Booths Creek-Bayou Pierre Watershed Plan
9 Key Elements
HUC 080602030502
MWS 6028
GY18 Proposed Project Area
October 3, 2017

Element a: Identification of Causes and Sources of Impairment

The Booths Creek-Bayou Pierre Watershed is located in Claiborne County, MS, and is a tributary in the South Independent Stream River Basin. This watershed is 29,299 acres and contains many different land use types, including forest (60%), pasture/grassland (13%), scrub/barren (11%), wetland (4%), cropland (5%) and urban (5%) as is depicted in Figure 1. The area is mostly known for hunting and other recreational activities such as four-wheeling and picnicking on the sandbars. Bayou Pierre is the major water body in the watershed although smaller tributaries, like Booths Creek and Storm Creek, flow into Bayou Pierre.

Within the Booths Creek-Bayou Pierre Watershed, there have been several TMDLs developed for different pollutants. Bayou Pierre, water body segment 602812, has a completed TMDL for pH. Also on Bayou Pierre (MS449M), there is a TMDL for pathogens. Storm Creek, segment 602811, is currently listed on the 2016 303(d) List of Impaired Water Bodies for Biological Impairment.

In order to make water quality assessments on wadeable streams outside of the Mississippi Alluvial Plain, MDEQ uses a calibrated and verified index of biological integrity (IBI) referred to as the Mississippi Benthic Index of Stream Quality (M-BISQ). Using biological community data and comparing it to the attainment thresholds from the M-BISQ, Storm Creek was assessed as not attaining (segment ID# 602811) Aquatic Life Use Support. MDEQ has a strong team of scientists and engineers focused on evaluating water quality data and identifying stressors in water bodies that have been listed as being biologically impaired using benthic macroinvertebrate community data. If biological community data indicate that a water body segment is impaired, an investigative, stressor identification analysis using strength-of-evidence approach is conducted to determine the cause(s) of the impairment. Such causes may range from specific pollutants (e.g. Total Nitrogen) to other causes of pollution such as sedimentation, habitat loss or hydrologic alteration. In most cases, nonpoint sources contribute, or are the primary causes of impairment. MDEQ relies upon all available monitoring and assessment data and conducts additional monitoring to gather the necessary data and information to help determine both the causes and sources of impaired waters. The *U.S. Environmental Protection Agency (EPA) Stressor Identification Process and Stressor Identification Guidance Document* (USEPA, 2000), is used to identify most probable stressors causing biological impairment to provide the information necessary to develop required TMDLs that will guide restoration activities.

There are 29 point sources (42 outfalls) in the watershed that flow into the impaired segment. Currently, there are 18 that are active and 11 that are inactive. It is noted that an inactive point source is a NPDES facility that is not in use or is closed. An inactive point source may be

reactivated when needed. There are data available for only 11 of the point sources (active and inactive). Most all of the discharge monitoring report (DMR) data submitted by these facilities are within the 6.0 S.U. to 9.0 S.U. range for pH which is within the limits of the water quality standard. The specific causes of the low pH for this water body are not known, but are believed to be a combination of point source discharges and storm water discharge over acidic soils (TMDL Report, 2014).

