USDA

United States
Department of
Agriculture

Natural
Resources
Conservation
Service

Ecleto Creek Watershed

Floodwater Retarding Structure No. 7

Environmental Assessment

DeWitt, Guadalupe, Karnes,
and
Wilson Counties, Texas

Prepared by:

U.S. Department of Agriculture
Natural Resources Conservation Service
Planning Staff
Temple, Texas

In cooperation with:

DeWitt County Soil and Water Conservation District,
Karnes County Soil and Water Conservation District,
Wilson County Soil and Water Conservation District,
Comal-Guadalupe Soil and Water Conservation District,
Ecleto Creek Watershed District,
and
San Antonio River Authority

December 1996

ENVIRONMENTAL ASSESSMENT

ECLETO CREEK WATERSHED
FLOODWATER RETARDING STRUCTURE NO. 7

The USDA Natural Resources Conservation Service (NRCS) prepared this document to evaluate the environmental impacts of installing Floodwater Retarding Structure No. 7 in the Ecleto Creek Watershed. The National Environmental Policy Act of 1969 became law after the original work plan was approved for operations. Public Law 566, 83rd Congress, Stat. 666, as amended, authorized approval for this project in 1969. The approved plan recommends installing needed land treatment measures and 11 floodwater retarding structures in this watershed. Local landowners applied the land treatment measures. NRCS (formerly the Soil Conservation Service or SCS) is now preparing to install Floodwater Retarding Structure No. 7. The environmental impacts of installing this structure include; creating a fisheries resource where none exists, planting grass and fencing to benefit ground nesting birds and other wildlife, reducing downstream flooding, increasing habitat diversity, removing 88 acres (36 hectares) of rangeland vegetation, and removing 4 acres (2 hectares) of woody vegetation from riparian habitat. This project will convert 43 acres (17 hectares) of terrestrial habitat into Lacustrine aquatic habitat..

Sponsors for the project are the DeWitt County Soil and Water Conservation District, Karnes County Soil and Water Conservation District, Wilson County Soil and Water Conservation District, Comal-Guadalupe Soil and Water Conservation District, Ecleto Creek Watershed District, and the San Antonio River Authority. Assistance was provided by the USDA's Natural Resource Conservation Service.

For additional information contact:

Harry W. Oneth, State Conservationist
Natural Resources Conservation Service
101 South Main St.
Temple, Texas 76501-7682
phone: (817) 774-1214

Table of Contents

ENVIRONMENTAL ASSESSMENT
ECLETO CREEK WATERSHED
FLOODWATER RETARDING STRUCTURE NO. 7

SUMMARY OF ENVIRONMENTAL ASSESSMENT

Project Name: Ecleto Creek Watershed

Counties: Guadalupe, Wilson, Karnes, and DeWitt

State: Texas

Sponsors:

DeWitt County Soil and Water Conservation District
Karnes County Soil and Water Conservation District
Wilson County Soil and Water Conservation District
Comal-Guadalupe Soil and Water Conservation District
Ecleto Creek Watershed District
San Antonio River Authority

Description of Recommended Action:

Install one floodwater retarding structure - No. 7. See Appendix B - Project Map for its location.

Resource Information:

Size of Ecleto Creek Watershed:

170,880 acres (69,160 hectares)

Land Use:

Cropland -	42,200 acres	(17,080 hectares)
Pastureland -	37,100 acres	(15,010 hectares)
Rangeland -	84,480 acres	(34,190 hectares)
Wildlifeland -	800 acres	(320 hectares)
Otherland -	6,300 acres	(2,550 hectares)

Number of Farms:	740
Average Size:	231 acres (93 hectares)
Prime Farmland:	11,515 acres (4,660 hectares)
Wetlands:	132 acres (53 hectares) of Palustrine wetlands.
Flood Plains:	12,870 acres (5,210 hectares)

Endangered Species:

1. No endangered or threatened species are known to reside in the watershed.

2. The whooping crane (Grus americana) and the bald eagle Haliaeetus leucocephalus) may migrate through the watershed during the migratory period.

3. The endangered ocelot (Felis pardalis) and the candidate species of Gulf Coast hog-nosed skunk (Conepatus leuconotus texensis) are listed as occurring in South Texas.

Sociological Resources:

1. Rural communities are Caddo, Pandora, Gillett, Harmony, Runge, and Ecleto. Each has a population under 1,200.

2. Population in the watershed is 2,830. Breakdown by ethnic group is 60 percent white, 38 percent Hispanic, and 2 percent Black.

3. The economy is agricultural.

4. Market value of agricultural products sold in Karnes County was $18 million in 1992.

Problem Identification:

The principal problem within the watershed is frequent and extensive flooding. It occurs on portion of the flood plain. The results are damages to crops, grasses, soils, agricultural properties, roads, and bridges.

Impacts of Floodwater Retarding Structure No. 7 on Natural Resources:

Air Quality:

Construction activities will cause temporary dust pollution.

Water Quality:

This structure will improve water quality by reducing sediment load in streams.

Agricultural Production:

1. Construction will permanently affect 99.0 acres (40 hectares) of rangeland.

2. The structure will reduce flood damage on cropland, pastureland, and rangeland.

Fisheries:

This project will create 43.0 acres (17.4 hectares) of aquatic habitat.

Wildlife habitat:

1. The structure will reduce riparian habitat by 4.0 acres (1.6 hectares).

2. The structure will create 43.0 acres (17.4 hectares) of Lacustrine wetland habitat.

3. Installation of the structure will convert 43.0 acres (17.4 hectares) of brushy rangeland habitat to aquatic habitat, and 56.0 acres (22.7 hectares) to other habitats.

4. Installation of the structure will provide an additional source of water for terrestrial species.

Archaeological Resources:

No known archaeological sites will be impacted by this project. However, if a site is discovered during construction appropriate actions will be taken.

INTRODUCTION

The original Ecleto Creek Watershed Work Plan was completed prior to implementation of the National Environmental Policy Act of 1969. Therefore, an Environmental Assessment document was not originally completed for this watershed. In the early 1990's the Natural Resource Conservation Service (Soil Conservation Service at that time) made an Environmental Assessment (EA) of five floodwater retarding structures in the Ecleto Creek Watershed (completed July 1991). Cooperation and assistance were provided on preparing the EA from state, local, and federal agencies and local sponsors. These sites (3, 4, 6, 9A, and 10) were chosen due to likelihood of obtaining the needed easements and constructing these sites. The EA completed indicated no significant adverse impacts to the environment.

