

September 2011

PROJECT SUMMARY SHEET

PROJECT TITLE NAME: LOWER JAMES RIVER WATERSHED IMPLEMENTATION PROJECT – Segment III

NAME AND ADDRESS OF LEAD PROJECT SPONSOR:

James River Water Development District
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 Huron, SD 57350
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STATE CONTACT PERSON: Barry A. McLaury **TITLE:** Environmental Program Scientist

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STATE: South Dakota **WATERSHED:** Lower James River

PROJECT TYPES: BASE WATERSHED GROUNDWATER I&E

PROJECT TYPES	WATERBODY TYPES	NPS CATEGORY
<input type="checkbox"/> STAFFING & SUPPORT	<input type="checkbox"/> GROUNDWATER	<input checked="" type="checkbox"/> AGRICULTURE
<input checked="" type="checkbox"/> WATERSHED	<input checked="" type="checkbox"/> LAKES/RESERVOIRS	<input type="checkbox"/> URBAN RUNOFF
<input type="checkbox"/> GROUNDWATER	<input checked="" type="checkbox"/> RIVERS	<input type="checkbox"/> SILVICULTURE
<input checked="" type="checkbox"/> I&E	<input checked="" type="checkbox"/> STREAMS	<input type="checkbox"/> CONSTRUCTION
	<input type="checkbox"/> WETLANDS	<input type="checkbox"/> RESOURCE
		<input type="checkbox"/> OTHER

EXTRACTION
 STORAGE/ LAND DISPOSAL
 HYDROLOGIC MODIFICATION
 OTHER

SUMMARY OF MAJOR GOALS: The Lower James River Watershed Implementation Project, Segment III, will continue efforts to reduce nutrient, sediment and fecal coliform bacteria loadings to the James River and its watershed to attain the goal of restoring and protecting the water quality of the James River and its watershed. Reducing non-point source pollutants in the watershed through installation of best management practices (BMPs) will improve water quality to meet designated beneficial uses to include improving habitat for upland and aquatic species, and improving the recreational uses of the water bodies located within the project area.

PROJECT DESCRIPTION: The Lower James River Watershed Implementation Project (Segment III) will target the reduction of nutrient, sediment, and bacteria loading to the James River, its tributaries and lakes within the watershed. During this proposed two year project (Segment III), the James River Water Development District will implement BMPs in the watershed and provide education and information to the public. Activities planned will focus on BMP installation (animal waste management systems, grassland, and cropland BMPs), water quality monitoring, completion of an information and education program.

FY-2011 SD 319 FUNDS:	\$281,000	Local:	\$173,750
OTHER FEDERAL FUNDS:	\$496,935	JRWDD:	\$80,997
CWFCF:	\$100,000	CWSRF:	\$100,000
319 FUNDED FTE'S:	2		

TOTAL PROJECT COST: \$1,232,682

2.0 STATEMENT OF NEED

The Lower James River Watershed Implementation Project, Segment III, is a two year project designed to restore and protect the water quality of the James River, and the lakes and streams in the Lower James River Watershed. This proposed project segment (segment III) will continue implementation of BMPs, and complete an information and education campaign in the Lower James River Watershed. BMP installation will focus on priorities identified during the Watershed Assessment and the priorities included in the project implementation plan (PIP) developed during Segment I to address the Total Maximum Daily Loads (TMDLs) established for watershed water bodies.

The BMPs installed will reduce nutrients, sediment and fecal coli-form bacteria loading and thereby:

- protect and support designated beneficial uses
- address water quality impairments identified in the PIP based on the Lower James River Watershed Assessment and input from local stakeholders
- support implementing the TMDLs established using the data collected during the Lower James River Watershed Assessment.

The beneficial uses for segments of the Lower James River, creeks, lakes and reservoirs in the watershed and project area are listed in Table 1. A map showing the location of the beneficial uses is shown in Figure 1.

The water bodies listed as having one or more beneficial uses impaired in “The 2008 South Dakota Integrated Report for Surface Water Quality Assessment”, and the source of their impairments are listed in Table 2 and shown in Figure 2.

Table 1: Beneficial Uses For Targeted Project Water Bodies

Water Body	From	To	Beneficial Uses	County
Beaver Creek	James River	Beaver Lake	6,8	Yankton
Dawson Creek	James River	Lake Henry	6,8	Bon Homme
Enemy Creek	James River	S18, T102N, R60W	6,8	Davison
North Fork Enemy Creek	Enemy Creek	S36, T103N, R61W	6,8	Davison
Firesteel Creek	James River	confluence with West Fork Firesteel Creek	1,4,8	Davison
Firesteel Creek	confluence West Fork Firesteel Creek	S.D. Highway 34	1,5,8	Jerauld
West Fork Firesteel Creek	Firesteel Creek	Wilmarth Lake	1,6,8	Aurora
Jim Creek	James River	S19, T106N, R59W	6,8	Sanborn
Johnson Creek	James River	Fulton Dam	6,8	Hanson
Lonetree Creek	James River	S31, T98N, R58W	6,8	Hutchinson

Water Body	From	To	Beneficial Uses	County
Dry Creek	James River	confluence with its north and south branches	6,8	Hutchinson
North Branch Dry Creek	Dry Creek	S27, T99N, R61W	6,8	Hutchinson
Morris Creek, also known as Dry Run Creek	James River	S10, T104N, R61W	6,8	Davison
Mud Creek (Yankton County)	James River	S.D. Highway 46	6,8	Yankton
Pearl Creek	James River	S8, T109N, R60W	6,8	Beadle
Pierre Creek	James River	S11, T102N, R58W	5,8	Hanson
Plum Creek	James River	S30, T100N, R58W	6,8	Hutchinson
Redstone Creek	James River	S14, T107N, R60W	6,8	Sanborn
Rock Creek	James River	S9, T103N, R59W	6,8	Hanson
Sand Creek	James River	S32, T110N, R66W	5,8	Hand
Twelve Mile Creek	James River	S11, T101N, R60W	6,8	Davison
South Fork Twelve Mile Creek	Twelve Mile Creek	S12, T100N, R61W	6,8	Hutchinson
Wolf Creek (Hutchinson, McCook, and Hanson Counties)	James River	S5, T103N, R56W	6,8	McCook

Numerical Key to Beneficial Uses listed in Table 1 and Table 2:

- (1) Domestic water supply waters;
- (2) Coldwater permanent fish life propagation waters;
- (3) Coldwater marginal fish life propagation waters;
- (4) Warm water permanent fish life propagation waters;
- (5) Warm water semi-permanent fish life propagation waters;
- (6) Warm water marginal fish life propagation waters;
- (7) Immersion recreation waters;
- (8) Limited contact recreation waters;
- (9) Fish and wildlife propagation, recreation, and stock watering waters;
- (10) Irrigation waters; and
- (11) Commerce and industry waters.

