

**NONPOINT SOURCE SUMMARY PAGE**  
**FY 02 319(h)**

1. **Title of Project:** WQMP Implementation Assistance in the Oso Bay / Oso Creek Watershed
2. **Project Goals/Objectives:** (1) To foster coordinated technical assistance activities in the Oso Creek watershed between the TSSWCB, the Nueces SWCD #357, and NRCS. (2) To conduct an inventory and map land uses and current management practices within the targeted watershed. (3) To provide technical and/or financial assistance to landowners to aid in the development and implementation of WQMPs. (4) To compile information on the location and types BMPs for each WQMP implemented. (5) Measure water quality improvement in impaired water bodies.
3. **Project Tasks:** (1) Program Coordination with Project Participants, (2) Development and implementation of WQMPs, (3) Compilations of WQMPs implemented in the Oso Creek Watershed, (4) Watershed Monitoring in the Oso Creek Watershed.
4. **Measures of Success:** Implementation of 40 WQMPs throughout the project for the Planner within the watershed in the Nueces SWCD; Show significant reduction in agricultural NPS pollution from WQMP implementation within the watershed.
5. **Project Type:** Statewide (); Watershed (); Demonstration ()
6. **Waterbody Type:** River (); Groundwater (); Other ()
7. **Project Location:** Segments 2485 and 2485A of the Oso Creek Watershed
8. **NPS Management Program Reference:** State of Texas Agricultural/Silvicultural NonPoint Source Management Program approved February 25, 2000.
9. **NPS Assessment Report Status:** Impaired (); Impacted (); Threatened (); Other ()
10. **Key Project Activities:** Hire Staff (); Monitoring (); Regulatory Assistance (); Technical Assistance (); Education (); Implementation (); Demonstration (); Other ()
11. **NPS Management Program Elements:** Milestones from the “1999 Texas Nonpoint Source Pollution Assessment Report and Management Program”, which will be implemented include: (1) providing financial assistance to Soil and Waters Conservation Districts for the implementation of Water Quality Management Plans to reduce NPS pollution (2) Coordinating with Federal, State, and Local Programs (3) Committing to technology transfer, technical support, administrative support and cooperation between agencies and programs for the prevention of NPS pollution.
12. **Project Costs:** Federal (\$544,302.00); Non-Federal Match (\$241,315.83); Total Project (\$785,617.83)
13. **Project Management:** Texas State Soil and Water Conservation Board
14. **Cooperating Entities:** TSSWCB Harlingen Regional Office; Nueces SWCD; Natural Resources Conservation Service; Texas A&M University – Agricultural Research and Extension Center Corpus Christi and United States Geological Survey San Antonio
15. **Project Period:** Three years

**WQMP Implementation Assistance in the Oso Bay / Oso Creek Watershed  
Texas State and Water Conservation Board  
FY02 CWA Section 319 (h)**

**WORKPLAN**

**Problem/Need Statement:**

The basis for this project is to enhance the efforts and activities of the Texas State and Water Conservation Board (TSSWCB) and the Nueces Soil and Water Conservation District (SWCD) #357 to reduce and/or prevent nonpoint source (NPS) pollution loadings into Oso Bay from the Oso Creek watershed. In the *2000 State of Texas Clean Water Act Section 303(d) List*, segment 2485/Oso Bay, was identified as a NPS pollution concern for low levels of dissolved oxygen.

Efforts to reduce NPS loadings in Oso Bay Watershed will have a positive impact on the lower 25 miles of Oso Creek. This segment (2485A) has been identified as NPS pollution concern for nutrient enrichment on the *2002 State of Texas Clean Water Act 305(b) Water Quality Assessment*. Nutrient enrichment may cause algal blooms and consequently, low levels of dissolved oxygen. The implementation of BMPs will aid in the reduction of NPS loadings into this segment.

Additionally, the City of Corpus Christi has expressed concerns about crop residues, especially from grain sorghum, that as a result of runoff clog drainage culverts and stormwater outfalls. The concern only applies to cropland situated within the city limits of Corpus Christi.

As the lead agency for the State of Texas in abating agricultural NPS pollution, the State Board works closely with local SWCDs to reduce NPS pollution from various agricultural activities. The State Board addresses the prevention or abatement of NPS pollution through the Water Quality Management Plan (WQMP) program. A WQMP is a site-specific plan, which includes appropriate land treatment practices, production practices, technologies and combinations thereof, and an implementation schedule. This program is administered by the TSSWCB and provides agricultural producers in priority areas such as the Oso Creek/Oso Bay Watershed an opportunity to comply with State water quality laws through traditional voluntary, incentive-based programs. The TSSWCB oversees and is responsible for the financial assistance component of the program. The local SWCDs are required to provide or arrange for technical assistance to applicants to develop WQMPs.