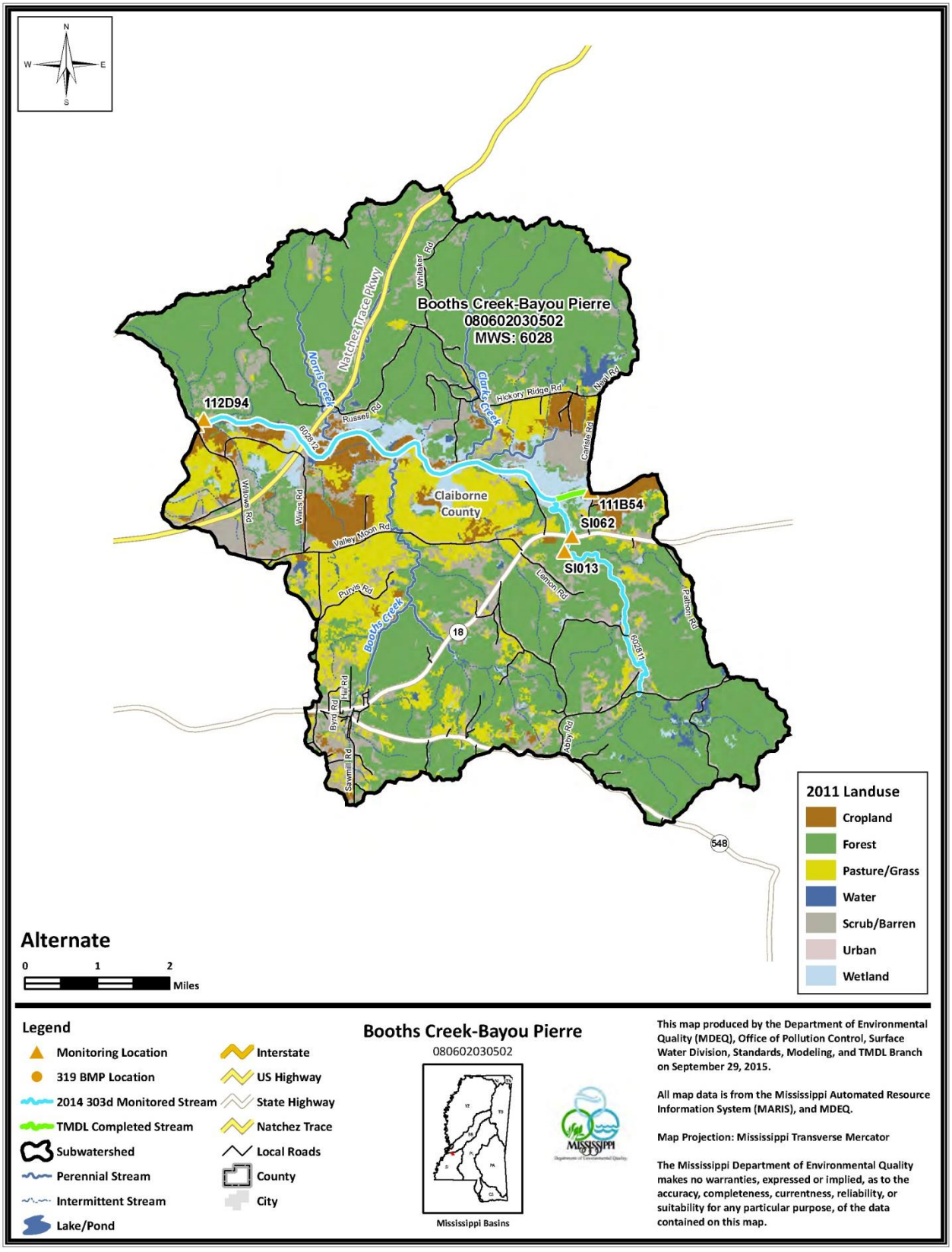

Figure 1: Booths Creek-Bayou Pierre Watershed Landuse Map, 2011 NLCD

Element b: Expected Load Reduction

Bayou Pierre (602812) was on MS's 2014 Section 303(d) list of Impaired Waters with the listed cause identified as pH. The TMDL segment of Bayou Pierre is a total of 6.04 miles (Figure 2). Bayou Pierre (MS449M) is 14.27 miles and extends beyond the boundaries of the Booths Creek-Bayou Pierre Watershed: however, the 6.56 miles of Bayou Pierre within the watershed was impaired for pathogens.

The nonpoint sources causing or contributing to pH violations are unknown. The potential nonpoint sources include, but are not limited to, low pH in storm water runoff, groundwater infiltration, and acid rain deposition. Soils in this area are known to have low pH. Best management practices that treat sedimentation would keep acidic soils from entering streams and therefore contributing to the pH issue. The load allocation for this TMDL suggests that the pH of waters originating from any nonpoint sources in the watershed shall be no less than 6.0 S.U. and no greater than 9.0 S.U. if possible based on the natural conditions found in the watershed. As for the pathogen contributions from nonpoint sources, the TMDL recommends that cattle access to streams should be limited.

The NRCS has a list of approved BMPs to address sediment and pathogens and this list will be used to identify candidate BMPs in Booths Creek-Bayou Pierre watershed.