Table 2: Lower James River Watershed Project Water bodies Listed as Impaired, on the 303(d) list and a Priority, and their Source of Impairment. (Data from “*The 2008 South Dakota Integrated Report For Surface Water Quality Assessment*”.)

Water Body Impaired	Beneficial Use Impaired	Listed Cause of Impairment
Beaver lake	(6) warmwater marginal fish life propagation waters	Trophic State Index (TSI)
Lake Carthage	(4) warmwater permanent fish life propagation waters	Trophic State Index (TSI)
Dawson Creek	(8) limited contact recreation waters	Fecal Coliform
James River – Sand Creek to I-90	(5) warmwater semi-permanent fish life propagation waters	Total Suspended Solids (TSS)
James River – I-90 to Yankton County Line	(5) warmwater semi-permanent fish life propagation waters.	Total Suspended Solids (TSS)
James River – Yankton county line to mouth	(5) warmwater semi-permanent fish life propagation waters	Total Suspended Solids (TSS)
Pierre Creek: (R28) James River to S11.	(8) limited contact recreation waters	Fecal Coliform
Wolf Creek: Just Above Wolf Creek Colony to the mouth	(6) warmwater marginal fish life	Total Suspended Solids (TSS)

Figure 1: James River Watershed Beneficial Uses Map

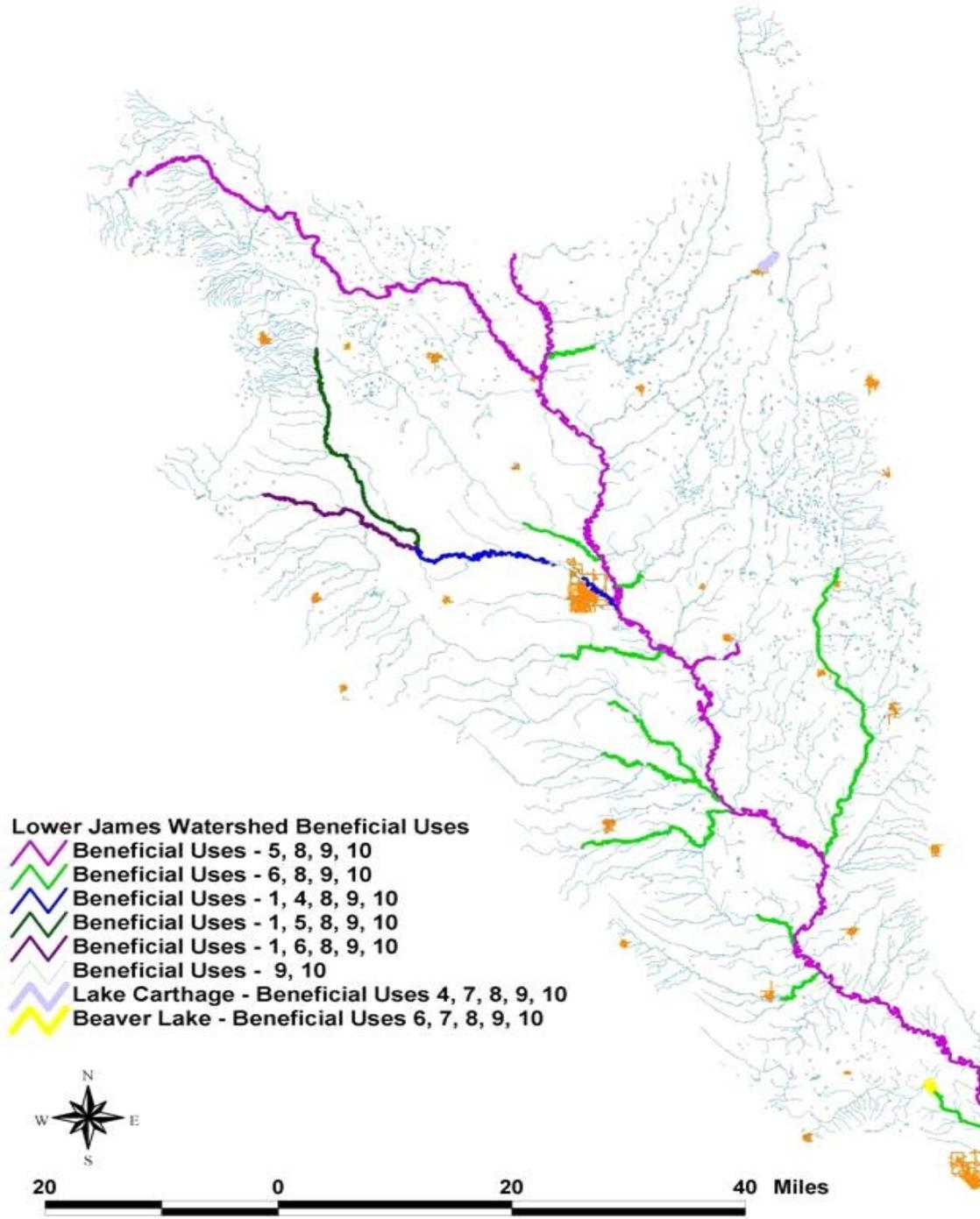
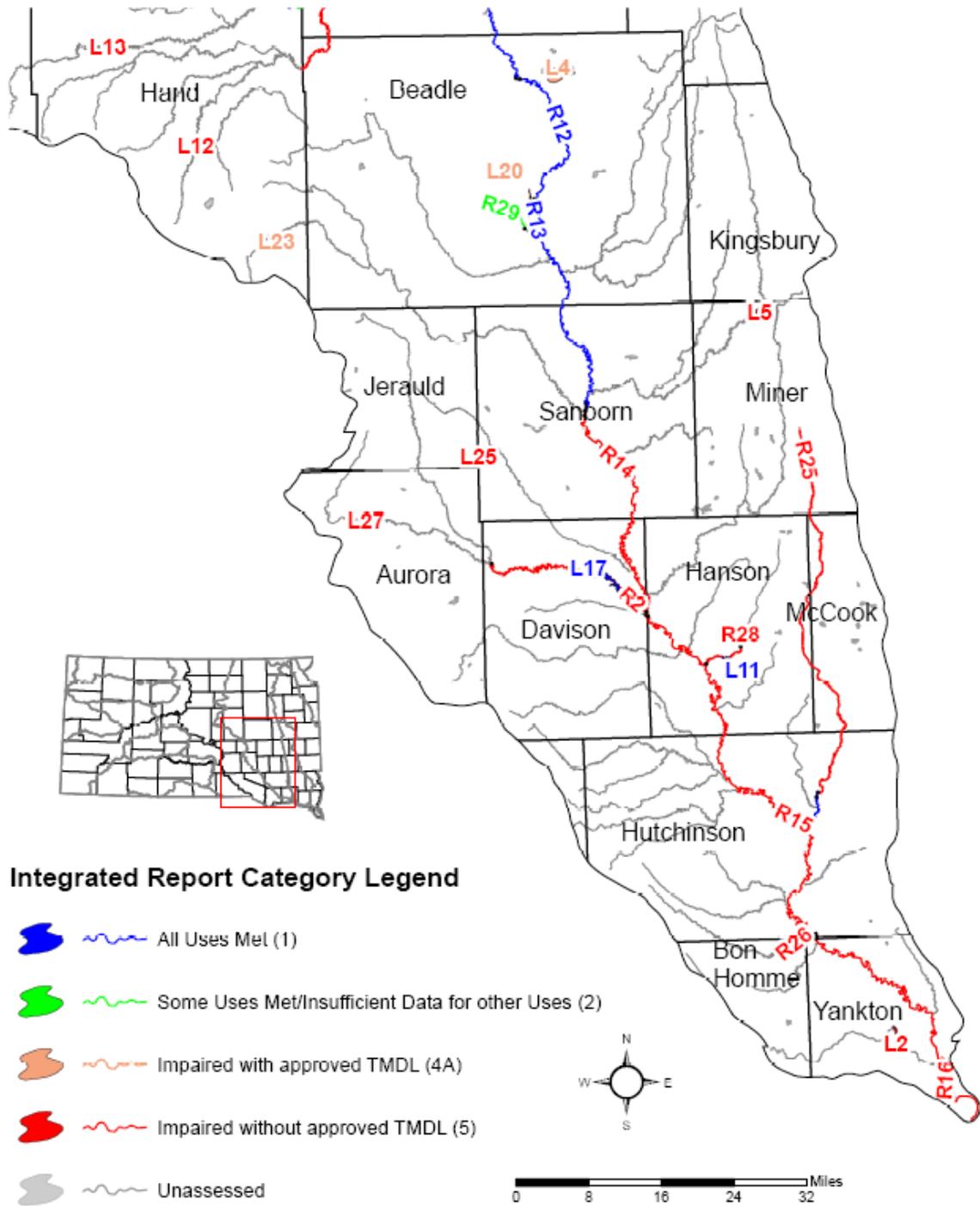


Figure 2. Lower James River Watershed Designated Beneficial Use Status, 2008.



2.1 General Information for the Lower James River Watershed Implementation

The Lower James River watershed lies entirely within the Level III Ecoregion of the Northern Glaciated Plains. Land use in the project area was gathered during the watershed assessment and will be included in the final report. It is known that the watershed is dotted with small communities surrounded by primarily row crop agriculture. There is some pasture and hay land in areas not suitable for row crop farming. There are