At that time there was not a request to look at Floodwater Retarding Structure No. 7. It has since been added to the list of proposed structures to be constructed because of the likelihood that easements can be obtained. This site was planned in the original Ecleto Creek Watershed Work Plan.

The EA of proposed Floodwater Retarding Structure No. 7 indicates no significant effect on the human environment. Therefore, an Environmental Impact Statement is unnecessary. This report provides environmental documentation on Floodwater Retarding Structure No. 7 which was not required in the original plan. This environmental assessment is necessary to comply with the National Environmental Policy Act of 1969.

SPONSORS

DeWitt County Soil and Water Conservation District
Karnes County Soil and Water Conservation District
Wilson County Soil and Water Conservation District
Comal-Guadalupe Soil and Water Conservation District
Ecleto Creek Watershed District
San Antonio River Authority

PURPOSE AND NEED OF ACTION

PROJECT SETTING

Size and Location

The Ecleto Creek watershed is 267 square miles (694 square kilometers) or 170,880 acres (69,160 hectares) in size. The watershed is 40 miles (64 kilometers) long and ranges in width from 4 miles (6 kilometers) at the upper end to 12 miles (19 kilometers) at the lower end. It is located 30 miles (48 kilometers) southeast of San Antonio in portions of DeWitt, Guadalupe, Wilson, and Karnes County.

Stream Systems

Ecleto Creek is the main stream system in the watershed. It is an intermittent stream that originates in southern Guadalupe County, approximately 10 miles (16 kilometers) south of Seguin. It flows in a southeasterly direction, crossing eastern Wilson and Karnes counties, before entering the San Antonio River 2.5 miles (4.0 kilometers) west of Runge.

Principal tributaries in the Ecleto Creek Watershed are Rhymes Creek, Dry Ecleto Creek, and McTennel Creek. They are located in the lower portion of the watershed.

Climatological Data

The climate is generally warm and subhumid. Winters are fairly mild, but are subject to rapid temperature changes with the passage of cold fronts. Summers are warm to hot. Temperatures range from an average high of 96 degrees Fahrenheit (10 degrees Celsius) in July to an average low of 42 degrees F (4 degrees C) in January. Normal growing season is 270 days in the northern part of the watershed and 281 days in the southern part. Average rainfall ranges from a low of 28.7 inches (72.9 centimeters) per year in the northwest portion of the watershed to a high of 33.4 inches (84.8 centimeters) per year in the southeast. Rainfall is fairly well distributed throughout the year with the heaviest precipitation occurring in the spring and fall.

Geology

Two Major Land Resource Areas (MLRA) occur in the watershed. The Southern Claypan MLRA occupies the upper 28 percent of the watershed. The remaining 72 percent is in the Northern Rio Grande Plain MLRA.

Surface soils in the Southern Claypan MLRA are primarily medium to coarse in texture. Most of the soils have fine textured subsoils and are slow to very slowly permeable. A major exception is the Carrizo Sand outcrop, characterized by very deep surface sands with rapid permeability rates. The main soil series in the Southern Claypan MLRA are Eufaula, Stidham, Demona, Axtell, Tabor, Bonham, and Crockett.

In the Northern Rio Grande Plain MLRA, most of the surface soil textures are fine sandy loam, clay loam, and clay. Permeability rates are primarily slow to very slow, but areas of moderate permeability occur. The main soil series in the Rio Grande Plain MLRA are Orelia, Miguel, Webb, Monteola, Heiden, Burleson, and Trinity.

Published soil surveys are available for DeWitt, Guadalupe, and Wilson Counties. Soils information is available at the Natural Resources Conservation Service Field Offices.

Bands of poorly consolidated or solidified continental and marine Tertiary sediments, deposited in or near the Gulf of Mexico 25 to 55 million years ago, occur crossing the watershed from northeast to southwest. The bands dip gently to the southeast beneath progressively younger beds.

Topography

The Ecleto Creek Watershed consists of gently rolling plains with few prominent features. Draws leading to Ecleto Creek are generally wide and gently sloping. Elevations range from 730 feet above mean sea level along the northern divide to 200 feet above mean sea level where Ecleto Creek and the San Antonio River join.

Population Centers

Communities in the watershed include Caddo, Pandora, Gillett, Harmony, Runge, and Ecleto. Runge is the largest town in the watershed, with a population of 1,139 in 1990 (1990 Census of Population and Housing - Texas). Runge is on the southern watershed divide. One unincorporated community in Guadalupe

County contains approximately 100 houses. Total population in the watershed is approximately 2,800.

Social and Economic Information

The economy of the watershed largely depends on agriculture. Primary sources of farm income are the sale of cash crops and livestock. The most important crops in Karnes County are corn, wheat, and grain sorghum.

The average size of farms in the county is 364 acres (147 hectares). About 32 percent of the farms and ranches in the county are less than 100 acres (40 hectares) in size (1992 Census of Agriculture).

Market value of agricultural products sold in 1992 was 18 million dollars. About 60 percent of the farms and ranches in the four county area gross $10,000 or less annually from agricultural sales. Approximately 40 percent of the farm and ranch operators worked off the farm for more than 200 days in 1992 (1992 Census of Agriculture).

Flooding and Flood Plain Management

Flood waters damage 6,270 acres (2,540 hectares) on an average annual basis. Every two to three years, major floods cover more than half of 12,870 acres (5,210 hectares) of flood plain in the watershed. Minor floods occur on an average of twice a year. These cover less than half of the flood plain. Damages are moderate to severe to growing crops and to other agricultural and nonagricultural properties.

On September 21 - 22, 1967, Hurricane Beulah deposited from 11 to 26 inches (28 to 66 cm) of rainfall on the watershed. The flood resulted in two deaths by drowning, damaged farm houses and buildings, and closed highways and county roads. Other severe floods have occurred in 1946, 1951, 1956, and 1958.

AFFECTED ENVIRONMENT

Air Quality

No known air quality problems were identified. However, construction activities may cause a temporary dust problem.