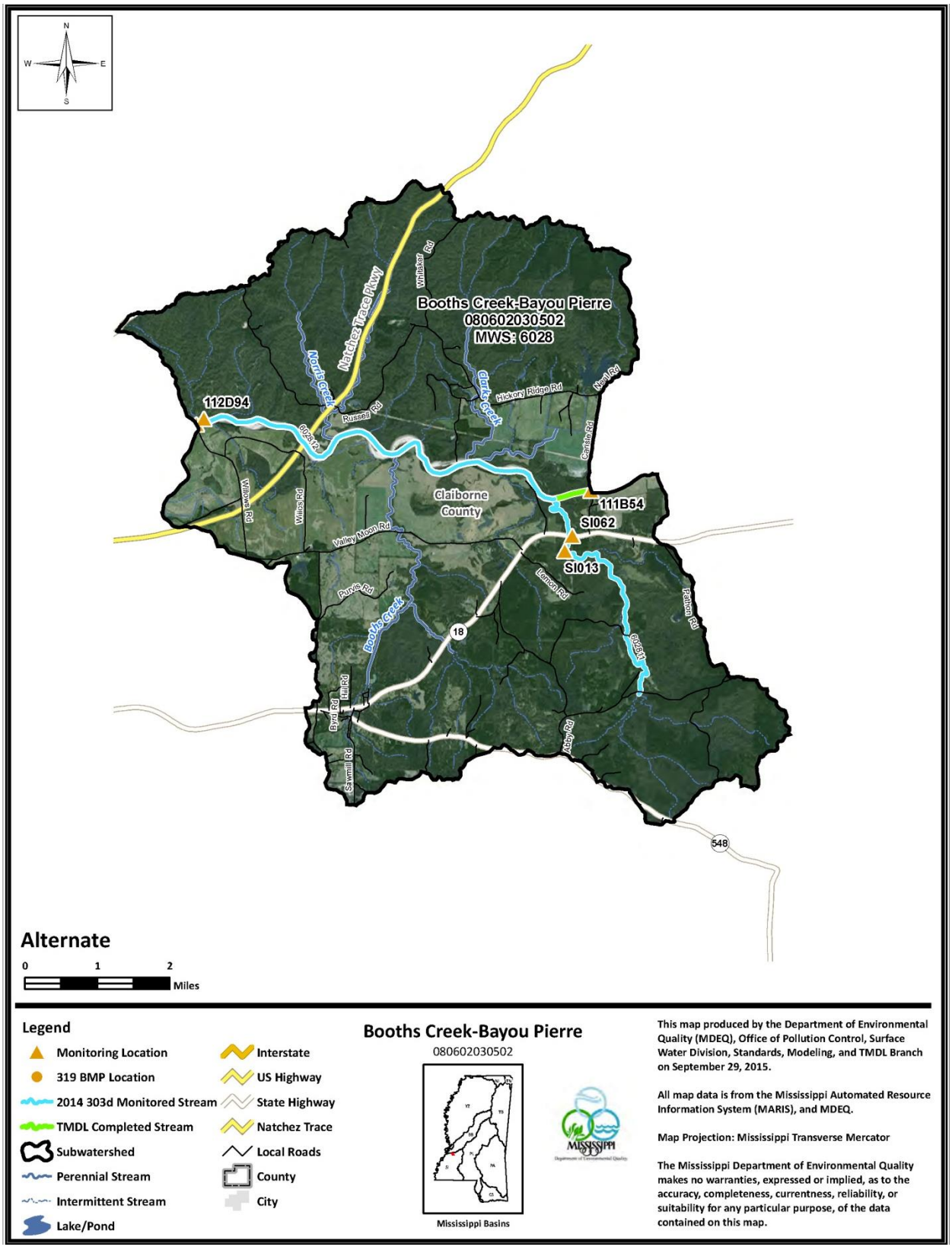

Figure 2: Segment MS 602812 Bayou Pierre

Element c: Proposed Management Measures

Coordinating partners with NRCS include the Mississippi Association of Conservation Districts (MACD), the Mississippi Soil and Water Conservation Commission (MSWCC), the Mississippi Department of Environmental Quality (MDEQ), and the local Soil and Water Conservation Districts (SWCDs) within the counties of the National Water Quality Initiative area. Through a collaborative effort to identify water quality concerns and needs within this watershed, these agencies feel the following management measures will help ensure success. Those measures are as follows:

1. Likely water quality benefit;
2. Willing landowners;
3. Implementation of the recommendations of the TMDL(s);
4. Ease of showing effectiveness of the BMP(s) through monitoring;
5. Shorter length of time for anticipated results (i.e., within the Initiative period);

At present, Bayou Pierre has TMDLs for pH and pathogens. Based on previous experience in watersheds with similar impairments, our partners recommend installation of the following BMPs to help mitigate pH and pathogen issues in the Booths Creek-Bayou Pierre watershed helping the stream recover: fencing, watering facilities, heavy use areas, stream crossings, ponds, sediment basins, and nutrient management practices just to name a few.

Upon receipt of funding, NRCS state office will coordinate with the field office staff in the perspective counties to target implementation on agricultural lands within the watershed, giving cropland and pastureland the highest priorities. A map depicting the landuse can be found in Figure 1.