also a large number of animal feeding areas in the watershed. Detailed information was gathered during the assessment project. The watershed touches 16 counties, and the soils range from well drained to poorly drained, and level to steep. There is a large mix of uplands, swales, and wetland depressions. Erosion rates will be determined by the assessment project and included in the final report.

There are approximately 30 communities within the project area. The population ranges from less than 100 as in the City of Kaylor, to over 10,000 in Mitchell. Many of these municipalities have discharge permits. The information from these will be included in the final assessment report.

The Lower James River watershed has a sub-humid, continental climate characterized by pronounced seasonal differences in temperature, precipitation, and other climatic variables. Temperature varies from north to the south in the watershed. Annual temperatures are slightly cooler at the northern parts of the watershed. January is typically the coldest month; July the warmest.

The average annual precipitation in the watershed is somewhat variable, both spatially and temporally, ranging from 22 to 26 inches. Generally, average annual precipitation decreases south to north.

2.2 Water Quality Impairments

The Lower James River Watershed Assessment Project was initiated at the request of local organizations, and citizens concerned about water quality problems in the James River. The Lower James River was placed on the 303(d) list for suspended solids and fecal coliform. The lakes were listed for TSI values higher than their ecoregion targets. The sources for these listings were determined during the assessment project. Most likely the sources are agricultural. Point sources in the area were also assessed, and all results will be included in the final assessment report.