Water Quality

Agricultural land uses and farming and ranching management practices influence water quality. The Texas Natural Resource Conservation Commission (formerly the Texas Water Commission) did not list any agricultural water quality problems in this watershed during their evaluation process for Section 319 assessment of the Clean Water Act. The original Ecleto Creek Watershed Work Plan estimated average sediment yield to the mouth of the watershed was 220,600 tons per year. With a reduction in cropland and resulting increase in grassland acreage, average annual sediment yields have decreased. However, the watershed is still a source of sediment in the San Antonio River and Gulf of Mexico.

During construction of the structure, disturbed areas will be susceptible to soil erosion until vegetation is established. This structure will reduce the amount of sediment transported downstream. The reservoir will also create additional water for livestock that encourages improved range conditions, therefore, reducing erosion.

Water Resources

The only water resources in the watershed are farm and ranch ponds and Ecleto Creek. Ecleto Creek in the region affected by Floodwater Retarding Structure No. 7 is an ephemeral stream with very few potholes.

Completion of the structure will reduce flood flow depths downstream. These reduced flows will be extended in time due to the nature of the structure.

Agricultural Production

The area directly affected by the installation of Floodwater Retarding Structure No. 7 includes approximately 616 acres (249 hectares), of which 567 acres (229 hectares) is in rangeland. The remaining acreage is composed of 33 acres (13 hectares) of pastureland, and 16 acres (6 hectares) of cropland. The pastureland consists of unmanaged coastal bermudagrass that contains small brush and numerous weeds. The cropland is generally planted to an annual forage crop and is grazed by livestock.

The rangeland contains various densities of mixed brush and grasses. Brush species present include white brush, mesquite, elm, Texas Persimmon, lotebush, hackberry, honeysuckle, and

smilax. Grasses include Texas wintergrass, rescuegrass, feather bluestem, little barley, threeawn, hooded windmill, Arizona cottontop, fall witchgrass, buffalograss, curlymesquite, sideoats grama, and bermudagrass. Other vegetation present include western ragweed, common sunflower, annual broomweed, Englemanndaisy, slim aster, and pepperweed.

Both the rangeland and pastureland have been heavily overgrazed. The rangeland is in low fair to poor range condition and the trend is down. Vegetation on pastureland is mainly coastal bermudagrass in poor condition. Mesquite and other brush species, as well as weeds, are invading the pastureland.

Construction of the dam, emergency spillway, and sediment pool will permanently affect 99.0 acres (40 hectares) of rangeland. The reservoir will provide an additional water source for livestock, which will encourage better grazing distribution and promote improved range condition.

Wetlands

The U.S. Fish and Wildlife Service publication, Classification of Wetlands and Deepwater Habitats of the United States, define wetlands as having one or more of the following: a prevalence of hydrophytic vegetation, hydric soil, or wetland hydrology. Hydrophytic vegetation are plants that grow in water or on nonsoil that is at least periodically deficient in oxygen as a result of excessive water content. Hydric soils are soils which are saturated, flooded, or ponded long enough during the growing season to develop anaerobic or oxygenless conditions in the upper part. Wetland hydrology refers to permanent or periodic flooding or prolonged soil saturation which created anaerobic conditions in the soil.

All jurisdictional wetlands must possess a prevalence of hydrophytic vegetation, hydric soils, and wetland hydrology. Field investigations conducted by a NRCS biologist and soil scientist determined there is not a prevalence of hydrophytic vegetation or hydric soils in the area affected by the dam, emergency spillway, and sediment pool. Ecleto Creek in this area is an ephemeral stream which only contains water for a very short period of time following a rainfall event.

Construction of the dam, emergency spillway, and sediment pool will permanently affect 99.0 acres (40 hectares) of rangeland habitat. This structure will create approximately 43 acres (17 hectares) of Lacustrine wetlands.

Fish and Wildlife

Since all streams in the drainage area of this site are ephemeral, farm ponds provide the only fish habitat in the area of interest. During wet periods, potholes in the creeks may contain various species of sunfish, catfish, minnows, gar, and carp. These fish are washed from farm ponds and swim upstream when creeks are flowing.

The principal game species in the watershed are white-tailed deer, javelina, turkey, morning dove, and bobwhite quail. Raccoons, opossums, bobcats, and fox are the main fur-bearing animals present. Numerous species of birds, rodents, reptiles, and amphibians are also present.

Rangeland, pastureland, and cropland provide wildlife habitat. Due to the poor condition of the rangeland in the watershed, the wildlife habitat rates as fair to poor. Cropland provides good to fair habitat elements for some species, depending on the crops grown, amount of rainfall received, and farming practices.

This project will provide 43 acres (17 hectares) of fish habitat in the watershed, as well as create additional shoreline habitat.

When completed the dam, emergency spillway, and reservoir will permanently alter 99 acres (40 hectares) of wildlife habitat on rangeland. After construction, the reservoir will provide a source of water for wildlife. Grasses and forbs seeded on the dam and in the spillway will provide food and cover for some species of wildlife. Flood water will temporarily displace ground nesting birds and other wildlife when the structures reach flood stage.

The dam and emergency spillway (including the borrow area) will not destroy any existing wetland habitat. However, the sediment pool will create 43 acres (17 hectares) of water for wildlife, as well as reduce downstream flooding of wildlife habitats.

Endangered and Threatened Species

According to the US Fish and Wildlife Service, no federally listed endangered or threatened species are known to occur in the watershed. However, the watershed is within the migration route of the endangered whooping crane (*Grus americana*) and the bald eagle (*Haliaeetus leucocephalus*).

The endangered ocelot (Felis pardalis) and the candidate Gulf Coast hog-nosed skunk (Conepatus leuconotus texensis) are also listed as occurring in deep south Texas. However, based on the following descriptions of habitat requirements for these species, no habitat exists within the area affected by Ecleto Creek Watershed Site 7.

Whooping cranes are most likely to pass through the watershed in October to November, and in April to May. They winter at the Aransas National Wildlife Refuge and on Matagorda Island about 90 miles (145 kilometers) south of the project area. Critical habitat, preferred nesting sites, and sustainable food sources are not present in the watershed.

The bald eagle occurs throughout the southern states and winters in Texas from October through March. It usually nests within two miles (three kilometers) of open water in a transitional area between forest and marsh. No evidence of their presence was found.

The ocelot is closely associated with the thick brush habitat in South Texas. Various other species also use brush for shelter, hunting areas, and as protected corridors for travel. No ocelot habitat exists in the area affected by Floodwater Retarding Structure No. 7.