Element d: Technical and Financial Assistance

As part of NWQI, NRCS will be providing all technical and financial assistance to landowners for BMP implementation. Provided below is an estimate of project BMP costs:

Code	Practice	Units	Cost	Estimated Units	Total
314	Brush Management	ac	$44.70	500	$22,350.00
315	Herbaceous Weed Control	ac	$113.27	500	$56,635.00
327	Conservation Cover	ac	$452.43	1,192	$539,296.56
328	Conservation Crop Rotation	ac	$3.93	1,192	$4,684.56
329	Residue and Tillage Management, No Till/Strip Till/Direct Seed	ac	$14.85	1,192	$17,701.20
338	Prescribed Burning	ac	$43.90	13,261	$582,157.90
340	Cover Crop	ac	$72.93	1,192	$86,932.56
342	Critical Area Planting	ac	$165.43	50	$8,271.50
350	Sediment Basin	cuyd	$4.03	25,000	$100,750.00

Code	Practice	Units	Cost	Estimated Units	Total
351	Water Well Decommissioning	ft	$122.48	1,000	$122,480.00
356	Dike	cuyd	$3.66	5,000	$18,300.00
362	Diversion	ft	$2.06	1,000	$2,060.00
378	Pond	cuyd	$4.40	17,500	$77,000.00
381	Silvopasture Establishment	ac	$316.33	1,000	$316,330.00
382	Fence	ft	$2.27	32,000	$72,640.00
386	Field Border	ac	$430.93	200	$86,186.00
391	Riparian Forest Buffer	ac	$346.61	50	$17,330.50
393	Filter Strip	ac	$129.94	50	$6,497.00
410	Grade Stabilization Structure	no	$11,980.66	25	$299,516.50
412	Grassed Waterway	ac	$1,825.54	50	$91,277.00
430	Irrigation Pipeline	ft	$27.35	1,000	$27,350.00
441	Irrigation System, Microirrigation	ac	$2,175.52	20	$43,510.40
442	Irrigation System, Sprinkler	ea	$34,762.34	2	$69,524.68
449	Irrigation Water Management	ac	$34.95	200	$6,990.00
468	Lined Waterway or Outlet	sqft	$6.04	1,000	$6,040.00
484	Mulching	ac	$1,376.59	10	$13,765.90
511	Forage Harvest Management	ac	$19.53	200	$3,906.00
512	Forage and Biomass Planting	ac	$316.82	200	$63,364.00
516	Livestock Pipeline	ft	$1.65	2,000	$3,300.00
528	Prescribed Grazing	ac	$36.86	2,951	$108,773.86
533	Pumping Plant	BMP	$1,385.92	215	$297,972.80
554	Drainage Water Management	ea	$62.68	200	$12,536.00
561	Heavy Use Area Protection	sqft	$2.96	41,500	$122,840.00
578	Stream Crossing	sqft	$9.71	1,000	$9,710.00
580	Streambank and Shoreline Protection	ft	$171.71	100	$17,171.00
587	Structure for Water Control	in	$394.96	100	$39,496.00
590	Nutrient Management	ac	$3.92	1,400	$5,488.00
591	Amendments for the Treatment of Agricultural Waste	ksqft	$28.92	100	$2,892.00
595	Integrated Pest Management	ac	$111.33	1,000	$111,330.00
600	Terrace	ft	$1.64	400	$656.00
607	Surface Drain, Field Ditch	cuyd	$1.59	10,000	$15,900.00
612	Tree/Shrub Establishment	ea	$0.34	40,000	$13,600.00
614	Watering Facility	gal	$2.55	5,000	$12,750.00

Code	Practice	Units	Cost	Estimated Units	Total
620	Underground Outlet	ft	$9.01	1,000	$9,010.00
642	Water Well	ft	$21.24	5,000	$106,200.00
644	Wetland Wildlife Habitat Management	ac	$7.34	812	$5,960.08
656	Constructed Wetland	ac	$8,327.17	2	$16,654.34
	Total				**$3,675,087.34**

In addition to these costs, provided below is an estimate for monitoring and education and outreach costs for watershed plan implementation, administration, and watershed plan revision, as well as hosting and facilitating team meetings.