**General Project Description:**

This proposed project will consist of TSSWCB working cooperatively with the Nueces SWCD #357 in the Oso Creek/Oso Bay Watershed to provide technical and financial assistance to landowners in the implementation of WQMPs. The primary focus of the 319(h) program is to provide funds to States to implement best management practices (BMP) abate or reduce NPS pollution. The use of 319(h) funds will greatly improve and enhance the abilities of the local SWCD to provide technical and financial assistance to landowners in the implementation of WQMPs.

In this project, technical assistance will be provided by the Nueces SWCD #357 and the TSSWCB Harlingen Regional Office to landowners with the Oso Creek/Oso Bay Watershed to develop and implement WQMPs within the watershed. A planner will be hired by the Nueces SWCD to provide 100 % effort in developing and implementing WQMPs. Technical assistance is best provided by local SWCDs because it will allow for greater local support from landowners in the implementation of WQMPs. These WQMPs can be used to meet the TMDL requirements for agriculture.

The objective of WQMP implementation is to achieve a level of pollution prevention or abatement determined by the State Board in consultation with the local SWCD to be consistent with State water quality standards. Local SWCD will determine which landowners receive technical and financial assistance for the development and implementation of WQMPs. Financial assistance will be prioritized by the local SWCD based on proximity to the impaired segment, as well as the most cost effective and needed pollution abatement practices.

The SWCD will offer a sign-up for the implementation assistance. To obtain a WQMP, landowners and operators will submit a request for implementation assistance to the local SWCD. Upon compiling the list

of producers who are interested in assistance, the SWCD will review and rank these requests based on the above listed priorities. Water quality improvement and protection will be the basis for making these decisions. Land units will further be prioritized based on site evaluations to achieve the greatest water quality benefits in the watershed

Upon approval of the request by the SWCD, the planner will work with the landowners to develop the WQMP. WQMP development includes such activities as:

- Developing Conservation Plan Maps showing boundaries, field, land use, acres and facilities
- Acquire Soil maps with appropriate interpretations
- Developing an implementation schedule
- Completing worksheets used during the planning phases (nutrient management plans, erosion worksheets, and field notes)

Once the planner completes the WQMP, the landowner, NRCS, and SWCD must sign it. It will then be sent by the SWCD to the TSSWCB Regional Office in Harlingen for technical review, and certification. Upon certification, the planner will work with the landowner in taking the appropriate steps needed to implement the components of the WQMP. If the landowner does not implement the WQMP according to the conditions established in the plan, then the TSSWCB has the authority to decertify the plan. The planner will complete 100% status reviews on all WQMPs developed for the duration of the project.

Corpus Christi Bay and the Laguna Madre estuary are shallow, poorly circulated, and potentially sensitive to point and nonpoint source (NPS) contributions of water-quality constituents. While data on urban runoff is available through the ongoing National Pollutant Discharge Elimination System (NPDES) study for the city of Corpus Christi, similar data on quantity and quality of agricultural runoff into Corpus Christi Bay through the Oso Creek is unavailable. Because much of the area surrounding the Oso Creek watershed is agricultural, data on characteristics of agricultural runoff in Nueces County would enable resource managers to develop plans to protect and conserve estuarine resources.

The objective of this project is to estimate the loadings of nutrients, pesticides, and selected inorganic ions originating from croplands in the Oso Creek watershed that drains to Corpus Christi Bay. To accomplish this objective, the following tasks will be performed:

1. Compile available data and describe the general hydrologic setting of the cropland study areas.
2. Design and establish a water-quality monitoring program to characterize the quantity and quality of surface runoff exiting the croplands within the watershed, and rainfall falling on the watershed.
3. Analyze the flow and water-quality data and calculate constituent loads and Event Mean Concentrations (EMCs) from storm events as well as annual loadings for each site.
4. Determine the annual loadings of nutrients and pesticides applied to croplands by farmers in the two watersheds and compare with annual loadings of constituents exiting the croplands through storm water runoff.

### **Task, Objectives, Schedules, and Estimated Costs:**

#### ***TASK 1: Program Coordination with project Participants***

Costs: \$58,331.29 (Federal), \$0 (Non-Federal), \$58,331.29 (Total).

**Objective:** To foster coordinated technical assistance activities in the Oso Creek watershed between the TSSWCB, NRCS, and Nueces SWCD.