The Gulf Coast hog-nosed skunk historically ranges throughout a large area in South Texas. However, little is known about this species' habit and habitats. Information is generally based on the western species of hognose skunks. It generally occupies foothills or brushy sections of their range, and seem to prefer rocky situations when available, where the numerous cracks and hollows can provide den sites. Their presence is sometimes detected by observations of "ploughed" patches of ground resulting from their rooting activities. This skunk has a single large white stripe running from the head down the length of the back. No hog-nosed skunk habitat exists in the area affected by Floodwater Retarding Structure No. 7.

Archaeological and Historic Resources

An Archaeological Reconnaissance of Ecleto Creek Watershed, South Central, Texas was completed in February 1971 by Daymond D. Crawford. According to the survey, evidence of archeological sites within these areas were very limited, with only an occasional flake or flakes found in erosional cuts. This site did not warrant further investigation to complete the reconnaissance report.

There are no sites listed on the National Register of Historic Places in the area that will be disturbed by the construction of Floodwater Retarding Structure No. 7.

ALTERNATIVES

The alternatives for this authorized operation watershed project are: (1) no further action; (2) construct Floodwater Retarding Structure No. 7. The following is a discussion of each alternative.

ALTERNATIVE 1 - NO FURTHER ACTION

This alternative of no further action would eliminate construction of Floodwater Retarding Structure No. 7 in Ecleto Creek Watershed. It would avoid environmental impacts to 99.0 acres (40 hectares) of land. Flooding would continue in the flood plain. Sediment would continue to flow into the San Antonio River. This alternative would not cost any project funds.

ALTERNATIVE 2 - CONSTRUCT FLOODWATER RETARDING STRUCTURE

This is the selected alternative. It consists of constructing Floodwater Retarding Structure No. 7. Plans are to install the remaining structures in this watershed at a later date.

Installation of this site, including dam, emergency spillway, and sediment pool will require 99.0 acres (40 hectares). Floodwater Retarding Structure No. 7 will not impact any prime farmland. This alternative will cost $931,200.

PROPOSED ACTIONS

The proposed action is to install Floodwater Retarding Structure No. 7, located in Karnes County. The structure will consist of a dam, emergency spillway, sediment pool, and floodwater detention pool.

PROJECT COSTS AND BENEFITS

Project costs for Floodwater Retarding Structure No. 7, which includes PL 83-566 and other costs, are $931,200. PL 83-566 costs are $765,400, which includes $629,110 construction costs, $37,700 engineering costs, and $98,600 for project administration. Local costs are $165,800 which includes $163,500 for landrights costs and $2,300 for project administration.

Total average annual project cost is $44,000. It includes $43,500 installation cost and $500 for operation and maintenance.

The installation of this structure will require a total of 616 acres (249 hectares), as described below.

Dam and emergency spillway	- 56.0 ac (23 ha).
Sediment pool (lowest ungated outlet)	- 43.0 ac (17 ha).
Detention pool	- 517.0 ac (209 ha).

Floodwater damage reduction benefits average $35,300 annually. These include floodwater damages to crops, pastures, other agricultural property, and roads. Other floodwater damage reduction benefits (averaging $20,700 annually) were calculated outside the watershed on the main stem flood plain of the San Antonio River. Average annual benefits from more intensive use of the flood plain are estimated to be $25,500. Benefits from the incidental use of the sediment pool for recreation or livestock water are $4,400. The value of local secondary benefits stemming from the project is estimated to be $12,600. Total average annual benefits are $98,500.

The ratio of total average annual benefits ($98,500) to average annual cost ($44,000) is 2.2:1.0.

This structure is expected to have the following impacts on wildlife habitats.

1. Positive impacts;

a. The body of water created by the dam will create a better habitat diversity.

b. Downstream flooding of wildlife habitat will be reduced.

c. About 43 acres (17 hectares) of aquatic habitat will be created.

d. A fisheries resource will be created where none exists.

e. The dam and emergency spillway will be planted to grasses that have wildlife values.

f. The dam and emergency spillway will be fenced to control livestock grazing. This will greatly benefit ground nesting birds.

g. This site will provide $98,500 in benefits annually.

2. Adverse impacts;

a. Vegetation will be removed from the areas to be occupied by the dam and emergency spillway (56 acres - 23 hectares) and approximately 32 acres (13 hectares) of the borrow area (sediment pool) for a total of 88 acres (36 hectares).

b. Woody vegetation will be removed from about 4 acres (2 hectares) of riparian habitat.

c. The project costs for this site will be $931,200.

MITIGATION FEATURES

The following measures have been recommended to mitigate adverse impacts on wildlife habitats.

1. Only remove the vegetation necessary to construct the structure. Leave as much woody vegetation as possible in the sediment pool and detention pool.

2. Construct a 3:1 side slope around at least 3/4 of the sediment pool.

3. Fence the dam and emergency spillway to control livestock grazing.

4. Seed the dam and emergency spillway to grasses that prevent soil erosion and that provide wildlife food and cover.

CULTURAL RESOURCES

Planning activities for the protection and preservation of historic properties will comply with Section 106 and Section 110(f) and (k) of the National Historic Preservation Act. NRCS responsibilities for compliance will be met by processes consistent with the Advisory Council on Historic Preservation regulations (36 CFR 800). The NRCS will take action to protect or recover, or both, any historical properties discovered during construction.

CONSULTATION AND PUBLIC PARTICIPATION

GENERAL

The NRCS consulted and reviewed the planning and implementation stages of the original Ecleto Creek Watershed Work Plan with the appropriate agencies and others. This process is continuing as required by the National Environmental Policy Act of 1969 and environmental executive orders. The Environmental Assessment of Ecleto Creek Watershed Sites 3, 4, 6, 9A, and 10 was completed July, 1991 following those guidelines. This report is being developed in a similar manner.

The NRCS requested information pertaining to Section 7 of the Endangered Species Act from the U.S. Fish and Wildlife Service on January 17, 1996. Their response and input has been used to develop this Environmental Assessment. They were also involved in the interagency review of this document.

The Texas Archaeological Salvage Project, the University of Texas at Austin, conducted the original archaeological survey in July 1970. Prewitt and Associates, Inc., consulting archaeologists, conducted further archaeological surveys in January of 1980. The NRCS contacted the Texas Archaeological Research Laboratory of the University of Texas at Austin on April 3, 1990. They requested updated information on possible locations of archaeological and historic sites within the project boundaries.

