NORTH TIPPAH CREEK WATERSHED IMPLEMENTATION PLAN

Draft
May 2013

North Tippah Creek
Watershed Implementation Plan

Prepared for:

North Tippah Creek Watershed Implementation Team

Mississippi Department of Environmental Quality

Prepared by:

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I. EXECUTIVE SUMMARY

North Tippah Creek Watershed has been identified as a priority watershed by the Mississippi Department of Environmental Quality. North Tippah Creek is listed on Mississippi's 2012 303(d) List of Impaired Water bodies for biological impairment. The Mississippi Soil and Water Conservation Commission, Tippah County Soil and Water Conservation District and USDA Natural Resources Conservation Service thought a great impact on water quality could be made in this watershed. MSWCC submitted a proposal to educate landowners/operators about water quality and measures they can take to help improve the water quality in this watershed. That proposal was selected for funding by MDEQ and a contract was awarded to MSWCC. Under that contract, MSWCC is required to assemble a Watershed Implementation Team to address other issues and concerns within the watershed and write a Watershed Implementation Plan. The USGS will be monitoring waters within the watershed to determine the water quality and if there is a need for additional Best management Practices (BMPs) to be installed.

The key natural resource problems in this watershed are thought to be nutrient loading and sedimentation. The Watershed Implementation Plan has the goals of reducing the nutrients and sediment entering the streams and creeks in the watershed, and meeting water quality standards in the North Tippah Creek Watershed. To help solve this problem, one of the management actions is to implement a 319 water quality educational project within the watershed. The targeted area for this project is land in Tippah County that lies within the watershed boundaries. This is a one year project that will end in September of 2013. The groups that will be implementing the management action of educating landowner/operators about water quality include the Tippah County Soil and Water Conservation District, Natural Resources Conservation Service, and the Mississippi Soil and Water Conservation Commission. The Tippah County Soil and Water Conservation District and the Natural Resources Conservation Service can be contacted at 662-837-4464 ext. 3 for information and assistance about this management action.

Table 1.1 North Tippah Creek Watershed Management Action Plan

Goal	Who	What	Where	When	Contacts
Reduce nutrient and sediment loading, achieve standards for Low DO/Organic enrichment and narrative standards for nutrient loading, and Fish and Wildlife Support designated use	MSWCC, USDA NRCS, Tippah County Soil and Water Conservation District	Continue existing programs and projects related to landowner/operator education, BMP implementation, and habitat conservation	Entire watershed	2012-2013	Mark Gilbert, MSWCC 601-354-7645 NRCS 662-287-7223 ext. 3 Tippah Co. SWCD 662-287-7223 ext. 3
	Local Landowners and operators	Grade Stabilization Structures Streambank and Shoreline Protection Critical Area Stabilization	Entire Watershed	2012-2013	Local landowners

II. VISION STATEMENT

The vision of the North Tippah Creek Watershed Implementation Team is to improve and/or protect the water quality of streams and creeks in the watershed through the effective management of agricultural and other land use activities. This is a place where people want to live, work, recreate and raise a family.

III. MISSION STATEMENT

The mission of the North Tippah Creek Watershed Implementation Team is to educate landowners on the use and effects of new/innovative BMPs and land use planning methods that will help attain designated water body uses in the watershed.

IV. WATERSHED IMPLEMENTATION TEAM

Members of the Watershed Implementation Team for the North Tippah Creek Watershed include as follows:

Larry Freeman- Landowner

Tony Hill- Landowner

Mike Graves- Landowner

Paul Lowry- Land operator

David Clemmer- Landowner

Nick Simmons- Tippah County Cooperative Extension Service (Extension)

Danny Braddock- Tippah County Soil and Water Conservation District (SWCD)

Liz Cockrell- Tippah County Soil and Water Conservation District (SWCD)

Mark Gilbert- Mississippi Soil & Water Conservation Commission (MSWCC)

Patrick Vowell- Mississippi Soil & Water Conservation Commission (MSWCC)

Gail Spears- Mississippi Soil & Water Conservation Commission (MSWCC)

Andy Whittington- Mississippi Farm Bureau Federation (MFBF)

Tom Heard- Natural Resources Conservation Service (NRCS)

Justin Presson- Natural Resources Conservation Service (NRCS)

John Estes- Natural Resources Conservation Service (NRCS)

Shane Stocks- United States Geological Survey (USGS)

Pradip Bhowal- Mississippi Department of Environmental Quality (MDEQ)

Steven Utroska- Mississippi Department of Environmental Quality (MDEQ)

Janet Chapman- Mississippi Department of Environmental Quality (MDEQ)

The Watershed team members were identified through a collaborative effort between Tippah County SWCD, NRCS , MSWCC and MDEQ.

V. WATERSHED DESCRIPTION

The North Tippah Creek watershed consists of approximately 35,521 acres. The land uses for the North Tippah Creek Watershed include approximately 3,553 acres of pastureland (10%), 8,881 acres of forestlands (25%), 21,316 acres of cropland (60%), and 1,776 acres other (5%). Figure 5.1 shows the land uses in the North Tippah Creek watershed.

North Tippah Creek is located in the western portion of Tippah County, Mississippi (Figure 5.2). This watershed is located in a rural area with a sparse population of about 1,800 to 2,000. Portions of the towns of Ripley and Blue Mountain are located in this watershed. Economic conditions that influence this watershed include the closing of industry jobs and low timber prices. The significant changes in land use in this watershed in the last 20 years are pastureland being converted to cropland. Theer are no historical events or customs that have affected the culture in the watershed.

The soils in the watershed include Wilcox-Dulac-Falkner association (somewhat poorly drained and moderately well drained silty and clayey soils with slopes less than 17 percent), Ruston-Cutbert-Ora association (well drained to moderately well drained sandy soils) and Falaya-Urbo-Waverly association (somewhat poorly drained silty and clayey soils on wide stream bottoms). The foregoing soil types are developed on the outcropping Porter's Creek formation, a marine clay depositional unit.

North Tippah Creek watershed is located in the Northern Hilly Gulf Coastal Plains and Flatwoods/Blackland Prairie Margins ecoregions. The wetland areas in the watershed are typically the areas that have backwater from the watershed structures.

Other named water bodies in the watershed include South Tippah Creek, Medlock Branch, Bowling Branch, and Little Burger Branch. There are no state or federal parks, wildlife management areas, national forest or other significant environmental management areas within the watershed.