Activity	**Estimated Cost**
Education/Outreach	$10,000
Monitoring	$20,000

Element e: Information and Education`

NRCS will have the lead in coordinating the information and education for this NWQI. The MDEQ, in cooperation with numerous federal, state, and local stakeholders has developed diversified information/education programs, best management practices manuals, literature, books, videos, and public service announcements that address pollutants from the seven (7) major landuse categories of Nonpoint Source Pollution, namely; agriculture, construction, forestry, on-site waste water disposal, surface mining, urban storm water runoff, and hydrologic modification. Audiences from pre-school to adults throughout the state are reached with a variety of mature, well-designed programs each year. These programs, events, manuals and literature can be used in the Booths Creek-Bayou Pierre watershed project by tailoring them to address the sedimentation. A positive approach is used to reach the full diversity of people in the community with projects that foster a "sense of place", a "sense of pride in community", and a sense of the native plants, animals, and general ecology of their region, as well as, the history of the community and a sense of economics. Stakeholders and coordinators join together to participate in problem-solving, brainstorming, plan development, training workshops, festival event planning, soil and water conservation field days, tree boards, poster, art and writing projects and other activities that promote collaboration and ownership of the watershed, as well as, solutions to its problems. The ultimate goal is to bring about behavior changes and the use of "best management practices" that will improve water quality and the overall quality of life in the watershed. Evaluation forms, pre-test/ post-test, surveys, and reporting of the number of people who attend workshops, trainings and events are among the methods used to measure the success of education/information programs. A partial list of MDEQ's programs that could be used in the Booths Creek-Bayou Pierre watershed is listed below:

- **Water Model Presentations** - Enviroscapes and groundwater aquifer models distributed statewide with training and related interactive lesson plans.

- **Teacher Workshops –** train educators in proximity to the watershed about NPS pollution and provide materials and information that can be used in their classrooms.
- **Adopt A Stream -** workshops and training venues for citizens, teachers, and students in the Booths Creek-Bayou Pierre Watershed.
- ***Watershed Harmony Mobile Classroom*** - for age's kindergarten – adults with state and federal public education objectives tailored for 4th and 5th grade students.
- **Storm Drain Marking -** projects for scouts, environmental clubs, and citizen groups.
- **"Train the Trainer" -** workshops and materials for Soil and Water districts, Extension Service, etc.

Element f: Implementation Schedule

In the event of National Water Quality Initiative funding being awarded for this HUC 12 sub-watershed plan, NRCS will:

1. Facilitate, in coordination with MDEQ and other partners, meetings, media and social media promotion of the project, and coordinate activities to fully implement this plan.
2. Work with the Claiborne County SWCD, MSWCC, and MDEQ to inform landowners and operators within the watershed about the project and work to secure commitments from priority area landowners and operators who are willing to participate in the project.
3. Work to secure commitments from landowners in the priority areas within the sub-watershed that are contributing significant pollutant loads. All BMPs shall be installed in accordance with the guidelines developed in the latest edition of the NRCS Technical Field Manual, or other approved guidelines.
4. Facilitate, in cooperation with MDEQ and other monitoring partners, the completion and implementation of an effective and efficient plan to monitor baseline water quality conditions in the watershed and track changes in water quality over time resulting from the BMPs implemented through this project.
5. Conduct inspections of BMPs during construction.
6. Collect relevant GPS coordinates of all installed BMPs and incorporate this information into a GIS format. All geospatial data shall be collected in a manner consistent with the Federal Geographic Data committee-endorsed standards.
7. Collect adequate photo documentation before, during, and after installation of the approved BMPs.
8. Report measured or estimated nonpoint source pollutant load reduction, acreage affected, pre-and post- site conditions, and GIS data using forms included in Attachment A and RUSLE2.

Element g: Milestones and Outcomes

Milestone	Outcome
Coordinate with the MDEQ, MSWCC, and the Claiborne Co. Soil and Water District to secure commitments from priority area landowners in Booths Creek-Bayou Pierre watershed	Target priority areas for BMPs
Initiate watershed monitoring	Baseline condition monitoring
Implement BMPs	BMP installation
Begin education outreach activities	Education outreach events scheduled
Begin monitoring to collect data on post-BMP water quality	Post-BMP Monitoring
Use RUSLE2 on each BMP to compute soil savings	Show an annual soil savings for the initiative
Use Region 5 model on each BMP to show nutrient reduction	Show an annual nutrient reduction for the initiative

Goal: Reduce the pathogen, sediment, and nutrient loads entering Bayou Pierre from agricultural practices in the Booths Creek-Bayou Pierre Watershed.