Numerous public meetings were previously held on this project during the development of the Ecleto Creek Watershed Work Plan. Their purpose was to inform and gather input from the public about the progress and effect of proposed actions.

In the Environmental Assessment of Ecleto Creek Watershed Sites 3, 4, 6, 9A, and 10 (completed July 1991) the following comments were received during the draft review process:

San Antonio River Authority; The sites will had no adverse environmental impacts to the aquatic resources in the lower San Antonio River Basin.

U.S. Environmental Protection Agency; No objections to the sites and concur with the finding of no significant impacts.

Alamo Area Council of Governments (AACOG); The AACOG Board of Directors provided favorable review comments on the EA.

Texas Parks and Wildlife Department; Expressed concern that a quantitative method of evaluation was not used. This project is pre-NEPA, and was approved before the HEP was developed. However, we reevaluated the site. Due to the quality and limitations of existing wildlife habitat in the watershed, the project measures will greatly enhance the overall fish and wildlife resources. Planned mitigation features, with added habitat diversity, will compensate for any adverse impacts.

COMMENTS

Comments on the Draft Environmental Assessment for Ecleto Creek Watershed Floodwater Retarding Structure No. 7 were requested from the following federal, state, and local agencies and organizations:

Alamo Area Council of Governments
Comal-Guadalupe Soil and Water Conservation District
DeWitt County Soil and Water Conservation District
Ecleto Creek Watershed District
Farm Services Agency
Governor - State of Texas
Karnes County Soil and Water Conservation District
San Antonio River Authority
State Single Point of Contact for Federal Assistance
Texas Historical Commission
Texas Natural Resource Conservation Commission
Texas Parks & Wildlife Service
Texas State Soil and Water Conservation Board
U.S. Corps of Engineers
U.S. Environmental Protection Agency
U.S. Fish & Wildlife Service
USDA Forest Service
Wilson County Soil and Water Conservation District

The following comments were received and reviewed. These comments have been paraphrased when appropriate. For further information, a copy of the response letters may be found in Appendix A.

Alamo Area Council of Governments

"I am pleased to advise you that the Board of Directors of the Alamo Area Council of Governments met September 18, 1996 and provided Consensus to Proceed comments on the" Ecleto Creek Watershed, Floodwater Retarding Structure No. 7.

San Antonio River Authority

"The San Antonio River Authority has worked for many years with the sponsors of this project. We endorse the construction of the proposed structure at Site 7 and hope to see it completed as soon as possible."

State Single Point of Contact for Federal Assistance

"Your environmental impact statement for the project referenced above has been reviewed. No substantive comments were received."

Texas Historical Commission

Comment: In a letter dated Sept. 16, 1996 the Texas Historical Commission stated "On reviewing the EA, we note that cultural resources survey was performed in 1971. Previous survey for NRCS by the same archeologist for the same watershed proved to be unreliable. Therefore, we request that the project area be re-examined to determine whether the original recommendations for FRS No. 7 remain valid."

Response: We immediately responded back to these concerns by letter, dated Sept. 24, 1996. As part of our response "an examination of our records" was made, reflecting "no previous cases in which the reliability of the 1971 survey is in question." We also attached copies of letters in which the SHPO acknowledged receipt and concurrence in the report for another FRS in the watershed.

The 1971 survey was also referenced during testing of prehistoric sites in the project area of FRS No. 4 in 1994. The NRCS position is that the 1971 survey and report are indeed reliable and that a reexamination of the FRS No. 7 area of potential effect is unnecessary.

We then asked the SHPO to reconsider the validity of the report and inform us of their concurrence. In response, the SHPO suggested the NRCS re-examine the project area at a reconnaissance level to confirm or reject the validity of the original 1971 survey. NRCS agrees to conduct an archeological reconnaissance of the project area prior to construction.

U.S. Corps of Engineers

a. Will the accumulation of sediment in the pool increase erosion downstream in order to maintain an equilibrium in the stream's sediment load, resulting in a loss of land downstream which may require erosion mitigation? Your determination of the need for a long term management plan to deal with any severe impacts would add to the completeness of the EA.

Response: Noted. Stream channel incisement and bank-slope failure from potentially reduced suspended, washload and bedload sediment downstream from the structure have been considered. Observations of constructed floodwater structures (30 years) and affected stream channels within nearby Escondido Creek Watershed with Ecleto Creek Watershed's comparable conditions have not revealed excessive channel and stream bank erosion. Similar insignificant erosion is expected to result from constructed and designed operation of Floodwater Retarding Structure No. 7.

b. Prior to construction, the Chief of the Evaluation Section should be contacted to determine if Department of the Army permits are required.

Response: Noted. At this time it is not anticipated that a 404 permit will be required for this site. However, prior to construction all permit requirements will be re-evaluated for adequacy.

U.S. Fish & Wildlife Service

General comments: The EA is adequate in addressing fish and wildlife resource concerns. We recommended you contact the COE for permitting requirements under section 404 of the Clean Water Act and section 10 of the River and Harbor Act.

Response: Noted. See COE comments, comment b.

Specific comments: The USFWS specific comments questioned the impacts for FRS No. 7 on fish and wildlife habitat. The USFWS expressed a concern over the reduction in riparian habitat by 4 acres, as well as the conversion of 56 acres from brushy rangeland habitat to other habitats, and whether these habitats be wetlands or uplands. They also questioned the use of non-native species to re-vegetate disturbed areas.

Response: The site will create 43 acres of aquatic habitat. The 56 acres converted from rangeland will include the areas of the dam and emergency spillway, as well as a portion of the flood pool. A portion of the flood pool area may be wetlands (particularly in areas of edge affects) while the remainder will be upland habitat re-established to grasses and forbs.

The species mixture of grasses and/or forbs to be used at the time of re-vegetating the disturbed areas will be determined by the local sponsors and Field Office staff. The grasses used on the front of the dam and the emergency spillway will be chosen based on the needs of the site in terms of preventing erosion and providing adequate protection of the site. The remaining vegetation will be chosen based on ease of establishment and maintenance. Both native and non-native species will be considered in this decision.

Since brushy range and pasturelands will surround the outer perimeter of this site, additional woody plantings would not benefit wildlife.

It has been our past experience, in other similar areas, that water and edge areas created by the installation of the structure will improve habitat diversity and enhance habitats for wildlife. The lack of water is a limiting factor for many kinds of wildlife in this region of the state. It is our professional opinion that the water and edge areas that will be created by this site will compensate for any habitat losses.