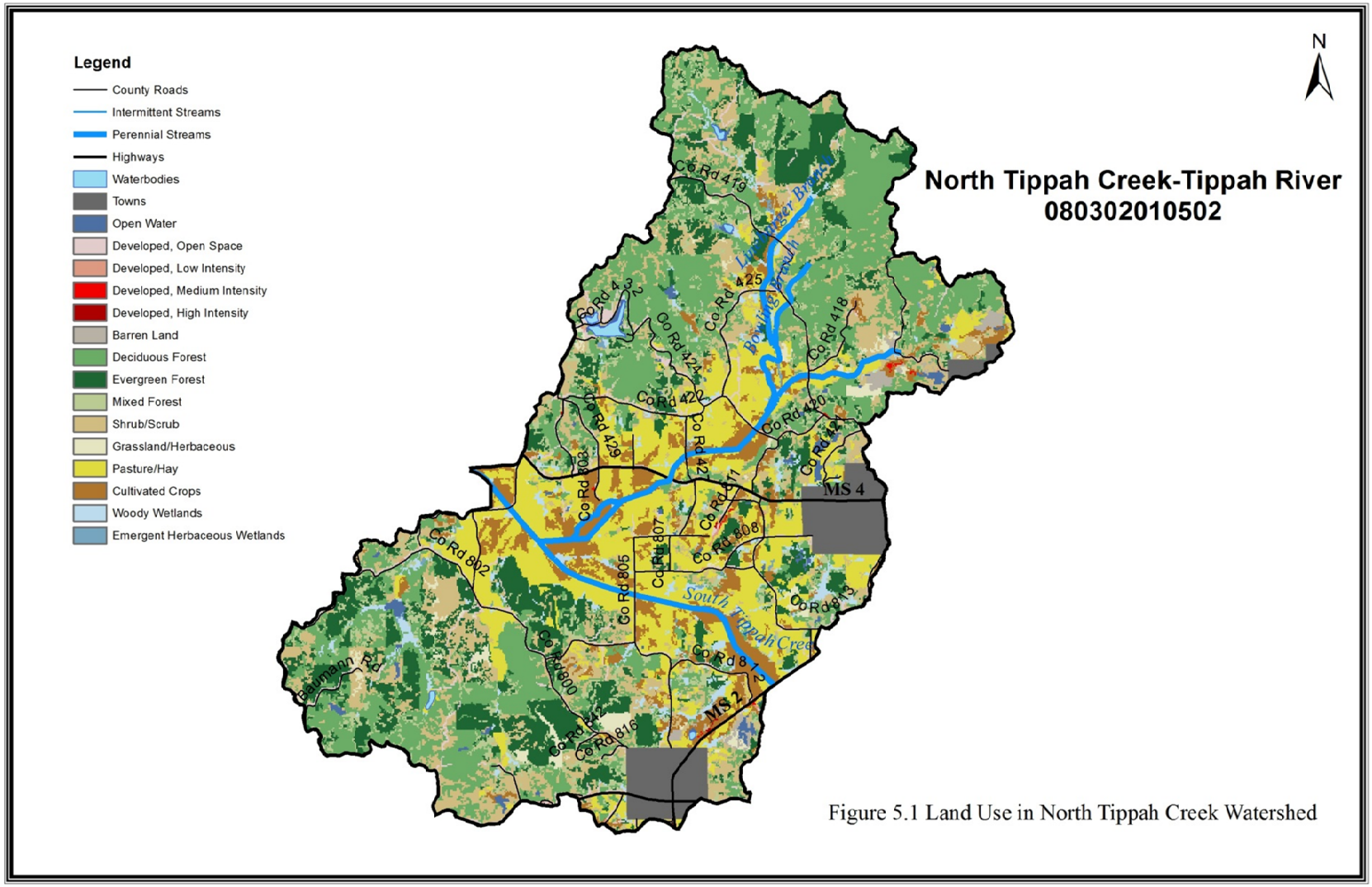

Figure 5.1 Land Use in North Tippah Creek Watershed

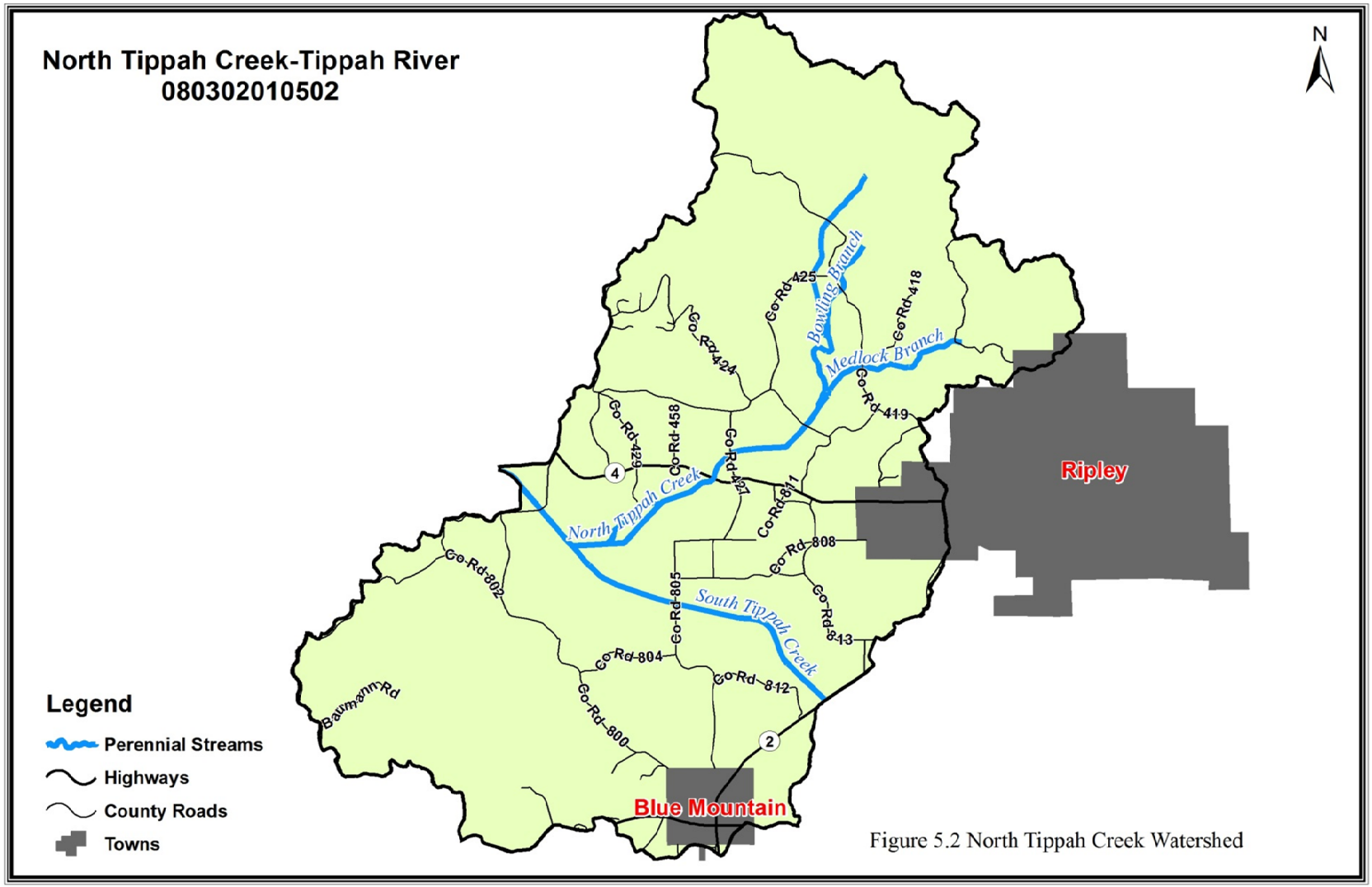

Figure 5.2 North Tippah Creek Watershed

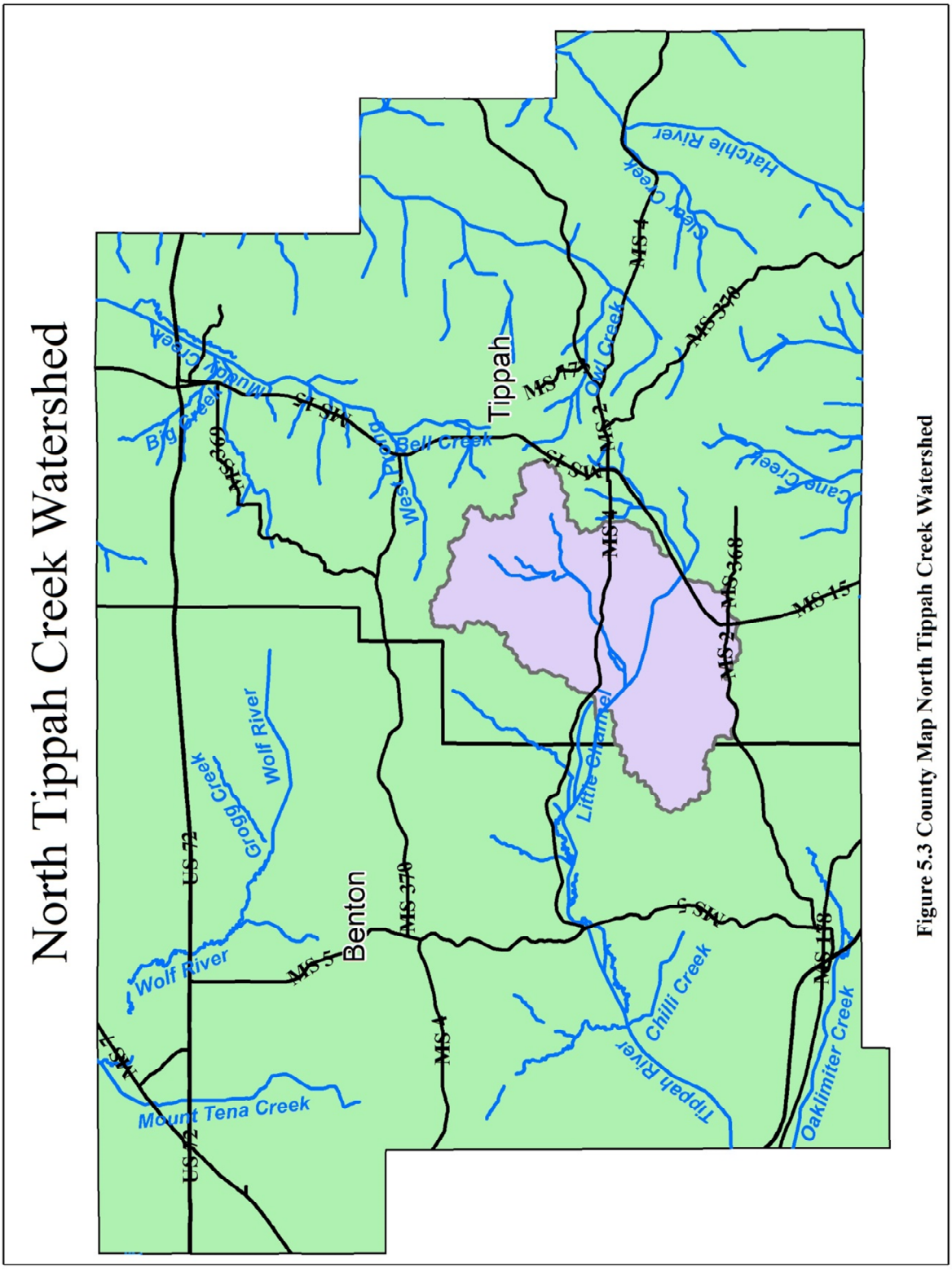

Figure 5.3 County Map North Tippah Creek Watershed

VI. STAKEHOLDER INTERESTS

Stakeholders in the watershed want to restore the watershed creeks and streams to a state of good water quality. The stakeholders also want to conserve and preserve the soil, water and wildlife habitat. By reducing runoff (stopping erosion and loss of topsoil) and improving habitat for fish and wildlife, stakeholders believe that water quality can be improved. Trees and shrubs that have washed into the creeks and streams during heavy rainfall events have led to piles of debris catching on snags along the creek side and slowing down the flow of the water. Damage from beavers in the watershed is extensive. The large dams built by the beavers have also been responsible for large areas of debris that slows down the water. This has caused retarded water flow leading to localized flooding. Due to the geography of the area in the watershed, creeks rise and fall quickly adding to the flooding issue. Once the flood waters recede the topsoil is washed away taking nutrients and chemicals with it. This increases the potential of starting head cuts and gullies and increasing the instability of the banks of the streams, while leaving debris in pastures and on cropland. Stakeholders think utilizing a beaver control program would help reduce the sediment and nutrients entering the streams. This would, in turn, help reduce the sediment and nutrients entering the streams.

