Investment Act of 2002, authorized or reauthorized a number of conservation programs, including the Resource Conservation and Development Program. The legislation simplified existing programs and created new ones to address high-priority environmental and production goals. The new Farm Bill authorized an 80 percent increase in funding above levels previously available for USDA programs designed to protect and conserve natural resources. The 2002 Farm Bill also enhanced coordination between the EPA and the USDA by integrating funding and resources to minimize potential duplication of effort.*

## **State of Texas Nonpoint Source Control Programs**

*In addition to the CWA §319 grant program and other federally funded programs, the State of Texas has managed nonpoint source water pollution through a combination of programs and regulations at the regional and local level.*

## **General Discharge Prohibition**

*The Texas Water Code provides that, except as authorized, no person may "discharge sewage, municipal waste, recreational waste, agricultural waste, or industrial waste*

*into or adjacent to any water in the state," discharge other waste which in itself or in conjunction with any other discharge or activity causes pollution of any water of the state, or commit any other act which causes pollution of any water of the state. Exempted from this prohibition are: discharges authorized by permit, discharges in compliance with a certified water quality management plan as provided under the state agriculture code, and activities under the jurisdiction of the Parks and Wildlife Department, the General Land Office or the Railroad Commission of Texas. The TCEQ enforces these provisions.*

## **Texas Local Government Code**

*Texas law also puts authority to regulate land uses at the regional, county, and municipal level. Texas' local government code includes provisions allowing a home-rule municipality to prohibit the pollution of streams, drains, and tributaries that "may constitute the source of the water supply of any municipality." The law more broadly states that a home-rule municipality may provide protection for and police any watershed. A municipality may exercise other provisions inside or outside the municipality's boundaries.*

## **Municipal Pollution Abatement Plans**

*The TCEQ's regulatory approach to urban nonpoint source management is found in the Texas Water Code, §26.177, which defines the water pollution control duties of cities in Texas. The statute was originally passed by the legislature in 1967 and was amended in 1971, 1977, 1987 and 1997. Under this section, cities having a population of 10,000 or more inhabitants are required to establish a water pollution control and abatement plan when the Clean Rivers Basin assessments or other TCEQ assessments identify water pollution impacts arising within the respective city and not associated with permitted point sources. These plans are to be submitted to the TCEQ for review and approval to address pollution attributable to non-permitted sources, to implement measures to control and abate water pollution within the city's jurisdiction. The statute allows for TCEQ to establish criteria for water pollution control and abatement programs and allows the agency to assess fees to cover the costs to administer the program. The following requirements are specified for water pollution control and abatement: 1) Inventory, monitor, and obtain compliance for waste discharges; and 2) provide for "reasonable and realistic planning plans for controlling..." nonpoint source pollution. Rules implementing §26.177 of the Texas Water Code were developed in 1998 and were adopted by the TCEQ in 1999.*

## **Livestock and Poultry Production Operations**

*In 1987, the Texas Water Commission (now the TCEQ) adopted rules regulating animal feeding operations (AFOs) that can contribute to nonpoint source pollution. AFOs over a certain size, known as concentrated animal feeding operations (CAFOs), are required to obtain a NPDES permit. State regulations prohibit these facilities from discharging wastewater or animal waste directly into streams and rivers or allowing the waste to run off the site, where it could contaminate surface water or groundwater. The permit*

*requires the operator to develop a pollution prevention plan that addresses water and air pollution as well as the land application of wastes and wastewater.*

*Recent rule changes for CAFOs have established stricter permit requirements in certain watersheds where water quality problems have been attributed to livestock operations. The TCEQ adopted rules on March 6, 2002, to implement the requirements of House Bill 2912, of the 77th Texas Legislature regarding permitting requirements for CAFOs located in major sole-source impairment zones and the protection of sole-source drinking water supplies. The EPA adopted changes to the federal CAFO regulations and effluent guidelines that became effective on April 13, 2003, changing the requirements to operate CAFOs under the Clean Water Act. Specifically, the new federal regulations changed which animal feeding operations were defined as CAFOs and what management practices are required for those operations. The effluent guidelines changed the design standards for new source swine, veal, and poultry operations and added a requirement for nutrient management plans (NMPs). These new changes meant that under the state's NPDES MOA with EPA, all state CAFO rules must also meet federal requirements. On February 25, 2004, the TCEQ approved rules that incorporate changes necessary to support the recommendations of the Implementation Plan for the Total Maximum Daily Load evaluations for Segments 1226 and 1255 of the Bosque River.*