Element h: Load Reduction Evaluation

According to the *State of Mississippi Water Quality Criteria for Intrastate, Interstate, and Coastal Waters*, Bayou Pierre is classified for Fish and Wildlife Use and Recreation. As such waters in this classification must meet the aquatic life designate use and the contact recreation designated use. The narrative standard for aquatic life use is that waters shall be free from materials attributable to municipal, industrial, agricultural, or other dischargers producing color, odor, taste, total suspended solids, or other conditions in such degree as to create a nuisance, render the waters injurious to public health, recreation, or to aquatic life and wildlife, or adversely affect the palatability of fish, aesthetic quality, or impair the waters for any designated uses. The following thresholds will be used to measure compliance with water quality criteria:

Parameter	Threshold
Dissolved Oxygen	Daily Average of 5.0 mg/L; Instantaneous threshold of 4.0 mg/L
pH	6.0-9.0
Temperature	Not to exceed 90°F
Specific Conductance	Less Than 1000 micromhos/cm
Dissolved Solids	Monthly average less than 750 mg/L; instantaneous threshold less than 1500 mg/L
E. coli	Culturable e.coli should not exceed a geometric mean of 126 per 100 ml

In addition to chemical data, biological community data and in stream habitat surveys will be collected over the course of the project to determine attainment of the Aquatic Life Designated Use. These data are extremely helpful in identifying positive trends in water quality and should provide information to help determine if the implementation activities are resulting in water quality improvements. Mississippi uses a calibrated and verified index of biotic integrity to make water quality assessment decisions. This index, the Mississippi Benthic Index of Stream Quality (M-BISQ) was originally developed in 2000 and has undergone three recalibration efforts to refine the sensitivity of the index. As part of the index development process, the state was divided into unique bioregions. Within each bioregion, the index has a defined attainment threshold that is used to determine if the biological community measures collected at a site are representative of good water quality that can support a balanced benthic macroinvertebrate community. If the score is above the attainment threshold for the bioregion, the site is assessed as attaining the aquatic life use designation. Booths Creek-Bayou Pierre is in the South Bluff and West bioregions and the attainment thresholds are 55.7 and 43.7 respectively. Along with overall MBISQ scores, the in-stream habitat surveys will also be used to determine change over time.

It should be noted that recovery time of a stream is variable and may extend beyond the timeframe identified in the workplan. At the end of the project, data will be analyzed to determine if the data indicate improvements to water quality in Booths Creek-Bayou Pierre watershed. In the event data indicate little or no positive change, a Stressor Analysis will be conducted to determine if any new or additional stressors are preventing improvements to water quality. If any new stressors are identified, the Watershed Implementation Team will identify future actions/activities to address those stressors.

Element i: Monitoring

Prior to BMP installation, water quality chemical and biological monitoring was conducted and will serve as baseline data for the project along with any historical data available on streams in the Booths Creek-Bayou Pierre watershed. Monitoring stations for Segment MS 602812 are shown in Figure 2. MDEQ has collected biological data on Storm Creek and Booths Creek, both tributaries to Bayou Pierre. Post-BMP monitoring locations will be selected using best professional judgment and will be targeted to reflect water quality downstream of BMP activity. Once BMP installation is complete, and there has been sufficient time for the stream to stabilize, post BMP monitoring will be initiated. Post BMP monitoring will be conducted in a way that allows for comparison with the pre-implementation data. Because recovery periods of streams can be dependent on type and amount of BMPs installed, more than 1 year of post BMP data may be needed to observe a change in water quality. In some cases, it may take 5 or more years to see full benefits of BMPs. All data collection efforts will be conducted using trained personnel following established Standard Operating Procedures and adhering to agency Quality Assurance protocols.

Appendix A: R5 Load Estimation Forms

Project Name: _____

Mississippi DEQ - NonPoint Source Section Field Data Entry Sheet
Agricultural Fields and Filter Strips

(For more details, refer to R5 User's Manual, which was prepared based on the original report "Pollutants Controlled Calculation and Documentation for Section 319 Watershed Training Manual by Michigan Department of Environmental Quality, 1999)

Date Installed: _____

BMP - Specific Agricultural Field Practices (check one):

- ☐ Prescribed Grazing
- ☐ Residue Management, Mulch Till
- ☐ Conservation Crop Rotation
- ☐ Conservation Cover
- ☐ Cover and Green Manure
- ☐ Critical Area Planting
- ☐ Stripcropping, Contour
- ☐ Stripcropping, Field
- ☐ Other Similar Practice (specify name) : _____

Check if Field Strips are also used in combination of the above practice : ☐

Study Area Information

State: MS County: _____

Contributing/Treatment area: _____ acres

Soil Textural Class Information

- ☐ Clay (clay, clay loam, and silt clay)
- ☐ Silt (silt, silty clay loam, loam, and silt loam)
- ☐ Sand (sand, sandy clay, sandy clay loam, sandy loam, and loamy sand)
- ☐ Peat