It is the concern of the landowners that sediment and other contaminants will affect the water quality in the watershed. Another concern of the landowners is the nutrient loading into the streams from pastureland. This could be addressed by fencing cattle out of the streams and providing alternative water sources for the cattle. The landowners are concerned with the degradation and contamination of the natural springs located throughout the watershed. The stakeholders would like to protect the natural springs that are located in this watershed. These issues and concerns occur throughout the watershed due to it being a rural area in Tippah County.

VII. Water Resources

A. History of Activity in the Watershed

The primary players in restoration and /or conservation efforts in the North Tippah Creek Watershed are the Natural Resources Conservation Service, Tippah County Soil and Water Conservation District and the Mississippi Soil and Water Conservation Commission. Local landowners and operators will play a major role in the restoration and conservation of the natural resources in this watershed by installing best management practices on their land and implementing the activities learned in this educational project. Several environmental and agricultural conservation programs have been utilized by landowners in the watershed in past years. These programs include the Environmental Quality Incentive Program (EQIP), Conservation Reserve Program (CRP), Emergency Watershed Program (EWP), Hold Our Topsoil (HOT), and the Agricultural Conservation Program (ACP). These programs have helped many landowners apply conservation practices on the ground while reducing soil loss, enhancing wildlife habitat, enhancing water quality, conserving water quantity, increasing agriculture/silviculture production and promoting conservation education.

In May 2012, NRCS launched a new National Water Quality Initiative (NWQI) committed to improving Pelahatchie Creek-Ashlog Creek, Porter Bayou and North Tippah Creek watersheds in Mississippi. NRCS identified these priority watersheds with the help of MDEQ and other partners. NRCS manages the initiative by making funds available to farmers, ranchers and forest landowners to help reduce the flow of nutrients, sediment and other pollutants into these impaired streams.

As the management agency for Agricultural Nonpoint Source Pollution in Mississippi, the Mississippi Soil and Water Conservation Commission (MSWCC) determined that the North Tippah Creek Watershed would be a good candidate for education and possible restoration. After meetings with local landowners, Tippah County Soil and Water Conservation District (SWCD) commissioners and staff and Natural Resources Conservation Service (NRCS) employees that work in this area, the MSWCC thought there was enough interest in the watershed that a measurable difference could be shown, and submitted a proposal to MDEQ for a Nonpoint Source Pollution Grant (#C9994866-11-0) under the provisions of section 319(h) of the Clean Water Act.

B. Wildlife and Fisheries

There are important recreational species located throughout the watershed. These species include deer, turkey, bass, catfish, bream, rabbits, squirrel, and raccoon. Also, trapping is an important recreation that takes place in this watershed. The list of plants and animals of special concern are included as Appendix A. There are no animals and plants that are threatened or endangered in this watershed.

C. Designated Use Classifications and Water Quality Standards

The designated beneficial uses for the North Tippah Creek and other water bodies in the watershed are aquatic life support, fish consumption and secondary contact. The water use classification for North Tippah Creek is fish and wildlife support according to the 2012 303 (d) List of Impaired Water Bodies. The Mississippi Benthic Index of Stream Quality (M-BISQ) was used for assessment of North Tippah Creek. MDEQ developed the M-BISQ for use as a tool to help assess water quality of Mississippi's streams.

D. Current Status of Water Bodies in the Watershed

North Tippah Creek is listed on the Mississippi list of impaired water bodies (303 (d) list for biological impairment

E. TMDL

A TMDL has not been developed for North Tippah Creek. EPA Region 4 encourages local watershed restoration efforts that are developed in advance of TMDLs. This approach provides the state an opportunity to work with the public and private stakeholders to develop a watershed implementation plan that should help improve water quality without the need for a TMDL. The North Tippah Creek Watershed is being used to pilot this approach.

VIII. WATERSHED MANAGEMENT ACTIONS

Implementation of Best Management Practices

A. Nutrient and Sediment BMPs

1. Stakeholder Interests

The major concerns of the stakeholders include nutrient and sediment loadings to water bodies in the North Tippah Creek watershed. Sediment runoff is a major issue because nutrients attach to sediment particles.

2. Goals/Objectives

The goal/objective is to reduce the nutrient and sediment loading coming from agricultural and other land use activities in an effort to restore impaired water bodies in the North Tippah Creek Watershed prior to developing TMDLs. This approach provides Mississippi an opportunity to restore the impaired North Tippah Creek Watershed without the need for a TMDL.

3. Management Actions

The management actions that will be taken to address nutrient and sediment loadings may involve installation of agricultural BMPs, water quality monitoring, public outreach/education and other measures. These BMPs may include but are not limited to:

- Stream bank and Shoreline Protection,
- Grade Stabilization Structures,
- Critical Area Stabilization, and other.

These BMPs will be installed by the participating landowners in the watershed utilizing funds through the NRCS National Water Quality Initiative (NWQI). NRCS will provide the technical/planning assistance including funding for this BMP implementation. Most of the BMPs that will be installed are permanent structures and must be maintained by the landowner for a period of 10

years. NRCS and Tippah County Soil and Water District employees identified landowners in the watershed that have agricultural land needing treatment.

4. Project Tracking/Assessment of Progress

The North Tippah Creek project began in 2012. NRCS is tracking progress of this project utilizing the Revised Universal Soil Loss Equation (RUSLE) on all acres affected by the Best Management Practices (BMPs); also MDEQ will evaluate the monitoring data collected by USGS to determine effectiveness of the installed BMPs.

5. Desired Results/Benefits

The desired benefit of this project will be to restore and remove the impaired segments of North Tippah Creek from Mississippi's 303(d) List of Impaired Water bodies.

6. Roles/Responsibilities

There are several different groups with responsibilities in this watershed. NRCS staff has the roles and responsibilities of identifying landowners, providing technical assistance, designing the BMPs and making payments to the landowners who install the BMPs. The landowners have the responsibility of implementing BMPs in the project area. The North Tippah Creek Watershed Implementation Team has the role of helping gather the information needed to write the Watershed Implementation Plan. MSWCC has the responsibility of compiling all the information and writing the initial plan for the watershed and carrying out the 319 education project. Other programs that are available to landowners in the watershed include EQIP, CRP, and WHIP. Under these three programs, there has been approximately $375,506 spent over the last three years with another $416,000 projected to be spent over the next three years in Tippah County.