## **Edwards Aquifer Protection Program**

*Development activities in various portions of the Edwards Aquifer have been regulated since 1970 when the Texas Water Quality Board (a predecessor agency to the TCEQ) issued an order designed to protect the quality of water entering the Edwards Aquifer recharge zone. Sources of pollution such as underground storage tanks, above ground storage tanks, and sewer lines were regulated. The first Texas counties affected were Kinney, Uvalde, Medina, Bexar, Comal, and Hays. Upon petition by local government, construction activities in portions of Williamson County became regulated in 1986. In 1990, construction activities in portions of Travis county were also regulated.*

*The TCEQ's Edwards Aquifer Protection Program rules regulate certain activities having the potential to adversely affect the water quality of the Edwards Aquifer and hydrologically-connected surface water in order to protect existing and potential beneficial uses of groundwater. The rules require that developers obtain a letter of approval before beginning construction activity and require that developers implement both temporary and permanent best management practices during and after construction.*

*In 1999, Edwards rules were extended to cover the contributing zone to the recharge area. Other changes included a design performance standard for permanent best management practices. The standard applies to water quality systems used for stormwater treatment. Examples include sand filtration basins, extended detention basins, and retention ponds with irrigation systems. The rules also require engineers to certify the construction of the systems. There is also a mechanism in the rules to ensure*

*maintenance of these systems. Regulated activities are those that have the potential for polluting surface streams that will cross the recharge zone. This includes large construction projects and installation of petroleum storage tanks.*

## **On-Site Sewage Facilities**

*Prior to the late 1960's, the regulation of on-site sewage facilities (OSSF) in Texas was administered primarily by municipal governments through local building inspection and plumbing inspection programs. There was no inspection of installation outside of municipal jurisdiction. In the late 1960's, the Texas Legislature adopted legislation which empowered other local governmental entities (e.g., counties, river authorities, Municipal Utility Districts, etc.) to adopt OSSF control orders subject to approval by the Texas Water Quality Board (now TCEQ). These approved orders gave local governments authority to permit systems, conduct inspections, collect fees, and investigate complaints.*

## **Soil Conservation Laws and Programs**

*Early attempts at soil conservation legislation in Texas began during the "Dust Bowl" days of the 1930's when the problems of wind and water erosion began to get public attention. Legislation authorizing the establishment of Wind Erosion Conservation Districts was enacted by the 44th legislature in 1935. This law provided for the creation of districts to conserve the soil by prevention of unnecessary erosion caused by winds, and reclamation of lands that were depreciated or denuded of soil by wind. The TSSWCB, created in 1939, was charged with the responsibility of organizing soil conservation districts throughout the state. In 1941, the 47th Legislature passed House Bill 444 which is the basic conservation law under which the Texas State Soil and Water Conservation Board and the Soil and Water Conservation Districts operate today.*

*The TSSWCB is charged with the responsibility of administering and coordinating the state's soil and water conservation laws and programs with the State's 217 soil and water conservation districts. Through various educational and financial programs, the districts provide assistance to farmers and ranchers to encourage the wise and productive use of the state's soil and water resources. After passage of the 1972 Clean Water Act, the soil and water conservation district directors in Texas asked the TSSWCB to seek an appropriate role for them in nonpoint source planning and management. This request led to the passage of Senate Bill 229 passed during the 69th Texas Legislature. This legislation added §201.026 to the Texas Agricultural Code to give the TSSWCB responsibility to plan implement and manage programs and practices for abating agricultural and silvicultural nonpoint source pollution.*

## **Water Quality Management Plans**

*In 1993, the Texas Legislature took another major step toward controlling water pollution from agricultural and silvicultural nonpoint sources when it passed Senate Bill 503. SB 503 authorized the TSSWCB to assist agricultural and silvicultural*

*producers in meeting the state's water quality goals and standards through a voluntary, incentive-based program. The Bill transferred much of the responsibility for regulating non-permitted, smaller animal feeding operations from the TCEQ to the TSSWCB. The move was designed to change the state's oversight of these operations from a traditional regulatory role to a technical assistance role.*

*SB503 provided for the development and certification of water quality management plans (WQMPs). These plans are site specific plans for agricultural or silvicultural lands which include appropriate land treatment practices, production practices, management measures, technologies, or combinations thereof. A water quality management plan is a site-specific document indicating when, where, and how to implement conservation practices following standards in the USDA Natural Resource Conservation Service Field Office Technical Guide. These plans are tailored to each landowner's conservation needs and management goals while ensuring adherence to state water quality laws.*

*SB 503 legislation also set up a complaint resolution process and provided for a cost share assistance to help pay for some of the costs of installing water quality management practices. The provisions of the legislation are administered by the TSSWCB through and in cooperation with local soil and water conservation districts. The passage of Senate Bill 1339 during the 77th Session of the Texas Legislature expanded the water quality management program to include poultry facilities.*

*Although authorized by SB 503, the TSSWCB has yet to develop a certified water quality management program for silvicultural activities.*