MINUTES

CALL TO ORDER

The Oklahoma Conservation Commission met Tuesday, January 4, 2011, at the Agriculture Building Board Room located at 2800 N. Lincoln in Oklahoma City, Oklahoma. The meeting was called to order at 9:30 a.m. by Acting Chair Dan Lowrance. He stated this was a regularly scheduled meeting in accordance with the Open Meeting Law, Title 25, Sections 301 and following as amended. The agenda for this meeting was posted January 3, 2011, at the front entrance of the building.

ROLL CALL

Lisa Knauf, District Services Director, took roll call and the following members were in attendance:

Dan Lowrance, Secretary
Jim Grego, Member
Matt Gard, Member

Members absent:

Mike Rooker, Chair
George Stunkard, Vice Chair

Others in attendance were:

Mike Thralls, Executive Director
Ben Pollard, Assistant Director
Steve Coffman, Financial Management and Human Resources Director
Robert Toole, Conservation Programs Director
Shanon Phillips, Water Quality Program Director
Mike Kastl, Abandoned Mine Land Program Director
Mike Sharp, Information Technology Director
Lisa Knauf Owen, District Services Director
Mark Harrison, Information Representative
Jim Leach, Water Quality Program Cost-share and Finance Director
Stacey Day, Awards and Recognition Committee Chair
Ann Craven, Water Quality Program Executive Secretary
Ron Hilliard, Natural Resources Conservation Service State Conservationist
Gary O'Neill, Natural Resources Conservation Service Assistant State Conservationist
Clay Pope, Oklahoma Association of Conservation Districts Executive Director
Steve Thompson, Oklahoma Department of Agriculture, Food and Forestry Associate Commissioner
Clint Sloan, eCapitol.net

PLEDGE OF ALLEGIANCE

Mr. Gard led the group in the Pledge of Allegiance.

MINUTES OF PREVIOUS MEETING

A motion was made by Mr. Grego and seconded by Mr. Gard to approve the minutes of the December 6, 2010, Commission meeting as written. Those voting aye were: Gard, Lowrance and Grego. Nay votes: none. Motion carried.

DISTRICT DIRECTOR RESIGNATIONS AND APPOINTMENTS

Mike Thralls, Executive Director, stated that no recommendations were received so no action is necessary.

CLAIMS/FINANCIAL STATEMENT

Steve Coffman, Financial Management and Human Resources Director, presented the claims and financial statement as listed in Exhibit #2. A motion was made by Mr. Gard and seconded by Mr. Grego to approve the claims and financial statement. Those voting aye were: Gard, Lowrance and Grego. Nay votes: none. Motion carried.

RECOGNITION OF CONSERVATION COMMISSION EMPLOYEES

The following employees were recognized as stated: Ann Craven, Water Quality Program Executive Secretary, for 15 years of service; Margaret Blevins, Water Quality Program Data Manager, for 25 years of service; and Jim Leach, Water Quality Program Cost-share and Finance Director, for being named Employee of the Quarter.

PRESENTATION OF AGREEMENTS

Ben Pollard, Assistant Director, presented agreements for approval as listed in Exhibit #3. He recommended ratification of agreement (a). A motion was made by Mr. Grego and seconded by Mr. Gard to ratify approval of agreement (a). Those voting aye were: Gard, Lowrance and Grego. Nay votes: none. Motion carried.

Mr. Pollard recommended approval of the amended agreement listed as (b). A motion was made by Mr. Gard and seconded by Mr. Grego to approve the agreement. Those voting aye were: Gard, Lowrance and Grego. Nay votes: none. Motion carried.

Mr. Pollard recommended approval of new agreements listed as (c) and (d). A motion was made by Mr. Gard and seconded by Mr. Grego to approve the agreements. Those voting aye were: Gard, Lowrance and Grego. Nay votes: none. Motion carried.

OUT OF STATE TRAVEL REQUESTS

Mr. Thralls presented travel requests for approval as listed in Exhibit #4. He recommended ratification of the request listed as (a). A motion was made by Mr. Grego and seconded by Mr. Gard to ratify the request. Those voting aye were: Gard, Lowrance and Grego. Nay votes: none. Motion carried.

Mr. Thralls recommended approval of the request listed as (b). A motion was made by Mr. Gard and seconded by Mr. Grego to approve the request. Those voting aye were: Gard, Lowrance and Grego. Nay votes: none. Motion carried.

CO-SPONSORSHIP OF THE 2011 NO TILL OKLAHOMA MEETING

A motion was made by Mr. Gard and seconded by Mr. Grego to co-sponsor the 2011 No-till Oklahoma Meeting, February 1-2, 2011 in Norman, Oklahoma. Those voting aye were: Gard, Lowrance and Grego. Nay votes: none. Motion carried.