The watershed assessment final report will include results for the following activities:

- in-lake, tributary, and outlet water quality sampling results and analysis including reductions
- main stem and tributary sampling, including discrete sampling
- watershed modeling using the Annualized Agricultural Nonpoint Source model (AnnAGNPS)
- review of previous water quality data collected for the lakes and watershed

- biological monitoring, including fish surveys, macro invertebrate surveys, periphyton surveys, and habitat assessments
- Rapid Geomorphic Assessments
- sediment survey, and
- quality assurance/quality control.

The sources of impairment for the water bodies, as determined by the assessment, will be fully identified in the final report. Preliminary analysis of the data indicated that:

- Fecal coliform bacteria are exceeding the limits for beneficial use for limited contact recreation in Dawson Creek. Fecal coliform bacteria concentrations may be associated with land applications of manure, livestock feeding areas, and/or cattle pastured in riparian areas adjacent to streams.
- Excessive total suspended solids (TSS) concentrations were present in the river during all flow regimes in the river's lower reaches. The source of high TSS in the Lower James is associated with an increased slope of the river channel, increased erodibility of the soil, and changes in land use compared to upstream reaches. The southernmost segment of the James River shows a greater percentage of row crops planted within 30 meters of the river than upstream segments, which is a cause of bank instability and sedimentation.
- Excessive TSS concentrations were also present in Wolf Creek during periods of high flow. Sources of TSS in Wolf Creek are associated with 5 feeding areas located near the stream's confluence with the James River.

During the assessment, 2,000 plus animal feeding areas were surveyed in the project area. All will be evaluated and assigned a priority using the AnnAGNPS Feedlot Rating Model. The ratings are assigned from 0 (low impact) to 100+ (high impact). The animal feeding areas rating above 50 will require further evaluation. Higher rated feeding areas will need some type of animal waste management systems to reduce the fecal coliform bacteria impacts on the James River.

This project's (Segment III) priorities will be the preliminary Feasibility Studies (2), System Construction (2), installation of animal nutrient management systems for feeding areas (2), installation cropland and grassland BMPs on 500 acres, and information and education activities. Completion of this project will support attainment of the beneficial uses of water bodies in the watershed, and allow for continued use of the watershed for agricultural production, swimming, boating, recreation, wildlife, and residential living.

3.0 PROJECT DESCRIPTION

The project goal is to restore and protect the water quality of the Lower James River and its watershed.

To attain the goal, the following actions will be taken during this project (segment III):

- BMP installation in the watershed targeted at high priority sites identified in the PIP based on the watershed assessment and stakeholder input.
- Completion of a public education and outreach campaign to inform landowners, stakeholders, and area residents of the Lower James River Watershed Project activities, water quality issues in the watershed, and BMPs necessary to address the issues.

An estimate of BMPs needed to restore water bodies in the watershed to meet the beneficial uses is shown in Table 3.

Table 3: Estimated Best Management Practices to be installed by Segment

BMP Estimate	Total Lower James River Watershed Acres	Segment		
		Estimate of acres/practices completed	Estimate of acres/practices completed in	Estimate of acres/practices completed in
	2,557,541	Segment I (1yr)	Segment II (2yr.)	Future Segments (4-10 yr.)
Cropland Management BMPs:	50,000 ac.	0	250 ac.	49,750 ac.
- Conservation Tillage Conversion of Cropland to Grassland (Seeding), Filter Strips, Grassed Waterways, Wetland Restoration.				
Grassland Management BMPs:	18,500 ac.	0	5,000 ac.	13,500 ac.
- rotational grazing systems, riparian buffers, stream bank stabilization, water development, riparian management				
-				
Animal Nutrient Management Systems:	50	0	4	46
Animal Waste Facility Feasibility Study	75	2	6	67
Animal Waste Storage Facilities (Construction)	50	0	4	46
Animal Nutrient Management Plans	50	0	4	46

3.1 Objectives and Tasks

Objective 1: Install best management practices in critical areas to reduce sediment, nutrient, and fecal coli-form bacteria loadings to the Lower James River.

Task 1: Plan and implement riparian area Best Management Practices (BMPs).

Provide assistance to landowners with installation of priority BMPs on riparian area cropland and grasslands in the watershed that reduce fecal coli-form bacteria, nutrient, and sediment loadings. BMPs will be installed with landowner investments along with USDA programs (EQIP/CRP/WHIP), and 319 funds. Funds from the 319 grant for BMP planning and implementation will be targeted to critical cells associated with riparian areas identified in the watershed assessment and towards BMPs where other cost-share is not available.

Product 1: 250 acres of riparian cropland benefited from BMP installation by landowners.

BMPs installed by landowner will include filter strips, diversions, seedings, wetland restorations, and grassed waterways on 250 acres of riparian area cultivated cropland to reduce nutrient and sediment loading.

Product 1: Total Cost: \$35,000

319 Cost: \$0

Milestones: (See Milestone Table)

Sediment and nutrient loads will be reduced on 250 acres of riparian areas that are currently cropland.

Product 2: Riparian Grassland Management Systems installed on 250 acres of grasslands.

Grassland management systems will be designed and installed on 250 acres of riparian grasslands to reduce fecal coli-form, nutrient, and sediment loading. Technical assistance for system planning will be requested from the SD Grassland Management and Planning Project and project Natural Resources Conservation Service (NRCS) field offices. BMPs will be implemented using funds from federal programs (EQIP, continuous CRP), landowners, and 319 funds. BMPs planned to be installed include: livestock exclusion, land use agreements, planned grazing systems, fencing, pipelines, tanks, ponds, stream bank stabilization, and rural water hook-ups. Use of 319 funds to implement grazing system BMPs will be targeted to riparian grasslands along the James River and its major tributaries and to riparian areas identified as critical cells during the assessment, and where other sources of cost-share are not available.

Product 2: Total Cost: \$350,000

319 Cost: \$36,158

Milestones: (See Milestone Table)

Planned grazing systems installed on 250 acres of riparian areas to reduce sediment, nutrient, and fecal coli-form loading.