LIST OF PREPARERS

Name and Present Title	Education	Experience
James L. Hailey Planning Staff Leader	B.S., M.S. Agricultural Engineering	27 years
James Henson Biologist	B.S. Wildlife Science	36 years
Harvey Kahlden District Conservationist	B.S., M.Ed. Technical Agriculture, Agricultural Education	35 years
Jerry Kazda Agricultural Economist	B.S. Agricultural Economics	28 years
Lisa K. Moulder Civil Engineer	B.S. Agricultural Engineering	14 years
James Neighbors Resource Conservationist	B.S., M.S. Agronomy, Range Management	28 years
Calvin Sanders Cultural Resources Specialist	B.S., M.A. Agronomy, Anthropology	15 years

APPENDICES

Appendix A

Letters and Comments Received on Draft Environmental Assessment

alamo area council of governments

September 18, 1996

Lisa Moulder
United States Dept of Agriculture
101 South Main St.
Temple, TX 76501-7682

RE: SAI #TX-96-09-10-0010-18
US Department of Agriculture
Ecleto Creek Watershed, Floodwater Retarding Structure No. 7

Dear Mr. Moulder,

I am pleased to advise you that the Board of Directors of the Alamo Area Council of Governments met September 18, 1996 and provided Consensus to Proceed comments on the above referenced application.

If you have any questions, please call me or Shelley Whitworth, AACOG Staff, at (210) 225-5201.

Regionally Yours,

Al J. Notzon III
Executive Director

118 Broadway, Suite 400 San Antonio, Texas 78205 phone: (210) 225-5201 fax: (210) 225-5937

SAN ANTONIO RIVER AUTHORITY

4.5-111-GC

September 25, 1996

Harry W. Oneth
State Conservationist
Natural Resources Conservation Service
101 South Main Street
Temple, Texas 76501-7682

RE: DRAFT ENVIRONMENTAL ASSESSMENT - ECLETO CREEK WATERSHED
FLOODWATER RETARDING STRUCTURE NO. 7

Dear Mr. Oneth:

The San Antonio River Authority has been involved in rural flood control programs in the San Antonio River Basin since 1951. The Authority was instrumental in the promotion and construction of the 64 "pilot" watersheds in the United States. This program led to the passage of the "Small Watershed Protection and Flood Prevention Act, Public Law 566" passed by Congress in 1954. Since the federal watershed protection work was started, there have been 39 flood control structures (dams) built in the San Antonio River Basin which are now being maintained by the San Antonio River Authority.

Floodwater Retarding Structure No. 7 of the Ecleto Creek Watershed Project is located on a tributary of the San Antonio River, and is one of eleven originally authorized floodwater retarding structures in the watershed. Four (4) floodwater retarding structures have been completed in this watershed project. The construction of Floodwater Retarding Structure No. 7 is vitally important for water quality and flood protection within the Ecleto Creek Watershed.

The San Antonio River Authority has supported the Ecleto Creek Watershed Project since it was approved for operations on June 29, 1971. Ecleto Site No. 7 will not have an adverse environmental impact to the aquatic resources in the lower San Antonio River Basin. We believe that the quality of the water flowing into the San Antonio River will be enhanced due to the reduction of sediment. We also recognize the value of an impoundment of water for livestock, fish and wildlife. Flood protection downstream from this dam will protect people, agricultural crops, soils, roads and bridges.

100 East Guenther Street • P.O. Box 830027 • San Antonio, Texas 78283-0027 • (210) 227-1373 • FAX (210) 227-4323

The San Antonio River Authority has worked for many years with the other sponsors of this project. We endorse the construction of the proposed structure at Site 7 and hope to see it completed as soon as possible.

Sincerely,

FRED N. PFEIFFER
General Manager

FNP:JWT:rmc

P:\RMC\WPDATA\ECLETO

STATE OF TEXAS
OFFICE OF THE GOVERNOR

GEORGE W. BUSH
GOVERNOR

October 7, 1996

Mr. Harry W Oneth
USDA Soil Conservation Service
101 South Main Street
Temple, Texas 76501-7682

RE: TX-R-96-08-23-0001-50-00
DRAFT EA ECLETO CREEK WATER SHED STRUCTURE # 7

Dear Oneth:

Your environmental impact statement for the project referenced above has been reviewed. No substantive comments were received.

We appreciate the opportunity afforded to review this document. Please let me know if we can be of further assistance.

Sincerely,

Stephen Godfrey

for T. C. Adams, State Single Point of Contact

TCA//yjy

POST OFFICE BOX 12428 AUSTIN, TEXAS 78711 (512) 463-2000 (VOICE)/(512) 475-3165 (TDD)

TEXAS
HISTORICAL
COMMISSION

George W. Bush • *Governor*
John L. Nau, III • *Chairman*
Curtis Tunnell • *Executive Director*

The State Agency for Historic Preservation

September 16, 1996

Mr. Harry W. Oneth
State Conservationist
Natural Resources Conservation Service
101 South Main Street
Temple, TX 76501-7682

Re: Draft environmental assessment, Ecleto Creek Watershed, FRS No. 7 (SCS, F2, F13)

Dear Mr. Oneth:

Thank you for providing us an opportunity to comment on the above referenced draft environmental assessment (EA). On reviewing the EA, we note that cultural resources survey was performed in 1971. Previous survey for NRCS by the same archeologist for the same watershed proved to be unreliable. Therefore, we request that the project area be re-examined to determine whether the original recommendations for FRS No. 7 remain valid.

If have questions or need more information, please contact Lain Ellis of our staff at 512/463-5419.

Sincerely,

James E. Bruseth, Ph.D.
Deputy State Historic Preservation Officer

JEB/gle

DEPARTMENT OF ANTIQUITIES PROTECTION
P. O. Box 12276 • Austin, TX 78711-2276 • 512/463-6096 • Fax 512/463-8927 • TDD 1-800-735-2989

TEXAS HISTORICAL COMMISSION

George W. Bush • Governor
John L. Nau, III • Chairman
Curtis Tunnell • Executive Director

The State Agency for Historic Preservation

October 3, 1996

Mr. Harry W. Oneth
State Conservationist
Natural Resources Conservation Service
101 South Main Street
Temple, TX 76501-7682

Re: Ecleto Creek Watershed, FRS No. 7 (NRCS, F2, F13)

Dear Mr. Oneth:

Thank you for informing us of your concerns regarding the above referenced undertaking. During testing of sites at FRS No. 4, Lain Ellis of our staff participated in a field visit accompanied by Nancy Cole (then NRCS' archeologist), James Warren (then NRCS' consultant), Max Birket (NRCS geologist), and other members of NRCS staff. The site visit disclosed that the locations of the tested sites had been inaccurately plotted and poorly characterized in the 1971 survey report.