KIOWA COUNTY CD REQUEST FOR CONSOLIDATION FUNDS

Mr. Thralls presented a letter from the Kiowa County Conservation District requesting consideration of consolidation funds as listed in Exhibit #5. He stated that the consolidation that took place last year with the Mountain View Conservation District does not make the Kiowa County district on county boundaries. A motion was made by Mr. Gard and seconded by Mr. Grego to table this item until February. Those voting aye were: Gard, Lowrance and Grego. Nay votes: none. Motion carried.

WAGONER COUNTY CD COST-SHARE PROGRAM YEAR 11B SPECIAL REQUEST

The Wagoner County Conservation District had requested approval of Cost-share Program Year 11B special request to add Animal Trails and Walkways (575); however, this request has been withdrawn and no action is necessary.

FY2011/FY2012 OK 319 WORK PLANS INCLUDING FY2011 319 SPECIAL FUNDING

Shanon Phillips, Water Quality Program Director, stated that the Commission has been awarded $2.5 million in special FY2011 funds for the Illinois River, Eucha/Spavinaw and Honey Creek Watersheds. She is requesting approval of the work plans for this funding as well as the FY12 319 monies (Attachment A).

After discussion, a motion was made by Mr. Grego and seconded by Mr. Gard to approve the work plans. Those voting aye were: Gard, Lowrance and Grego. Nay votes: none. Motion carried.

REVISIONS TO PRIORITY WATERSHED COST-SHARE RATES AND PRACTICE SPECIFICATIONS

Ms. Phillips is recommending approval of revisions to the priority watershed cost-share rates and practice specifications in the Illinois River, Eucha/Spavinaw and Honey Creek Watersheds to expand CREP enrollment, increase practice adoption in critical areas, and ensure program consistency within conservation districts (Attachment B).

After discussion, a motion was made by Mr. Gard and seconded by Mr. Grego to approve the recommendations. Those voting aye were: Gard, Lowrance and Grego. Nay votes: none. Motion carried.

PUBLIC COMMENTS

None.

NEW BUSINESS

None.

OKLAHOMA CONSERVATION COMMISSION MEMBERS

Mr. Gard reported that the KNID AgriFest will be held this week.

Mr. Grego reported that he worked the Commission's booth during the Tulsa Farm Show.

OKLAHOMA CONSERVATION COMMISSION STAFF

Administration - Executive Director: Mr. Thralls stated that the new governor will take office on January 10, as will the new Secretary of Agriculture. He is expecting a good working relationship with the new secretary. The Secretary of Environment has not yet been named.

Representative Jason Murphey held a study on consolidation. After the first meeting it is recommended that the Commission's water quality division and the Department of Agriculture's water quality division be consolidated into the Department of Environment Quality.

Senator Justice is holding meetings on invasive species.

Mr. Thralls handed out an article published by *NewsOK.com* on budget projections and improving collections.

District Services Division: Lisa Knauf Owen, Director, met with an IRS agent to finalize payment of penalty and interest on behalf of the Pittsburg County Conservation District. She discussed social security changes and the need to update district payroll. She will be auditing January payroll for districts. Staff is working with districts to prepare W-2s.

Ms. Knauf Owen stated that staff is looking at ways to streamline submission of minutes to the Commission.

Ms. Knauf Owen recommended conversion of three district positions to cash allocations creating a savings of benefits costs and approved 2 new hires in Pushmataha and Ellis County Conservation Districts.

Water Quality Program: Shanon Phillips, Director, reported that Chapparel Energy xx.

Ms. Phillips stated that a water quality staff retreat will be held on January 11-12, 2011 in Guthrie, Oklahoma at the Pollard Theater. Mike Bira with the Environmental Protection Agency and Clay Pope, OACD, will be attending. She invited Commission members to attend as well.

Abandoned Mine Land Reclamation Program: Mike Kastl, Director, reported on completing a job in Sequoyah County and highlighted the written report.

Financial Management and Human Resources Division: Mr. Coffman reported on changes to the division with the retirement of Administrative Officer Jana Chicoine. He stated that 1099s will be distributed this month. Mr. Coffman stated that Brooks Tramell, Monitoring Coordinator, is now assisting with purchasing duties.

Information Technology Division: Mike Sharp, Director, reported working on the move of email servers. He stated that three new job descriptions have been submitted to the Office of Personnel Management for GIS positions in state government. The GI Council is undertaking a project to update color infrared photography.

Conservation Programs Division: Robert Toole, Director, provided an update of the rehab assessment project as follows: 108 dams - field reviews; 72 dams - breach analysis and mapping; 66 rankings - rehab alternatives and ranking; 32 dam reports - assessment reports prepared.

Administration - Assistant Director: Mr. Pollard reported that the Commission has reduced its staff by two with the departure of Jana Chicoine and Chris Dubois. The Commission is sensitive to changes made in the districts and is cutting its personnel as well.