**Subtask 1.1** The Nueces SWCD will hire a planner who will coordinate and carry out the project. The TSSWCB Harlingen Regional Office will train the planner. (Start Date: Month 1; Completion Date: Month 36)

**Subtask 1.2:** Conduct semi-annual meetings with project participants and TSSWCB project manager to discuss technical assistance activities. (Start Date: Month 1; Completion Date: Month 57)

**Subtask 1.3:** Coordinate with other agencies and programs providing landowners incentives for adopting Best Management Practices. (Month 1 through month 36)

**Subtask 1.4:** Prepare quarterly reports and a final report for submittal to the TSSWCB. (Start Date: Month 1; Completion Date: Month 57)

**Deliverables:**

- Quarterly Reports
- Final report at culmination of project in electronic format
- Copies agendas, attendance, and minutes from semi-annual meetings

***TASK2: Development and Implementation of WQMPs***

Costs: \$262,388.50 (Federal), \$87,462.83 (Non-Federal), \$349,851.33 (Total).

**Objective:** To provide technical assistance to landowners in developing and implementing WQMPs within the Oso Creek Watershed.

**Subtask 2.1:** The SWCD planner will develop approximately 40 WQMPs within the Oso Creek/Oso Bay Watershed. The SWCD planner will complete all WQMPs with assistance from the NRCS as needed. (Start Date: Month 1; Completion Date: Month 36)

**Subtask 2.2:** The SWCD planner will send out notifications announcing the availability of assistance for implementing WQMPs, and will assist the Harlingen Regional Office, NRCS and Nueces SWCD in accepting and prioritizing the WQMP applications. (Start Date: Month 1; Completion Date: Month 3)

**Subtask 2.3:** The planner, with assistance from NRCS and the TSSWCB Harlingen Regional Office, will provide landowners with information on appropriate best management practices and will work with landowners in developing and implementing WQMPs within the Oso Creek watershed. (Start Date: Month 1; Completion Date: Month 32)

**Subtask 2.4:** TSSWCB will provide technical review and certification of WQMPs. (Start Date: Month 1; Completion Date: Month 32)

**Subtask 2.5:** The SWCD planner will conduct status reviews on all WQMPs to ensure BMP implementation schedules are being followed.

**Deliverables:**

- 40 WQMPs developed and implemented within the watershed.
- Records of BMPs implemented to date by each producer
- Copies of status reviews

***TASK 3: Compilations of WQMPs Implemented in the Oso Creek Watershed.***

Costs: \$31,771.86 (Federal), \$0 (Non-Federal), \$31,771.86 (Total)

**Objective:** To compile information on the location and types of BMPs for each WQMP implemented.

**Subtask 3.1** The Planner, with assistance from NRCS, the TSSWCB Harlingen Regional Office and the SWCDs will compile information on the location and types of BMPs for each WQMP implemented within the Oso Creek drainage area. (Start Date: Month 1; Completion Date: Month 57)

**Deliverables:**

- A spreadsheet and map showing the location and types of BMPs for each WQMP implemented.

***TASK 4: Watershed Monitoring in the Oso Creek Watershed***

**Costs:** \$191,810.35 (Federal), \$153,853.00 (Match), \$345,663.35 (Total)

**Objective:** The objective of this task is to estimate the loadings of nutrients, pesticides, and selected inorganic ions originating from croplands in the Oso Creek watershed that drains to Corpus Christi Bay.

**Subtask 4.1** Develop DQOs and a QAPP to be approved by USEPA (Start Date: Month 38; Completion Date: Month 39).

**Subtask 4.2:** Select two sites to conduct water quality sampling. Maintain water quality monitoring equipment and collect water samples. (Month 38 through month 40)

**Subtask 4.3** Texas A&M University – Agricultural Research and Extension Center Corpus Christi and United States Geological Survey San Antonio will compile available data and describe the general hydrologic setting of the cropland study areas. (Start Date: Month 38; Completion Date: Month 56).

**Subtask 4.4** Texas A&M University – Agricultural Research and Extension Center Corpus Christi and United States Geological Survey San Antonio will design and establish a water-quality monitoring program to characterize the quantity and quality of surface runoff exiting the croplands within the watershed, and rainfall falling on the watershed. (Start Date: Month 38; Completion Date: Month 56).