Task 1: Total Cost: \$385,000

319 Cost: \$ 36,158

Responsible Agencies:

Technical Assistance Coordination:

- James River Water Development District
- Partnering Conservation Districts
- Project Coordinator/Project Staff

Implementation:

- Project Coordinator/Project Staff
- James River Water Development District
- SDSU Extension Service
- USDA – Natural Resources Conservation Service
- Project Conservation Districts

Financial Assistance:

- USDA – NRCS/Farm Service Agency
- Federal 319 Funding

Monitoring Assistance:

- Project Coordinator
- SD Department of Environment and Natural Resources

Task 2: Provide assistance to landowners to implement animal waste management systems (AWMS)

Product 3: Assist livestock producers with the completion of two (2) AWMS feasibility studies, and system construction of two (2) AWMS with nutrient management plans (NMP).

Assistance will be provided using the services of private consultants and/or the Ag Nutrient Management Team to complete feasibility studies based on a priority evaluation and ranking by the project steering committee. The feasibility study may include the design for the alternative selected. Funding for feasibility studies, animal waste management system installation, and nutrient management plans will be from this project, landowner contributions, USDA cost-share programs (EQIP), and other state support such as the Consolidated Water Facilities Construction Fund. The cost of needed cultural resources surveys will be borne by the primary project funder, and are part of the cost of an AWMS installation when they are this project’s responsibility.

Practice	Cost/Unit	Quantity	Total Cost
Feasibility study	\$19,000	2 units	\$38,000
NMP	\$2,500	2 units	\$5,000
AWMS Installation	\$250,000	2 units	\$500,000

Web Site: Maintenance @ 2 yrs @\$250/yr.
2 Newsletters @ \$400.00 each \$1,300

Milestones: (See Milestone Table)
Website maintained for two years
Newsletters - 2

Product 4: Total Cost: \$1,300 319 Cost: \$1,090

Task 3: Total Cost: \$1,300 319 Funds: \$1,090

Responsible Agencies:

Technical Assistance:
Project Coordinator/Project staff
James River Water Development District
Partnering Conservation Districts
Implementation:
Project Coordinator/Project Staff
Financial Assistance:
Federal 319 Funding
James River Water Development District
Local Conservation Districts

Objective 3: Monitoring progress and project management to evaluate project water quality changes, attain project goals, and meet required administrative and reporting procedures (monitoring and project progress reports).

Task 4: Monitoring water quality through water sampling related to BMP installation and after storm events to assess changes in water quality from BMP's and from the initial watershed assessment sampling. Project staff will collect water samples related to installation of animal waste systems to evaluate before and after water quality changes and related to storm events at the outlets of Creeks (Pierre, Dawson, and Wolf, etc.) for testing at the State Lab. Testing will be completed related to Total Suspended Solids, Fecal Coli Form Bacteria, and EColi. Sampling will be completed utilizing technical assistance from the SD DENR and following procedures established in the "Standard Operating Procedures for Field Samplers, Volumes I & II, Tributary and In-Lake Sampling Techniques", State of South Dakota, 2005.

Product 5: Water Quality Monitoring to monitor project impacts:
* 7 water samples @ \$65/test \$455
(Before and After – BMP installation)
* 7 water samples @ \$65/test \$455
(Creek outlets – storm events)

Milestone: (See Milestone Table)
14 water samples taken, tested, and water quality changes evaluated.

Product 5: Total Cost: \$910

319 Cost: \$910

Task 4: Total Cost: \$910

319 Cost: \$910

Responsible Agencies:

Technical Assistance Coordination:

James River Water Development District

Project Coordinator/Project Staff

Implementation/Monitoring Assistance:

Project Coordinator/Project Staff

SD Department of Environment and Natural Resources

Financial Assistance:

Federal 319 Funding

Task 5: Prepare and submit reports using the prescribed format(s) as required by the project sponsor and partners.

Product 6: Semi-annual and annual GRTS reports, monthly and final project reports.

The reports are anticipated to include:

1. Semi-annual (April) and annual reports (October)

The semi-annual and annual reports will be submitted to DENR in a format that meets the GRTS reporting requirements. The reports will include information on:

- estimated load reductions for BMPs installed utilizing AnnAGNPS and STEPL models,
- location and land use where BMPs have been installed and/or utilizing a GIS layered land use location mapping system,
- narrative description of project activities, and
- a planned vs. accomplished milestone comparison.

2. Monthly progress reports to the project sponsor and co-sponsors. These reports will be submitted electronically or by attendance at sponsor meetings.

3. Final Report

The final report, prepared following the format provided by DENR, will include a narrative summary of progress toward reaching project goals and objectives to improve water quality in the Lower James River Watershed, milestone and budget comparison pictures of project activities, and maps showing the location of completed BMPs. AnnAGNPS, STEPL and GIS will be used to estimate project load reduction accomplishments and current land use status in the watershed.

Milestones: (See Milestone Table)

Semi-annual reports - 2

Annual reports - 2

Monthly reports - 24

Final report - 1

Responsible Agencies:

Implementation:

SD Department of Environment and Natural Resources

Project Coordinator

Steering Committee

Technical Assistance:

SD Department of Environment and Natural Resources

Product 6: The total cost is included in the budget as personnel costs.**Task 5:** The total cost is included in the budget as personnel costs.**3.2 Permits**

The James River Water Development District will secure all required local, state and federal permits including 401, 404, Water Rights, and storm water construction permits and comply with historic preservation and threatened and endangered species requirements prior to implementation. The sponsor will comply using NRCS trained ASK Level IV district personnel and private consultants. State Historical Preservation Office (SHPO) consultation will be accomplished following guidance provided by DENR. Reference and field surveys will be conducted by professionals recognized by SD SHPO to complete the survey.

3.3 Lead Project Sponsor

The James River Water Development District is the lead project sponsor. The Lower James River Watershed lies in Aurora, Beadle, Bon Homme, Davison, Hand, Hanson, Hutchinson, Jerauld, McCook, Kingsbury, Miner, Sanborn, and Yankton Counties. The county conservation districts have a working relationship with both landowners and community organizations and citizens. The sponsors during project, Segment I, will complete a memorandum of understanding (MOU) or joint power agreement (JPA) with each district. The agreements will outline how it will cooperatively implement the work plan for this and future project segments.