7. Budget

The table below shows a list of BMPs installed under the NWQI.

Table 8.1 Funded NWQI BMPs.

BMPs	Area Affected	BMP Cost	BMP Total
Streambank and Shoreline Protection	2,308 feet	$160.69/ft	$370,855.40
Grade Stabilization Structure	4 structures	$8,711.67 /ea	$34,846.67
Critical Area Stabilization	1.4 acres	$354.93/ac	$496.89
Total			**$406,198.96**

IX. EDUCATION/OUTREACH ACTIVITIES

A. Educational Activities to be Implemented

The overall objective of community education in the North Tippah Creek watershed is to develop an atmosphere that promotes sustained, long-term protection and improvement of aquatic resources in the watershed. Specific objectives of education efforts in the watershed include the following:

- Increase public awareness of the value of clean water.
- Increase public awareness of agricultural runoff and encourage behaviors that will help reduce levels of nutrients and sediments in the watershed, watershed characterization and stewardship opportunities.
- Increase public awareness of how BMPs can help improve water quality and habitat restoration.
- Increase public awareness of the long term environmental and economic advantages of protecting and improving water quality and habitat in the North Tippah Creek watershed.

1. Signage

Signs identifying the installed BMPs will be erected throughout the watershed with the participating landowners' permission.

Primary partners- Mississippi Soil and Water Conservation Commission, Mississippi Department of Environmental Quality, Tippah County Soil and Water Conservation District, Natural Resources Conservation Service, and Environmental Protection Agency.

a. Indicators

There will be a field day held to show other landowners and the interested public the BMPs installed. Also, the associated benefits from BMP installation will be demonstrated to the participants. Participants will be counted at this field day. Traffic through the watershed cannot be documented, but some areas where signs will be erected are along heavily traveled state highways.

b. Schedule

The BMP signs will be erected as practices are completed and/or requested by the landowners throughout the life of the project.

c. Budget

Table 9.1 Projected Costs for Signage.

Item	Unit	Cost	Total Cost
Signs	20	$100.00	$2,000.00
Total			**$2,000.00**

2. Field Day

A field day will be held to showcase some of the BMPs installed under the National Water Quality Initiative. This will allow other landowners and the interested public to view some of the practices that are being installed to benefit water quality in the watershed.

Primary partners- Mississippi Soil and Water Conservation Commission, Mississippi Department of Environmental Quality, Tippah County Soil and Water Conservation District, Natural Resources Conservation Service, and Environmental Protection Agency

a. Indicators

Attendance at this field day will be documented and reported.

b. Schedule

Field day in the watershed will take place before September 2013.

c. Budget

Table 9.2 Projected Costs for Field Day.

Item	Units	Cost	Total Cost
Event Flyers	100	.60/each	$60.00
Mailing/Delivery	100	.45/each	$45.00
Miscellaneous (Field Day, supplies)	1	$3,000.00/each	$3,000.00
Total			**$3,105.00**

3. Educational Literature

Brochures and a fact sheet will be developed about the project. Brochures will be developed to inform landowner/operators about water quality and ways they can protect and improve the water quality in their watershed. The fact sheet will contain information about the watershed and the number and type of BMPs that were installed.

Primary Partners- Mississippi Soil and Water Conservation Commission, Mississippi Department of Environmental Quality, Tippah County Soil and Water Conservation District, and Natural Resources Conservation Service.

a. Indicators

Brochures and fact sheets will be designed and distributed. These brochures and fact sheets will be handed out at the field day, during the Tippah County Fair, during the Conservation Carnival and will also be available in the district office.

b. Schedule

The brochures and fact sheet will be developed before the field day and county fair.

c. Budget

Table 9.3 Projected Costs for Educational Literature.

Item	Unit	Cost	Total Cost
Fact Sheet	1,000	1.00/each	$1,000.00
Brochures	5,000	3.00/each	$15,000.00
Total			**$16,000.00**

4. Watershed Harmony Puppet Show

Watershed Harmony is a musical puppet performance aligning with the fourth and fifth grade Mississippi Framework and National Science Standards. Audiences of all ages will delight in environmental stewardship through this toe tapping musical. Performances are not only enjoyed by school groups, but also by adults attending teacher workshops, civic clubs, and conferences. This program serves to inform, excite, and enlist the help of citizens in an ongoing effort to promote water quality in their communities.

Primary Partners- Mississippi Department of Environmental Quality and Bayou Town Productions.

a. Indicators

The number of participants will be documented and submitted to MDEQ.

b. Schedule

Watershed Harmony will be presented before August 2013.

c. Budget

Table 9.4 Projected Costs for Watershed Harmony Puppet Show

Item	Unit	Cost	Total Cost
Watershed Harmony Puppet Show	1 show	$1,000.00	$1,000.00
Total			**$1,000.00**

5. Tippah County Fair

A booth will be set up at the fair with information about the project with pictures of BMPs within the watershed and other educational materials about nonpoint source pollution and the North Tippah Creek 319 project. The booth will be set up for the entire fair with information available to the patrons of the fair. Coloring books, crayons and other educational materials will be given to the children on family night. Also, Sam E Soil will be making special appearances throughout the night on family night.

Primary partners- Mississippi Soil and Water Conservation Commission, Mississippi Department of Environmental Quality, Natural Resources Conservation Service and Tippah County Soil and Water Conservation District.

a. Indicators

The number of brochures that are handed out to adults will be documented. The number of children who receive Sam E. Soil coloring books and adults that receive informational items on family night will be documented.

b. Schedule

The exhibit will be at the 2013 Tippah County Fair.

c. Budget

Table 9.5 Projected Costs for Tippah County Fair.

Item	Units	Cost	Total Cost
Brochures	1,000	.65/each	$650.00
Coloring Books	2,000	.38/each	$760.00
Litter Bags	1,250	.42/each	$525.00
Informational Items	1,702	5.00/each	$8,510.00
Total			**$10,445.00**

6. Water Bill Mailers

A flyer will be designed and mailed out to the homes in the North Tippah watershed. This flyer will inform homeowners of ways they can help improve water quality in the watershed. This will be mailed with their monthly water bill.

Primary partners- Mississippi Soil and Water Conservation Commission, Mississippi Department of Environmental Quality, and Tippah County Soil and Water Conservation District.

a. Indicators

The number of flyers sent out will be documented.

b. Schedule

The flyers will be mailed before August 2013.

c. Budget

Table 9.6 Projected Costs for Water Bill Mailers.