We do not know whether these problems emerged as a result of the generally low survey and reporting standards of the early 1970s or for some other reason. What we do know is that the sites were not where they were supposed to be, they were not as they were described as being, and cultural resource evaluation was complicated by these two factors. This is not uncommon when relying on very old survey information. Therefore, we reaffirm our request that the project area be re-examined to determine whether the original recommendations for FRS No. 7 remain valid. The re-examination can probably be accomplished by a reconnaissance level investigation.

If have questions or need more information, please contact Lain Ellis of our staff at 512/463-5419.

Sincerely,

for James E. Bruseth, Ph.D.
Deputy State Historic Preservation Officer

JEB/gle

DEPARTMENT OF ANTIQUITIES PROTECTION

P. O. Box 12276 • Austin, TX 78711-2276 • 512/463-6096 • Fax 512/463-8927 • TDD 1-800-735-2989

DEPARTMENT OF THE ARMY
GALVESTON DISTRICT, CORPS OF ENGINEERS
P.O. BOX 1229
GALVESTON, TEXAS 77553-1229

REPLY TO
ATTENTION OF

September 30, 1996

Environmental
Resources Branch

Mr. Harry W. Oneth
State Conservationist
Natural Resources Con
101 South Main Street
Temple, Texas 76501-[illegible]

Dear Mr. Oneth:

This is in response to your letter with the accompanying Draft Environmental Assessment (EA) concerning the Ecleto Creek Watershed Floodwater Retarding Structure No. 7, as submitted to us for review and comment. Of the counties potentially affected by the proposed project, Karnes and DeWitt counties are within the jurisdiction of the Galveston District, while Wilson and Guadalupe counties are under jurisdiction of the Fort Worth District of the U.S. Army Corps of Engineers. After consideration by elements of the Planning, Engineering, and Construction-Operations Divisions, we have the following comments:

a. Your agency's expertise with sediment load changes caused by the dam over time is not presented in the Draft EA, e.g. will the accumulation of sediment in the pool behind the dam increase erosion downstream in order to maintain an equilibrium in the stream's sediment load, resulting in a loss of land downstream which may require erosion mitigation? Your determination of the need for a long term management plan to deal with any severe impacts would add to the completeness of the EA.

b. Prior to construction, the Chief of the Evaluation Section should be contacted at 409/766-3938 to determine if Department of the Army permits are required. Please reference File No. D-7961 in your communications.

We appreciate the opportunity to review and comment upon the proposed project and trust that this response facilitates your planning and implementation process.

Sincerely,

Richard Medina
Chief, Environmental
Resources Branch

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
c/o TAMU-CC, Campus Box 338
6300 Ocean Drive
Corpus Christi, Texas 78412

September 30, 1996

Mr. Harry W. Oneth
United States Department of Agriculture
Natural Resource Conservation Service
101 South Main Street
Temple, Texas 76501-7682
Attention: James Henson, Environmental Specialist

Consultation No. 2-11-I-96-327

Dear Mr. Oneth:

This responds to your letter dated August 16, 1996, requesting our review and comments on the Draft Environmental Assessment (EA) for the Ecleto Creek Watershed Floodwater Retarding Structure No. 7 on species Federally listed or proposed for listing as threatened or endangered occurring in Karnes County, Texas. The U.S. Fish and Wildlife Service (Service) has evaluated the EA with respect to Federally listed species, wetlands and other important fish and wildlife habitat. This response is provided under the authority of the Fish and Wildlife Coordination Act, the National Environmental Policy Act of 1969 and the Endangered Species Act of 1973.

The proposed project would involve activities associated with the installation of Floodwater Retarding Structure No. 7, consisting of a dam, emergency spillway, sediment pool, and floodwater detention pool. The reservoir would permanently alter 99 acres (40 hectares) of wildlife or rangeland habitat and create approximately 43 acres (17.4 hectares) of lacustrine-wetland habitat. The Ecleto Creek Watershed is 267 square miles and occupies portions of Guadalupe, Wilson, Karnes, and Dewitt Counties in South Texas. It is our understanding that the purpose of the proposed project would be to reduce frequent and extensive flooding, which damages cropland, pastureland and rangeland.

GENERAL COMMENTS

Generally, the EA is adequate in addressing fish and wildlife resource concerns. The EA accurately states that there are no listed species for the proposed project area (other than the Gulf Coast hog-nosed skunk, a Candidate species); however, we would like to add some recommendations that would ensure the proposed project would not adversely impact other fish and wildlife resources.

Executive Order 11990 asserts that each agency shall provide leadership and take action to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's responsibilities. Since your proposed project would involve damming a creek and changing the natural flow, and could therefore impact wetlands, we recommend that you contact Jim Gilmore or Paul Lazarine at the Corpus Christi offices of the U.S. Army Corps of Engineers (512-851-9128) for permitting requirements under section 404 of the Clean Water Act and section 10 of the River and Harbor Act. The Texas Natural Resources Conservation Commission may have additional permitting requirements.

SPECIFIC COMMENTS

Impacts of Floodwater Retarding Structure No. 7 on Natural Resources -Wildlife habitat:

"The project will reduce riparian habitat by 4.0 acres (Page 3)."

Riparian habitat provides food and cover for a diverse group of plant and animal species, and is especially important for migratory birds. Riparian woodlands also provide cover, corridor and breeding habitat for important wildlife and game species, such as white-tailed deer and turkey. The Service is concerned about losses of this important wildlife habitat because of its wildlife value as well as the fact that riparian habitat has declined nation-wide by 70-84% since European settlement (Noss 1995).

"Installation of the structure will convert 43.0 acres of brushy rangeland habitat to aquatic habitat, and 56.0 acres to other habitats (Page 3)"

The Service would like to know what other habitats would be created in those 56 acres. Would these be wetlands or uplands?

Fish and Wildlife

"Grasses and forbs seeded on the dam and in the spillway will provide food and cover for some species of wildlife (Page 12)."