**Subtask 4.5** Texas A&M University – Agricultural Research and Extension Center Corpus Christi and United States Geological Survey San Antonio will analyze the flow and water-quality data and calculate constituent loads and Event Mean Concentrations (EMCs) from storm events as well as annual loadings for each site. (Start Date: Month 38; Completion Date: Month 56)

**Subtask 4.6** Texas A&M University – Agricultural Research and Extension Center Corpus Christi and United States Geological Survey San Antonio will determine the annual loadings of nutrients and pesticides applied to croplands by farmers in the two watersheds and compare with annual loadings of constituents exiting the croplands through storm water runoff. (Start Date: Month 38; Completion Date: Month 56)

**Subtask 4.7** Texas A&M University – Agricultural Research and Extension Center Corpus Christi and United States Geological Survey San Antonio will compile and analyze the sampling data. Data will be for informational and assessment purposes due to the limited data previously collected. (Start Date: Month 38; Completion Date: Month 56).

**Subtask 4.8** Texas A&M University – Agricultural Research and Extension Center Corpus Christi and United States Geological Survey San Antonio will develop an electronic final report, which will include an executive summary of the data collected during the project. (Start Date: Month 55; Completion Date: Month 57)

**Deliverables**

- Approved QAPP
- Data Report
- Final Report

**Coordination, Roles and Responsibilities:**

Participating organizations and agencies along with their roles in this project include:

- Texas State Soil & Water Conservation Board - Project Lead - Responsible for technical review and certification of WQMPs. Work with and assist, as needed local SWCD in the implementation and development of WQMPs. Also assist the district in inventorying current BMPs and land use practices and the implementation of WQMPs
- Nueces SWCD- Responsible for developing and implementing WQMPs on a watershed basis. Also responsible for inventorying current BMPs and land use practices on a watershed basis and for tracking/inventorying the implementation of WQMPs
- Natural Resources Conservation Service - Work with, and assist as needed, local SWCD in the implementation and development of WQMPs
- Texas A&M University – Agricultural Research and Extension Center Corpus Christi - Responsible for installation, maintenance, troubleshooting, and repair of gaging and sampling stations and instrumentation. Responsible for sample collection, processing, and shipment of samples to NWQL. Assist USGS in delineating boundaries of watersheds gaged by streamgage stations. Site maintenance (mowing). Primary contact with property owners.
- United States Geological Survey San Antonio- Responsible for delineating boundaries of watershed gaged by streamgage stations. Assist TAES with installation, maintenance, troubleshooting, and repair of gages and sampling stations and instrumentation. Responsible for streamgaging. Provide direction and assist TAES with sample collection, processing and shipment. Responsible for maintenance of streamflow and precipitation data base. Responsible for maintenance of water-quality data base for NWQL analyses. Furnish bottles for delivery and shipment of samples. Provide quarterly progress report to TAES. Publish a USGS report summarizing the results of the study.

**Public Participation:**

This is an internal TSSWCB project with the Nueces SWCD, USDA, NRCS, TAES and USGS. This project will provide technical assistance to landowners in this district in the implementation of WQMPs in the Oso Creek/Oso Bay watershed. Also water quality monitoring will be done within the Oso Creek Watershed.

**Measures of Success:**

- Implementation of 40 WQMPs throughout the course of the project by the planner within the targeted watershed in each SWCD.
- Quantification of nutrient and pesticide loadings in surface water runoff from implementation of agricultural BMPs
- Improved knowledge of agricultural NPS pollution for public policy making and agricultural BMP technology transfer.
- Increased awareness of agricultural NPS impacts on water quality thru BMP technology transfer.

Reference to Project in the NPS Management Program:

Category: Agriculture

**TSSWCB Project Manager:**

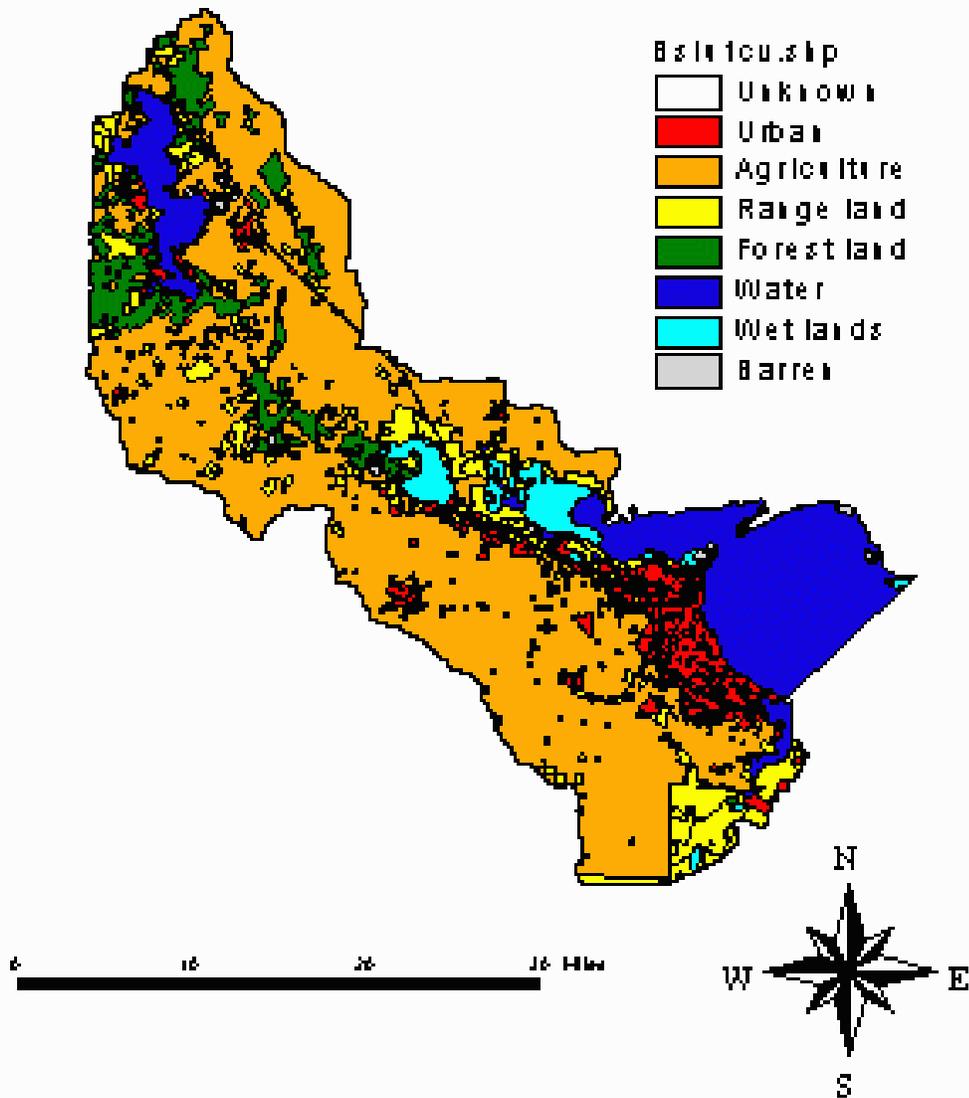
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## Land Uses in the Upstream of Corpus Christi Bay Area



<b>BUDGET</b>
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“WQMP Implementation Assistance in the Oso Bay / Oso Creek Watershed”  
 Nueces SWCD

<u>Object Class Category</u>	<u>Federal Funds</u>	<u>Non-Federal Match</u>	<u>Total Costs</u>
<b>1. Personnel</b>			
Nueces SWCD Technician			
One Bookkeeper	\$61,800.29	\$0	\$61,800.29
Subtotal Personnel	\$61,800.29	\$0	\$61,800.29
<b>2. Fringe Benefits</b>			
Benefits	\$11,362.51	\$0	\$11,362.51
Subtotal Fringe	\$11,362.51	\$0	\$11,362.51
<b>3. Travel</b>			
Mileage	\$2,817.08	\$0	\$2,817.08
Subtotal Travel	\$2,817.08	\$0	\$2,817.08
<b>5. Supplies</b>			
Supplies	\$8,292.27	\$0	\$8,292.27
Subtotal Supplies	\$8,292.27	\$0	\$8,292.27
<b>6. Contractual</b>			
Office Space (NRCS)	\$7,800.00	\$0	\$7,800.00
Sampling and Analysis (TAES and USGS)	\$243,575.35	\$186,030.00	\$429,605.35
Financial Audit	\$1,500.00	\$0	\$1,500.00
Subtotal Contractual	\$252,875.35	\$186,030.00	\$438,905.35
<b>7. Construction</b>			
Incentive Payments for WQMP Implementation	\$258,919.50	\$87,463.00	\$346,382.50
Subtotal Construction	\$258,919.50	\$87,463.00	\$346,382.50
<b>8. Other</b>			
Phone Service @ \$50/month	\$0	\$0	\$0
Subtotal Other	\$0	\$0	\$0
<b>9. Total Direct Costs</b>	\$596,067.00	\$273,493.00	\$869,560.00
<b>10. Indirect Costs</b>	\$0	\$0	\$0
<b>11. Total Project Costs</b>	\$596,067.00	\$273,493.00	\$869,560.00