Item	Units	Cost	Total Cost
Mailing	500	.45/each	$225.00
Envelopes	500	.10/each	$50.00
Flyer	500	.65/each	$325.00
Total			**$600.00**

7. Presentations

Presentations relating to water quality will be made to civic organizations. These presentations will inform individuals about ways they can improve water quality and reduce nonpoint source pollution.

Primary partners- Mississippi Soil and Water Conservation Commission, Mississippi Department of Environmental Quality, and Tippah County Soil and Water Conservation District.

a. Indicators

The number of people in attendance will be documented.

b. Schedule

These presentations will be made before August 2013.

c. Budget

Table 9.7 Projected Budget for Presentations.

Item	Units	Cost	Total Cost
Miscellaneous	3	$50.00/each	$150.00
Total			**$150.00**

8. Radio Advertisements

Radio advertisements will be run on the local radio station to inform people about water quality and nonpoint source pollution. Each spot will run 5 times a days for 2 weeks.

Primary partners- Mississippi Soil and Water Conservation Commission, Mississippi Department of Environmental Quality, and Tippah County Soil and Water Conservation District.

a. Indicators

The number of radio ads run and produced will be recorded.

b. Schedule

The ads will run before August 2013.

c. Budget

Table 9.8 Projected Costs for Radio Advertisements.

Item	Units	Cost	Total Cost
Ads	3	$200.00/each	$600.00
Total			**$600.00**

9. Adopt-A-Stream

Adopt-A-Stream is a program that promotes environmental stewardship through training workshops, outdoor field activities, and by introducing participants to watershed action projects. One and two-day workshops inform participants about watershed topics such as stream health, stream ecology, aquatic life and water chemistry.

Primary Partners- Mississippi Department of Environmental Quality and Mississippi Wildlife Federation.

a. Indicators

The number of participants and the number of participants that carry on the adoption activities will be documented.

b. Schedule

At least one event will take place before September 2013.

c. Budget

Table 9.9 Projected Costs for Adopt-A-Stream Workshop.

Item	Unit	Cost	Total Cost
1 Day Adopt A Stream Workshop	1 day workshop	$1,000.00	$1,000.00
Total			**$1,000.00**

10. Project: Food, Land and People

Project: Food, Land and People is a program that promotes conservation education through teacher workshops and hands on activities. These FLP workshops are 6 hours long and provide the educator with .6 Continuing Education Units. This program brings to the forefront many conservation issues and understanding of how agriculture affects our day to day life.

Primary Partner- Mississippi Soil and Water Conservation Commission and Tippah County Soil and Water Conservation District.

a. Indicators

The number of participants that attend the workshop will be documented.

b. Schedule

At least one event will take place before September 2013.

c. Budget

Table 9.10 Projected Costs for Project: Food, Land and People Workshop.

Item	Unit	Cost	Total Cost
Project: Food, Land and People Workshop	1 day workshop	$1,000.00	$1,000.00
Total			**$1,000.00**

11. Tippah County Conservation Carnival

The Conservation Carnival teaches students the importance of our natural resources and what they can do to help protect these resources.

Primary Partner- Mississippi Soil and Water Conservation Commission and Tippah County Soil and Water Conservation District.

a. Indicators

The number of participants that attend the conservation carnival will be documented.

b. Schedule

At least one event will take place before September 2013.

c. Budget

Table 9.11 Projected Costs for Tippah County Conservation Carnival.

Item	Unit	Cost	Total Cost
Lunch Bags	1,200	$5.50	$6,600.00
Water Bottles	1,200	$3.75	$4,500.00
Total			**$11,100.00**

12. Displays

Displays will be developed as an educational tool to teach individuals about water quality and ways they can help improve the water quality in the watershed.

Primary Partner- Mississippi Soil and Water Conservation Commission, Mississippi Department of Environmental Quality, Natural Resources Conservation Service and Environmental Protection Agency.

a. Indicators

These displays will be set up for the entire fair and the number of individuals who view the display will be approximately7,612. This display will also be set up for the field day.

b. Schedule

The display will be set up for the county fair and the North Tippah Creek Field Day.

c. Budget

Table 9.12 Projected Costs for Displays.

Item	Unit	Cost	Total Cost
Displays	2 displays	$2,500.00	$5,000.00
Total			**$5,000.00**

13. Total Projected Cost of Education/Outreach Activities

Table 9.13 Total Projected Education Budget

Item	Unit	Cost	Total Cost
Signage	20	$100.00	$2,000.00
Field Day	1	$3,105.00	$3,105.00
Educational Literature -Fact Sheets -Brochures	 1,000 5,000	 $1.00 $3.00	 $1,000.00 $15,000.00
Watershed Harmony Puppet Show	1	$1000.00	$1,000.00
Tippah County Fair	1	$10,445.00	$10,445.00
Water Bill Mailers	1	$600.00	$600.00
Presentations	3	$50.00	$150.00
Radio Ads	3	$200.00	$600.00
Adopt-A-Stream	1	$1,000.00	$1,000.00
Project: Food, Land and People	1	$1,000.00	$1,000.00
Tippah County Conservation Carnival	1	$11,100.00	$11,100.00
Displays	2	$2,500.00	$5,000.00
Total			**$52,000.00**

$50,000 of the Education/Outreach activities will come from a NPPS 319 grant and $33,333.34 in match will be provided by the Mississippi Soil and Water Conservation Commission.

14. Total Budget for North Tippah Creek Watershed Implementation Plan

Table 9.14 North Tippah Creek Watershed Implementation Plan Total Budget

Item	Cost
BMPs	$406,198.96
Education/Outreach	$52,000.00
Total	**$458,198.96**

X. EVALUATION

A. Plan Evaluation Procedure

This watershed implementation plan will be evaluated and revised on an as needed basis. The evaluation of this plan will be organized by the North Tippah Creek WIT. At that time, the WIT will develop a detailed schedule for review and revision of this watershed implementation plan. The WIT members will be responsible for notifying their stakeholders of the opportunity to propose changes to the watershed implementation plan. One month will be allowed for notification of stakeholders.

The plan will be evaluated by the team, or their designee, and any interested stakeholders. One month will be allowed for evaluation and submittal of comments. Therefore, comments will be due two months after the evaluation procedure is initiated. The plan will be evaluated in two ways. First, to determine if the plan goals have been achieved, and second, to determine if it restores the water quality of North Tippah Creek and addresses priority issues as identified by the WIT.