The Service is concerned with the practice of using non-native grass species to revegetate areas disturbed by construction activities. Some of these exotic species are highly invasive and can out-compete indigenous species, altering the native community and decreasing species diversity. The Service recommends using only native grass and forb species to restore the area to pre-project conditions.

Mitigation Features (pages 18-19)

While the four mitigative measures outlined in this section of the EA are adequate to protect the structural integrity of the spillway, there is no provision to compensate for the loss of the four acres of riparian habitat. The Service recommends mitigating riparian habitat at a 1:1 ratio. Part of the mitigation for this project could involve removing the small, salvageable riparian trees and shrubs and replanting these in an appropriate drainage area, such as a wash or swale. Additional trees and shrubs of the same species may also need to be planted to complete the mitigation.

SUMMARY COMMENTS

Provided that the proposed project incorporates the recommendations discussed above, our data indicate that Federally listed species are not likely to be impacted by the proposed project action. If project plans change or portions of the project were not provided for our review, please notify us immediately.

We appreciate the opportunity to provide comments on this EA and look forward to receiving the final EA. If we can be of further assistance, please contact Teresa Barrera of our office at (512) 994-9005.

Sincerely,

William Seawell

WILLIAM M. SEAWELL
Field Supervisor

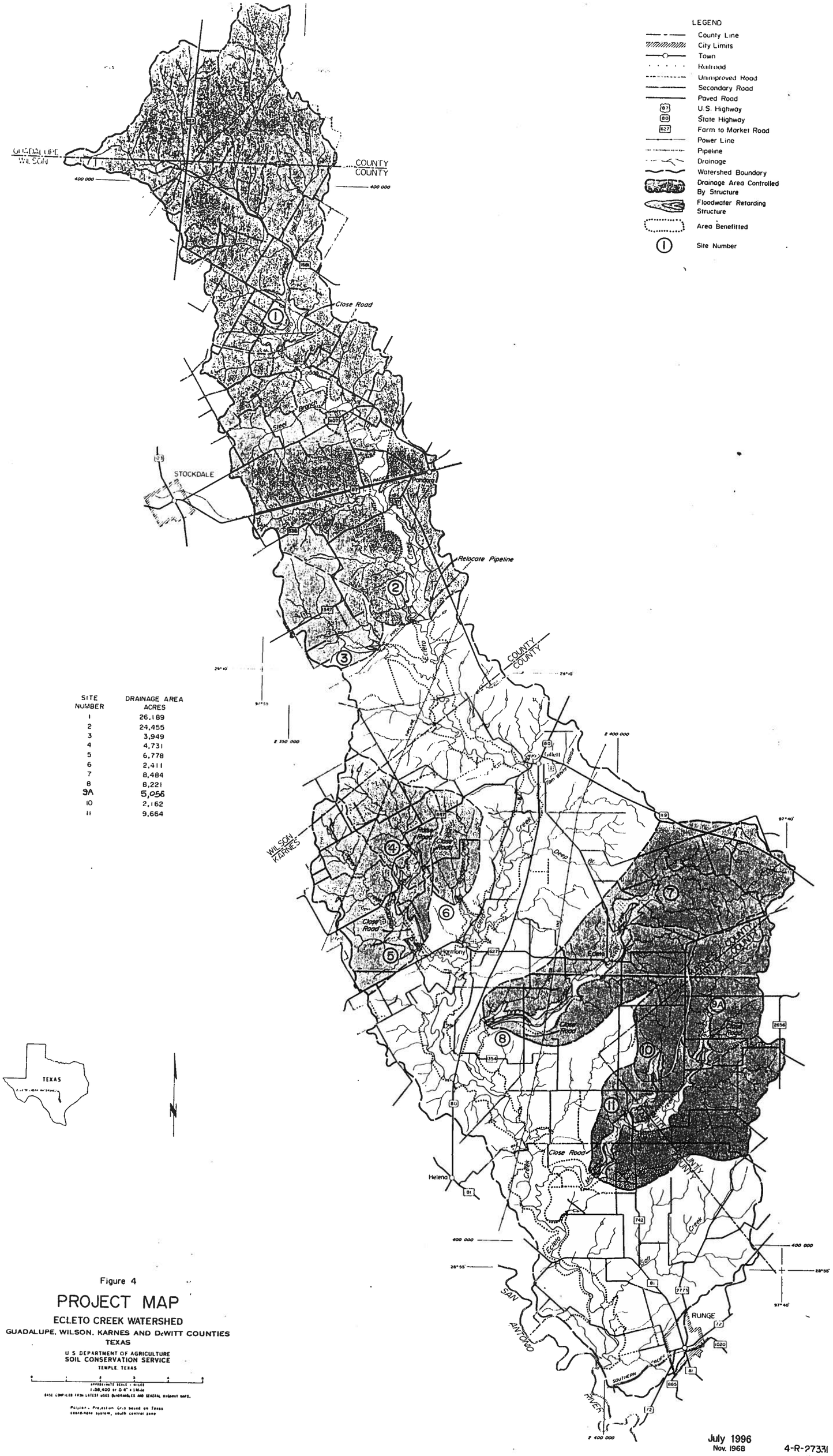
cc:
Mark Fish, TNRCC, Austin, Texas
Jim Gilmore, U.S. Army Corps of Engineers, Corpus Christi, Texas

Reference

Noss, R.F., E.T. LaRoe III, and J.M. Scott. 1995. Endangered ecosystems of the United States: a preliminary assessment of loss and degradation. Biological Report 28. National Biological Service. 58 pp.

Appendix B

Project Map



SITE NUMBER	DRAINAGE AREA ACRES
1	26,189
2	24,455
3	3,949
4	4,731
5	6,778
6	2,411
7	8,484
8	8,221
9A	5,056
10	2,162
11	9,664

Figure 4

PROJECT MAP

ECLETO CREEK WATERSHED

GUADALUPE, WILSON, KARNES AND DeWITT COUNTIES

TEXAS

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
TEMPLE, TEXAS

APPROXIMATE SCALE - MILES
1:58,400 or 0.4" = 1 Mile
BASE COMPILED FROM LATEST USGS QUADRANGLES AND GENERAL HIGHWAY MAPS.

Polyconic Projection Grid based on Texas coordinate system, south central zone

July 1996
Nov. 1968 4-R-27331
Dec. 1966 4-R-23175