3.4 Operation and Maintenance Responsibilities

Responsibilities for operation and maintenance of 319 funded BMPs will be provided for through James River Water Development District landowner contracts. Contracts developed for BMP installation will specify operation and maintenance needs, procedures for BMP failure or abandonment, and the life span for which the BMP will be maintained. The James River Water Development District will be responsible for completing operation and maintenance scheduling, on-site evaluations, and follow-up with land owners when action needs to be taken to ensure BMP operation for its designated life span.

4.0 COORDINATION PLAN

The lead project sponsor for this project is James River Water Development District. The James River Water Development District will document cash and in-kind match to this project and is responsible for completion of this project's goal, objectives, and tasks.

A steering committee comprised of representatives from the resource agencies and organizations listed below will advise the project sponsor, and develop priorities, practice manuals, work plans and strategies for this and future project segments.

- **Project Area Conservation Districts** - Project partners by MOU will provide technical assistance, local support, and funding.
- **James River Water Development District** - Will continue to provide local support and technical and financial assistance.
- **Lower James RC&D** - Will continue to provide technical assistance for project planning and project management and serve on the project steering committee.
- **US Fish & Wildlife** - Through the Partners for Fish and Wildlife Program, the US F&WS will contribute technical services toward the field implementation of this project.
- **USDA Farm Service Agency** - Cost-share and program support for continuous and regular CRP.
- **Natural Resources Conservation Service** - Technical assistance and cost-share funds to landowners for BMP installation such as buffer strips, grass waterways and AWMS largely through the EQIP program.
- **South Dakota Department of Environment and Natural Resources** - Technical assistance for water quality, sampling, and project management. Funds managed by DENR that are not requested for this segment but will be requested for segment 2 of this project include: Consolidated Facilities Construction Funds for animal waste system work.
- **South Dakota Game, Fish, and Parks (GFP)** – Technical assistance and cost-share funds through the agency’s “Private Lands Programs” for grazing improvements, wetland restoration, and grass seeding.
- **South Dakota Association of Conservation Districts (SDACD)** – Technical advice.
- **SDSU County Cooperative Extension Service** - Technical assistance to plan and implement BMPs, and the outreach/information campaign will be provided largely through the service’s county offices.

4.1 Local Support

The Lower James River and its watershed are important economic and social assets to the communities in the project area, as well as rural residents and landowners. The James River Water Development District and the Conservation Districts have provided leadership for this project. Through community support, the Lower James River Watershed Assessment project was initiated during 2006, and its completion in 2011. During the assessment, the James River Water Development District staff visited with key land owners in the watershed to inform them of the project and discuss

implementation of potential BMPs. An EPA 319 project proposal (Segment II) is being implemented through 2011 to develop a watershed PIP based on the watershed assessment and local input. Project staff have gathered input for this proposal (Segment III) from representatives from Aurora, Bon Homme, Davison, Hanson, Hutchinson, Jerauld, McCook, Miner, Sanborn, and Yankton Conservation Districts, James River Water Development District, Natural Resources Conservation Service (NRCS), South Dakota Department of Environment and Natural Resources (DENR), and the Lower James RC&D.

4.2 Coordination with Other Programs

The Lower James River Watershed Implementation Project will be coordinated by a steering committee made up of available local, state, and federal partners (see section 4.1) to maximize technical assistance and funding for successful project implementation.

In addition, this project will utilize training and other technical assistance available such as:

- Rapid Watershed Assessment Program (USDA NRCS)
- Conservation Reserve Program (USDA FSA)
- Conservation Reserve Enhancement Program (CREP) Application pending (USDA/GF&P).
- Partners for Fish and Wildlife (USF&WS)
- Project Coordinator training workshops (SD DENR)
- Technical training (USDA NRCS)
- South Dakota Non-point Source Information and Education Project
- Technical assistance for grassland management through the Grassland Management Team and 303(d) Watershed Planning and Assistance Projects.
- Technical and administrative training provided by the SD Association of Conservation Districts (SDACD), SD DENR, and NRCS.

4.3 Similar Activities in the Watershed

The Firesteel Creek Implementation and Lake Hanson Implementation projects were two 319 projects in the lower James River watershed that have been incorporated into the Lower James River Watershed Project.

5.0 EVALUATION AND MONITORING

Monitoring and evaluation efforts will include:

- Water Quality changes due to BMP installation and water quality changes since the 2003 watershed assessment on selected sites through water sampling/testing and using, AnnAGNPS, RUSLE2, and STEPL models.
- Project progress based on project milestones reported through project progress reports (semi-annual, annual, monthly).

The effectiveness of BMPs installed relative to the improvement in water quality will be evaluated using the appropriate tools and models available such as:

1. Water sampling to monitor water quality changes.
2. AnnAGNPS model for changes in loadings due to BMP installation.
3. StepL for estimating annual load reductions from BMP installation.
4. Buffer and riparian vegetation establishment reductions for phosphorus and sediment modeled as grass seedings using Annualized AGNPS, as well as estimates from research studies conducted in the region by universities.
5. Assessment of feedlots to compare before and after BMP installation loadings the AnnAGNPS module and water sampling on selected sites.

All BMPs installed in the watershed utilizing partner contributions (non-319 funds) will also be evaluated for improvements in water quality using the tools noted above.

Water sampling, testing, and test result evaluations for water quality changes will be completed with Technical Assistance from DENR to develop a sampling and analysis plan, train project staff, and assist in data storage and evaluation. Sampling will be completed according to the “Standard Operating Procedures For Field Samplers, Volumes I & II, Tributary and In-Lake Sampling Techniques”, State of South Dakota, DENR, 2005.

Progress reporting to meet milestones will include a financial accounting of funds, and the source of funds for each milestone. Local support, partner in-kind, and cash contributions will be documented for BMP installation, project management activities, and informational activities.