B. Implementation Evaluation Strategy

1. The following measures and indicators of progress will be utilized to track the success of this plan by MSWCC:

- The number of individuals who attend the Tippah County Fair,
- The number of fact sheets and brochures distributed,
- The number of children who attend the Conservation Carnival,
- The number of teachers who attend the workshops, and
- The number of individuals what attend the field day.

2. MDEQ will be responsible for reviewing water quality monitoring data collected during the implementation of this project to determine the effectiveness of BMPs implemented in the watershed.

XI. PLAN REVISION

A. Plan Revision Procedure

After evaluation, MDEQ will prepare a revised watershed implementation plan incorporating the changes requested by the reviewers. At this point it may be necessary to call a meeting to reconcile any conflicting comments or requests for change.

If the evaluation criteria are all being met in North Tippah surface waters, the watershed implementation plan will be revised to address a different restoration issue or issues, in order to protect the water quality of the watershed. If the evaluation criteria for the watershed are not being met, the approach for restoring North Tippah Creek watershed will be revised based on the knowledge that has been gained through BMP installation and monitoring performed in the NWQI area.

The draft watershed implementation plan will be submitted to the Implementation Team, and all others who submitted comments. Within two weeks of receiving the draft watershed implementation plan, the Implementation Team will notify their stakeholders of the availability of the revised watershed implementation plan for stakeholder review. One month will be allowed for review of the draft. Comments will be due at the end of this review period.

Within a month after the comments on the draft watershed implementation plan are received, the DRAFT watershed implementation plan will be submitted to the Implementation Team for review and approval. After the DRAFT watershed implementation plan has been approved, the Implementation Team will notify their stakeholders of the completion and availability of the plan for use as a guide to watershed restoration and protection activities.

XII. RESOURCES

"Natural Heritage Inventory: Search Animal Database." *Mississippi Museum of Natural Science.* <http://www.mdwfp.com/museum/html/Research/query_animals.asp>

"Natural Heritage Inventory: Search Plant Database." *Mississippi Museum of Natural Science.* <http://www.mdwfp.com/museum/html/Research/query_plants.asp>

USDA. SCS. 1966. Soil Survey of Tippah County, Mississippi.

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Appendix A

Plant and Animal Species of Special Concern

Animals of Special Concern in Tippah County

Scientific Name	Common Name
CYPRINELLA WHIPPLEI	STEELCOLOR SHINER
NOTURUS STIGMOSUS	NORTHERN MADTOM
PROCAMBARUS ABLUSUS	A CRAYFISH

Plant Species of Special Concern in Tippah County

Scientific Name	**Common Name**
CHELONE GLABRA	WHITE TURTLEHEAD
ADIANTUM CAPILLUSVENERIS	SOUTHERN MAIDENHAIR-FERN
PLATANTHERA PERAMOENA	PURPLE FRINGELESS ORCHID
AGALINIS PSEUDAPHYLIA	SHINERS' FALSE-FOXGLOVE
SILENE OVATA	OVATE CATCHFLY
ASARUM CANADENSE	CANADA WILD-GINGER
ASPELENIUM RHIZOPHYLLUM	WALKING-FERN SPLEENWORT
ATHYRIUM PYCNOCARPON	GLADE FERN
CAREX PICTA	PAINTED SEDGE
CYPRIPEDIUM PUBESCENS	YELLOW LADY'S-SLIPPER
GOODYERA PUBESCENS	DOWNY RATTLESNAKE-PLANTAIN
HYBANTHUS CONCOLOR	GREEN VIOLET
JUGLANS CINEREA	WHITE WALNUT
LIGUSTICUM CANADENSE	NONDO LOVAGE
ORCHIS SPECTABILIS	SHOWY ORCHID
PANAX QUINQUEFOLIUS	AMERICAN GINSENG
PHILADELPHUS INODORUS	ODORLESS MOCK-ORANGE
TRIOSTEUM ANGUSTIFOLIUM	NARROW-LEAF FEVER ROOT

Appendix B

Funded 319 Project Proposal

PROJECT TITLE:
Tippah River Watershed Agricultural Nonpoint Source Pollution Education Project

PROJECT ABSTRACT:
This project will be located in the Western Tippah County in north Mississippi.
The objectives of this project will be:

To inform and educate the public about their watershed and the things they can do that will benefit water quality.

To organize a watershed team and develop a watershed implementation plan that will have suggestions and ideas about how to improve water quality within the watershed.

To develop a monitoring plan and acquire monitoring data to determine if there is a need for a project to implement Best Management Practices.

The project cost is $208,334. Of this amount, $125,000 in 319 funds are requested with the balance of $83,334 to be supplied as match.

LEAD ORGANIZATION:

Mississippi Soil and Water Conservation Commission
Mark E. Gilbert, Project Manager
P.O. Box 23005
Jackson, MS 39225-3005

Phone: (601) 354-7645
Fax: (601) 354-6628
e-mail: mgilbert@mswcc.state.ms.us

COOPERATING AGENCIES:

Tippah County Soil and Water Conservation District; USDA Natural Resources Conservation Service; Mississippi Department of Environmental Quality; United States Geological Survey

GRANT ADMINISTRATOR:

Mark E. Gilbert, Environmental Administrator
MS Soil & Water Conservation Commission
P.O. Box 23005
Jackson, MS 39225-3005

Phone: (601) 354-7645
Fax: (601) 354-6628
e-mail: mgilbert@mswcc.state.ms.us

PROJECT LOCATION:

North Tippah Creek Watershed (North Tippah Creek 08030201-250)
(see attachment 1 for a map depicting the targeted demonstration areas of the project)

PROJECT OBJECTIVE:

The overall objective of this project will be to educate individuals living in this watershed about water quality in the Upper Tippah Creek Watershed. The education component of this project is designed to inform individuals about water quality and nonpoint source pollution and measures that can help in reducing nonpoint source pollution. Monitoring of the waters in the watershed will be done as part of this project to determine if there is a need for implementation of Best Management Practices to improve water quality. Soils in the watershed are very erosive, with gully erosion occurring on sloping cropland and pastureland. The State's 2012 303(d) list of impaired water bodies lists North Tippah Creek designated use of fish and wildlife support as impaired due to biological impairment.