USLE or RUSLE Factors Information

USLE or RUSLE Factors	Before Treatment	After Treatment
Rainfall-Runoff Erosivity Factor (R)		
Soil Erodibility Factor (K)		
Length-Slope Factor (LS)		
Cover Management Factor (C<=1.0)*		
Support Practice Factor (P<=1.0)*		
Predicted Avg Annual Soil Loss (ton/acre/year)		

* Provide local C and P values

Applicant Name _____

Application # _____

GPS Coord N ☐ ° ☐ ' ☐ "

GPS Coord W ☐ ° ☐ ' ☐ "

Latitude (DD) ☐

Longitude (DD) ☐

For MDEQ Use Only:

Logged Into GRTS By: _____ Date: _____

Logged Into GIS By: _____ Date: _____

Project Name: _____

Mississippi DEQ - NonPoint Source Section Field Data Entry Sheet
Bank Stabilization

(For more details, refer to R5 User's Manual, which was prepared based on the original report "Pollutants Controlled Calculation and Documentation for Section 319 Watershed Training Manual by Michigan Department of Environmental Quality, 1999)

Date Installed: _____

BMP (check one):

- ☐ Animal Trails and Walkways
- ☐ Stream Channel Stabilization
- ☐ Other Similar Practice (specify name) : _____

Soil Textural Class Information (check one)

- ☐ Sands, loamy sands
- ☐ Sandy loam
- ☐ Fine sandy loam
- ☐ Loams, sandy clay loams, sandy clay
- ☐ Silt loam
- ☐ Silty clay loam, silty clay
- ☐ Clay loam
- ☐ Clay
- ☐ Organic

Applicant _____

Application # _____

GPS Coord N ☐ ° ☐ ' ☐ "

GPS Coord W ☐ ° ☐ ' ☐ "

Latitude (DD) ☐

Longitude (DD) ☐

BMP Efficiency Information

BMP Efficiency for sediment load reduction for Bank #1: ____ %
BMP Efficiency for sediment load reduction for Bank #2: ____ %

Bank Characteristics

If estimating for just one bank, put "0" in areas for bank #2

Parameter	Bank #1	Bank #2
Length (ft)		
Height (ft)		
Lateral Recession Rate (ft/yr) *		
Soil Weight (tons/ft3) *(optional)*		
Soil P Concentration (lb/lb soil) *(optional)*		
Soil N Concentration (lb/lb soil) *(optional)*		

*Lateral Recession Rate (LRR) is the rate at which bank deterioration has taken place and is measured in feet per year. This rate may not be easily determined by direct measurement. Therefore best professional judgment may be required to estimate the LRR. Please refer to the table below for typical values.

(ft/yr)	Category	Description
0.01 - 0.05	Slight	Some bare bank but active erosion not readily apparent. Some rills but no vegetative overhang. No exposed tree roots.
0.06 - 0.2	Moderate	Bank is predominantly bare with some rills and vegetative overhang.
0.3 - 0.5	Severe	Bank is bare with rills and severe vegetative overhang. Many exposed tree roots and
0.5+	Very Severe	Bank is bare with gullies and severe vegetative overhang. Many fallen trees, drains and culverts eroding out and changes in cultural features as above. Massive slips or washouts common. Channel cross-section is U-shaped and streamcourse or gully may be meandering.

Source : Steffen, L.J. 1982. Channel Erosion (personal communication), as printed in "Pollutants Controlled Calculation and Documentation for Section 319 Watersheds Training Manual," June 1999 Revision; Michigan Department of Environmental Quality - Surface Water Quality Division - Nonpoint Source Unit. EQP 5841 (6/99).

For MDEQ Use Only:

Logged Into GRTS By: _____ Date: _____

Logged Into GIS By: _____ Date: _____

Project Name: _____

Mississippi DEQ - NonPoint Source Section Field Data Entry Sheet
Feedlots

(For more details, refer to R5 User's Manual, which was prepared based on the original report "Pollutants Controlled Calculation and Documentation for Section 319 Watershed Training Manual by Michigan Department of Environmental Quality, 1999)

Date Installed: _____

BMP (check one):

- ☐ No BMP
- ☐ Diversion
- ☐ Filter Strip
- ☐ Runoff Management System
- ☐ Solids Separation Basin with Infiltration Bed
- ☐ Other Similar Practice (specify name) : _____
- ☐ Terrace
- ☐ Waste Management System
- ☐ Waste Storage Facility
- ☐ Solids Separation Basin