5.1 Data

The James River Water Development District will be responsible for collecting, storing, and managing data collected during implementation of this project. South Dakota DENR will provide technical assistance and guidance to assist in the appropriate record systems and computer software for project data collected. Data collected will be forwarded to South Dakota DENR for entry into the STORET database.

5.2 Models

The James River Water Development District will receive technical assistance and training on which models to use and how to use them from SD DENR. The AnnAGNPS, RUSLE2, and STEPL models will be used to evaluate the impact of BMP installation in the watershed.

5.3 Operation & Maintenance

The major activities of this project will involve contracts with landowners for BMP operation and maintenance. The operation and maintenance section of these contracts will specify the BMP maintenance life span and identify responsibility for maintenance and operation. The James River Water Development District is responsible to ensure O&M agreements they enter into are carried out. The local conservation districts and counties will continue to lead efforts to identify, fund, and implement needed O&M, as

well as other additional improvements needed for the watershed beyond this proposal's scope.

6.0 BUDGET (See Table 4 and Budget)

Table 4: Funding Sources:

Funding Source	Year 1	Year 2	Total
EPA Section 319 1.) FY-12	\$140,500	\$140,500	\$281,000
Subtotal: 319	\$140,500	\$140,500	\$281,000
<u>Other Federal Funds</u>			
1.) NRCS/FSA	\$248,468	\$248,467	\$496,935
Subtotal:	\$248,468	\$248,467	\$496,935
<u>State/Local/Match</u>			
1.) Local (landowners)	\$86,875	\$86,875	\$173,750
2.) State (CWFCF)	\$50,000	\$50,000	\$100,000
3.) State (CWSRF Water Quality Grant)	\$50,000	\$50,000	\$100,000
4.) JRWDD	\$40,498	\$40,499	\$80,997
Subtotal:	\$227,373	\$227,374	\$454,747
Project Totals:	\$616,341	\$616,341	\$1,232,682

7.0 PUBLIC INVOLVEMENT

The project steering committee will meet at least twice each year to provide input for project management and coordination of resources to James River Water Development District (see section 4.1).

The James River Water Development District, through completion of Objective 3 (Information and Education) of this proposal, will provide information to the public via website, watershed newsletters, press releases and informational meetings.

8.0 THREATENED AND ENDANGERED SPECIES

The species listed in the federal list of threatened and endangered species in the Lower James River Watershed are the Topeka Shiner (*Notropis Topeka*), Interior Least Tern (*Sterna Antillarum Athallassos*), and Piping Plover (*Charadrius Melodius*)(SDGFP, 2003). The U.S. Fish and Wildlife Service lists the Western Prairie Fringed Orchid and the Blandings Turtle as species that could potentially be found in the area. None of these

species were encountered during the Lower James River Assessment Project; however, care will be taken when implementing BMPs in the Lower James River Watershed.

The procedures that will be followed to ensure the project will not adversely affect threatened and endangered species are based on the following premises:

1. The BMPs to be implemented will promote the improvement of water quality, which will benefit threatened and endangered species that depend on water.
2. The occurrence of migratory endangered species is expected to be transitory, and if present, project activities will cease until they have left the area.

The precautions that will be taken with respect to threatened and endangered species that could potentially be found in the area are as follows.

1. Topeka Shiner

The project proposal gives priority to improving grazing management on grasslands within two miles of the major riparian waterways in the watershed. Planned riparian buffers and stream bank stabilization will improve stream channel and habitat conditions at several locations. There may be some short-term increases in suspended solids concentrations during stream bank stabilization activities. Appropriate measures directed by the US Fish and Wildlife Service and the South Dakota Topeka Shiner Management Plan will be followed. Under no circumstances will in stream construction be completed during the spawning period from May 15th to July 31st. Other BMPs to be implemented on cropland and animal feeding areas will improve water quality for the Topeka Shiner.

2. Interior Least Tern

The Least Tern nests along the shoreline of sandy beaches or gravelly shorelines of some portions of the Missouri River. These areas are outside of the project area; therefore, little or no impact to the species should occur. No project activities are planned that will disturb nesting or reduce food sources. If a Least Tern is observed at any project site, all mechanical activities will be suspended. Work will be altered so that no harm will come to the Least Tern.

3. Piping Plover

The Piping plover nests mainly along unrestricted stretches (shorelines) of the Missouri River. These areas are not considered a part of this project, therefore little or no impact to the species should occur. No project activities are planned that will disturb nesting or reduce food sources. If a Piping Plover is observed at any project site, all mechanical activities will be suspended. Work will be altered so that no harm will come to the Piping Plover.

4. Western Prairie Fringed Orchid

At this time there are no documented populations of the western prairie fringed orchid in South Dakota. *Platanthera praeclara* grows up to four feet tall and has two dozen or more white to creamy colored, one-inch long flowers on a stalk. This species is distinguished from eastern prairie fringed orchids by larger flowers, differing petal shape, and longer nectar spur. The flowers emerge in May, bloom from June to July, and are pollinated by sphinx moths. Fringed orchids are found in tall grass prairies, most often in moist habitats or sedge meadows, and require direct sunlight for growth. They persist in areas disturbed by light grazing, burning, or mowing. Western prairie fringed orchids are known to have occurred from Northeastern Oklahoma, within the Ark/Red, as well as locations in Kansas, Missouri, Nebraska, Iowa, Minnesota, and South Dakota. The greatest threat to the species is conversion of tall grass prairie to other land uses. If an orchid is observed at any project site, all mechanical activities at the site will be suspended. Work will be altered or the plant(s) protected so no harm will come to the Western Prairie Fringed Orchid.