PROJECT DESCRIPTION:

This project will include development of a watershed team, development of a watershed plan, education activities, and a monitoring component. MSWCC will work with NRCS, MDEQ and the Tippah County Soil and Water Conservation District to identify stakeholders and others who need to serve on the watershed team. Once identified, MSWCC will facilitate the meetings of this team and the development of the Watershed Implementation Plan. The education activities will be carried out to educate individuals living in the North Tippah Creek watershed about nonpoint source pollution and ways that they can help in preventing it. The monitoring component of the project will include a monitoring plan developed and monitoring data collected by USGS.

The current land uses in the Tippah River Watershed include 60% (approximately 21,316 acres) cropland, 10% approximately 3,553 acres) pasture land, 25% (approximately 8,881 acres) timber land and 5% (approximately 1,776 acres) other lands.

To address the above stated objectives, education activities may include but are not limited to:

-Signage,
-Field days,
-Lunch bags,
-Fact sheets,
-Brochures,
-Project Food Land and People,
-Adopt a Stream,
-Direct Mailers,
-Public Service Announcements,
-Stream Cleanup, and
-Fair Exhibits.

MILESTONES:

1. Sign grant contract with MS Department of Environmental Quality. (Month 0)

2. With assistance from MDEQ, NRCS and the Tippah County SWCD, form the North Tippah Creek Watershed Team. (Month 1-2)

3. Facilitate quarterly meetings of the North Tippah Creek Watershed team. (Month 1-12)

4. Convene a kickoff meeting of the newly formed North Tippah Creek Watershed team. (Month 3)

5. With assistance from the watershed team, develop a Watershed Implementation Plan that is consistent with MDEQ guidance. (Month 3-8)

6. Carry out the education/outreach activities of the project. (Month 1-12)

7. Assist MDEQ in establishing an evaluation system to indicate the benefits of the project. (Month 4)

8. Present a draft watershed plan to the watershed team for review and comments. (Month 6)

9. Present a final draft to the watershed team for approval. (Month 8)

10. With the approval of the watershed team, submit a final draft to MDEQ for approval. (Month 9)

11. Submit biannual reports to MDEQ. (Month 1-12)

12. Make project presentations as requested by MDEQ. (Month 1-12)

13. Make a final report to MDEQ. (Month 12)

INDICATORS OF SUCCESS

The following measures and indicators will be utilized to track the success of this project:

- Watershed Team Formed
- Watershed Implementation Team Developed
- Monitoring Plan Developed
- Fact Sheet About The Watershed Developed
- Number of Student Reached and Give Educational Materials, and
- Monitoring Data Collected.

PROJECT PERIOD

The length of this project will be 1 year.

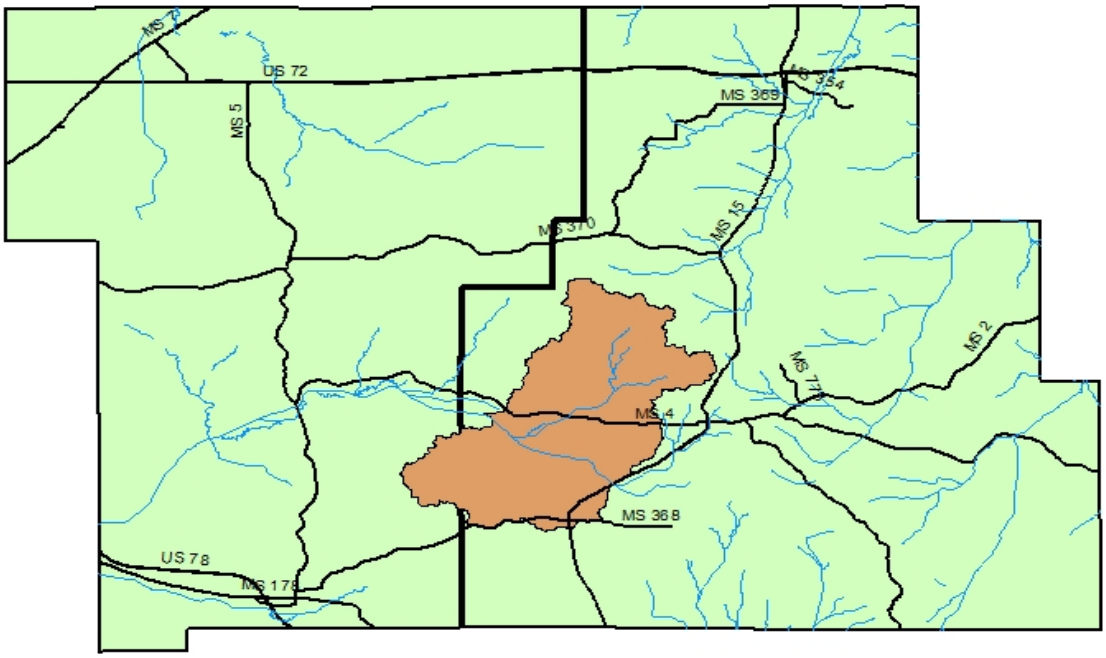
PROJECT BUDGET

BUDGET CATEGORY	FEDERAL FUNDS	NON-FEDERAL FUNDS	TOTAL
Information/Education	$ 50,000	$ 33,334 *	$ 83,334
Contractual (Monitoring)	$ 75,000	$ 50,000 *	$ 125,000
TOTAL	$ 125,000	$ 83,334	$ 208,334

* Non-federal match for information/education and monitoring will be provided the local soil and water conservation district commissioners, soil and water conservation district staff and Mississippi Soil and Water Conservation Commission staff time spent on the project.

North Tippah Creek Watershed

Attachment 1



Appendix C

Checklist of Watershed Implementation Elements

Table D. 9 Key Elements of a Watershed Plan for 319 Grant

Required WIP Elements for 319 Grant	Location in Watershed Implementation Plan
1. Watershed Description and Background	Chapter V, Chapter VII Section A
2. Implementation	Chapter VIII Section A Subsection 3
3. Project Goals	Chapter VIII Section A Subsections 2 and 5
4. Project Costs	Chapter VIII Section A Subsection 7 Chapter IX Section A Subsection 13,14
5. Education and Outreach	Chapter IX
6. Implementation Schedule	Chapter VIII Section A Subsection 4
7. Milestones	Chapter VIII Section A Subsection 4
8. Adaptations and Revisions	Chapter X Section A, Chapter XI Section A
9. Monitoring	Chapter X Section B Subsections 1 and 2