Please provide the following information

1) Contributing area : _____ acres

2) Percentage of total feedlots area that is paved (check one) :

☐ 0-24% ☐ 25-49% ☐ 50-74% ☐ 75-100%

3) State : MS County : _____

Nearest Weather Station : _____

4) Enter the animal population in the watershed

Animal Type	Population (Number)	Design Weight (pounds)
Slaughter Steer		1,000
Young Beef		500
Dairy Cow		1,400
Young Dairy Stock		500
Swine		200
Feeder Pig		50
Sheep		100
Turkey		10
Chicken		4
Duck		4
Horse		1,000

Applicant _____

Application # _____

GPS Coord N ☐ ° ☐ ' ☐ "

GPS Coord W ☐ ° ☐ ' ☐ "

Latitude (DD) ☐

Longitude (DD) ☐

For MDEQ Use Only:

Logged Into GRTS By: _____ Date: _____

Logged Into GIS By: _____ Date: _____

Project Name: _____

Mississippi DEQ - NonPoint Source Section Field Data Entry Sheet
Gully Stabilization

(For more details, refer to R5 User's Manual, which was prepared based on the original report "Pollutants Controlled Calculation and Documentation for Section 319 Watershed Training Manual by Michigan Department of Environmental Quality, 1999)

Date Installed: _____

BMP (check one):

- ☐ Grade Stabilization Structure
- ☐ Critical Area Planting in areas with gullies
- ☐ Other Similar Practice (specify name) : _____
- ☐ Grassed Waterway
- ☐ Water and Sediment Control Basins

Soil Textural Class Information (check one)

- ☐ Sands, loamy sands
- ☐ Sandy loam
- ☐ Fine sandy loam
- ☐ Loams, sandy clay loams, sandy clay
- ☐ Silt loam
- ☐ Silty clay loam, silty clay
- ☐ Clay loam
- ☐ Clay
- ☐ Organic

Gully Characteristics

Parameter	Value
Top Width (ft)	
Bottom Width (ft)	
Depth (ft)	
Length (ft)	
Number of Years for Gully Formation	1
Soil Weight (tons/ft3) (optional)	0
Soil P Concentration (lb/lb soil) (optional)	0.0005
Soil N Concentration (lb/lb soil) (optional)	0.001

Applicant _____

Application # _____

GPS Coord N ☐ ° ☐ ' ☐ "

GPS Coord W ☐ ° ☐ ' ☐ "

Latitude (DD) ☐

Longitude (DD) ☐

BMP Efficiency for sediment load reduction : ☐ %

For MDEQ Use Only:

Logged Into GRTS By: _____ Date: _____

Logged Into GIS By: _____ Date: _____

Project Name: _____

Mississippi DEQ - NonPoint Source Section Field Data Entry Sheet
Urban Runoff

(For more details, refer to R5 User's Manual, which was prepared based on the original report "Pollutants Controlled Calculation and Documentation for Section 319 Watershed Training Manual by Michigan Department of Environmental Quality, 1999)

Date Installed: _____

BMP (check one):

- ☐ Vegetated Filter Strips
- ☐ Grass Swales
- ☐ Infiltration Devises
- ☐ Extended Wet Detention
- ☐ WQ Inlets
- ☐ Weekly Street Sweeping
- ☐ Infiltration Basin
- ☐ Infiltration Trench
- ☐ Porous Pavement
- ☐ Wetland Detention
- ☐ Dry Detention
- ☐ Settling Basin
- ☐ Sand Filters
- ☐ Concrete Grid Pavement
- ☐ Sand Filter/Infiltration Basin
- ☐ WQ Inlet w/ Sand Filter
- ☐ Oil/Grit Separator
- ☐ Wet Pond

Contributing/Drainage area by land use

Land use	Sewered area (acres)	Unsewered area (acres)
Commercial		
Industrial		
Institutional		
Transportation		
Multi-Family		
Residential		
Agriculture		
Vacant		
Open Space		

* Sewered and Unsewered refer to storm sewers

Applicant _____

Application # _____

GPS Coord N ☐ ° ☐ ' ☐ "

GPS Coord W ☐ ° ☐ ' ☐ "

Latitude (DD) ☐

Longitude (DD) ☐

Note: *The spreadsheet model uses default unit area pollutant loading rates for each urban land use subtype. The default values were obtained from the report "Unit Area Pollutant Load Estimates for Lake County, Illinois Lake Michigan Watersheds." NIPC. August 1993.*

For MDEQ Use Only:

Logged Into GRTS By: _____ Date: _____

Logged Into GIS By: _____ Date: _____