Milestone Table:

Milestone Table										
James River Watershed Implementation Project - Segment III										
8/1/2012 through 7/30/2014										
Task	Group	Quantity	2012/2013		2013/2014				2014	
			Aug - Oct	Nov - Jan	Feb - Apr	May - Jul	Aug - Oct	Nov - Jan	Feb - Apr	May - Jul
OBJECTIVE 1: BMP Implementation:										
Task 1: Cropland and Grassland BMPs										
Product 1: Cropland BMPs	Groups 1,2,3,4	250 ac.			100		150			
Product 2: Grassland BMPs	Groups 1,2,3,4	250 ac.					125			125
Task 2. Animal Waste Management Systems										
Product 3: Animal Waste Management Systems	Groups 1,2,3,4									
Feasibility Studies		2				1			1	
Nutrient Management Plans		2	1				1			
Animal Waste System Installation		2	1				1			
Objective 2: Informational Outreach										
Task 3: Information Campaign										
Product 4: Web Site Maintenance/Newsletters	Groups 1,3									
- Web site Maintenance		2 years		1					1	
- Newsletter		2			1		1			
Objective 3: Project Monitoring and Reporting										
Task 4: Water Quality Monitoring										
Product 5: 14 samples/testing/evaluation	Groups 1,3	14 samples			4	6			4	
Task 5: Semi-annual, annual, final and monthly reports.										
Product 6: Reports	Groups 1,3									
Semi-annual reports		2			1				1	
Annual report		2	1				1			
Final report		1								1
Monthly reports		24	3	3	3	3	3	3	3	3
<u>Groups</u>										
1. Project Coordinator and Project Staff/JRWDD										
2. Federal = NRCS/USFWS/LJRC&D										
3. State = SDGF&P/SDSU/SDRCF/DENR/SDDOA										
4. Local = VBWDD/Producers/Conservation Districts										

Lower James River Watershed Budget

Budget: Segment III: August 1, 2012 Through July 31, 2014

ITEM	Year 1	Year 2	Total	319-EPA	USDA EQIP/WHIP/CRP	LOCAL Producers, CDs, etc.	State		JRWDD
	2012-2013	2013-2014					CWFCF	CWSRF	
Personnel Support									
Project Coordinator/Project Staff (2 FTE)	\$92,285	\$92,285	\$184,570	\$147,723				\$25,000	\$11,847
Payroll Tax	\$6,850	\$6,850	\$13,700	\$8,220					\$5,480
Health Insurance includeing Dental & Eye	\$9,334	\$9,334	\$18,668	\$18,668					
Workman's Comp.	\$1,000	\$1,000	\$2,000	\$2,000					
Retirement (6%)	\$5,537	\$5,537	\$11,074	\$11,074					
Supplies/Equipment:									
Office Supplies	\$500	\$500	\$1,000	\$1,000					
Postage	\$450	\$450	\$900						\$900
Cell Phone Service	\$480	\$480	\$960						\$960
Computer Internet Service/Phone @ \$125/month	\$1,500	\$1,500	\$3,000	\$3,000					
Office Space with furniture; 2 locations @ \$375/month	\$4,500	\$4,500	\$9,000	\$3,000					\$6,000
Travel:									
Vehicle: 16,250 miles per yr @ \$0.37 per mile	\$6,000	\$6,000	\$12,000	\$12,000					
Lodging/Meals/supplies: 12 per year @ \$100 each	\$1,200	\$1,200	\$2,400						\$2,400
Administration:	\$21,600	\$21,600	\$43,200						\$43,200
Subtotal: Personnel Support	\$151,236	\$151,236	\$302,472	\$206,685	\$0	\$0	\$0	\$25,000	\$70,787
Objective 1: Best Management Practice Implementation									
Task 1: Cropland/Grassland BMP Implementation									
Product 1: Cropland BMPs - 250 acres									
Filter strips, waterways, diversions, seeding, wetland restoration	\$17,500	\$17,500	\$35,000		\$26,250	\$8,750			
Product 2: Riparian Grassland Management BMPs - 250 acres									
Land use agreements, water development, streambank stabilization, fence, etc.	\$175,000	\$175,000	\$350,000	\$36,158	\$202,685	\$25,000	\$48,657	\$37,500	
Task 2: Animal Waste Management Systems (AWMS)									
Product 3: Animal Waste Management Systems (AWMS)									
Feasibility Studies: 2 @ \$19,000 each	\$19,000	\$19,000	\$38,000		\$38,000				
Nutrient Management Plans: 2 @ \$2,500 each	\$2,500	\$2,500	\$5,000		\$5,000				
System Construction: 2 @ \$250,000 each	\$250,000	\$250,000	\$500,000	\$36,157	\$225,000	\$140,000	\$51,343	\$37,500	\$10,000
Subtotal: BMP Implementation	\$464,000	\$464,000	\$928,000	\$72,315	\$496,935	\$173,750	\$100,000	\$75,000	\$10,000
Objective 2: Informational Outreach									
Task 3: Information Campaign (9000 contacted)									
Product 4: Newsletters & web site maintenance									
Newsletters: 2 @ \$400/yr. and Web site maintenance 2 yrs. @ \$250/yr.	\$650	\$650	\$1,300	\$1,090					\$210
Subtotal: Informational Outreach	\$650	\$650	\$1,300	\$1,090					\$210
Objective 3: Project Monitoring and Reporting									
Task 4 : Water Quality Monitoring/Evaluation									
Product 5: 14 water quality samples/testing/evaluation @ \$65 each	\$455	\$455	\$910	\$910					
Task 5: Project Reports for EPA, DENR, and Partners.									
Product 6: Semi-annual, annual, final, and monthly reports (24)	\$455	\$455	\$910	\$910					
Subtotal: Water Quality Sampling and Project Reports:	\$455	\$455	\$910	\$910					
Total Project Cost:	\$616,341	\$616,341	\$1,232,682	\$281,000	\$496,935	\$173,750	\$100,000	\$100,000	\$80,997
Match:									
Ineligible Match: Federal and/or Project Allocated			\$496,935		\$496,935				
Match: Project Totals For Match			\$735,747	\$281,000		\$173,750	\$100,000	\$100,000	\$80,997
Match Percentages:			23	38.2%		23.6%	13.6%	13.6%	11.0%