OKLAHOMA ASSOCIATION OF CONSERVATION DISTRICTS

Clay Pope, Executive Director, discussed consolidation recommendations of moving the water quality division to the Department of Environmental Quality. He reported on the carbon initiative stating over 35,000 acres are enrolled. He held a meeting with Oklahoma State University officials regarding a climate change grant.

Mr. Pope stated that the National Association of Conservation Districts requested OACD to be a partner on a Conservation Innovation Grant submitted to the U.S. Department of Agriculture. He is working with the Oklahoma Department of Wildlife Conservation on a grant for wildlife credits for prairie chicken habitat.

Plans on being made for the OACD state meeting, the NACD South Central Meeting and the National Watershed Coalition meeting.

Mr. Pope met with Representative Don Armes and Senator Ron Justice on the budget for conservation. He will be meeting with Representative DeWitt next week.

A TMDL meeting is being held in Oklahoma for the Illinois River.

USDA-NATURAL RESOURCES CONSERVATION SERVICE

Ron Hilliard, State Conservationist, reported that Becka Redding is on extended sick leave and may be out for an additional three to four months. He reported that Associate Chief Ginger Murphy is in Afghanistan for a one year detail and Homer Wilkes will be acting associate chief. Don Gohmert, State Conservationist in Texas, retired. Mr. Hilliard stated that Dean Cook, Watershed Engineer, and Paul May, District Conservationist in Durant, have retired.

Mr. Hilliard stated that January 26 is the date for the Sallisaw Site 18M Watershed dedication. He stated that a listening session is scheduled for January 11 at the MetroTech in Oklahoma City.

Mr. Hilliard stated that an irrigation specialist has been hired in Woodward and a geologist in Pauls Valley.

DEPARTMENT OF AGRICULTURE, FOOD AND FORESTRY

Steve Thompson, Associate Commissioner, stated that a farewell reception for Secretary of Agriculture Terry Peach will be held today at 2:00 p.m.

NEXT MEETING

The next regular meeting of the Oklahoma Conservation Commission will be held on February 7, 2011, in the Agriculture Building Board Room, 2800 N. Lincoln Boulevard, Oklahoma City, Oklahoma beginning at 9:30 a.m.

ADJOURNMENT

There being no further business a motion was made by Mr. Gard and seconded by Mr. Grego to adjourn. Those voting aye were: Gard, Lowrance and Grego. Nay votes: none. Motion carried. The meeting adjourned at 11:25 a.m.

Approved by the Oklahoma Conservation Commission on February 7, 2011.

Mike Hoolan

CHAIR

Project: 2

Agency: Oklahoma Conservation Commission

Title: **FY 2011 - 2012 319(h) Project 2 Oklahoma Conservation Commission Implementation of the NPS Management Program January – December 2011**

INTRODUCTION

Project Purpose: The purpose of this project is to provide staff support and funding to implement Oklahoma's Comprehensive Nonpoint Source Pollution Program, including planning, assessment, education, and implementation activities between January 1, and December 31, 2011.

Background: The mission of the NPS Program in Oklahoma is to conserve and improve water resources through assessment, planning, education, and implementation. In establishing an effective program to address NPS pollution, a hierarchy of tasks is followed to insure that a sound and pragmatic approach is undertaken. As outlined in the mission statement, there are four major components addressed in the Nonpoint Source Management Plan: Assessment, Planning, Education, and Implementation.

The NPS Management Plan establishes the short-term and long-term goals of the State's NPS program. The long-term goal of the program is:

By 2015, the State of Oklahoma's NPS Program will establish a State-approved Watershed Restoration Action Strategy, TMDL, or implementation plan (unless the original basis for listing a waterbody is no longer valid) to restore and maintain beneficial uses in all watersheds impacted by NPS pollution in the 1998 303(d) List. By 2020, the State will attain and maintain beneficial uses in waterbodies listed on the 1998 303(d) list as threatened or impaired by NPS pollution.

The five short-term goals established in the plan to work towards this long-term goal are:

- Follow the priorities established by the Unified Watershed Assessment, TMDL schedule, and the NPS Working Group to reduce NPS loading in the top ten priority watersheds to levels that allow for support of beneficial uses.
- Identify pollutant sources within watersheds listed on the 1998 303(d) list as threatened or impaired by NPS pollution. Completion of ten source assessments per year would translate to the completion of 150 within fifteen years, addressing most of streams on the 303(d) list.
- Increase the existing coverage of water quality enhanced education programs by fifty percent for a statewide coverage of 100 percent by 2015. These enhanced programs currently exist in approximately 41 of 77 or 53% of Oklahoma counties. The NPS program will also spread these efforts to each of the top 10 priority watersheds identified by the NPS Working Group.
- The State will draft ten Watershed Restoration Action Strategies (currently referred to as Watershed Based Plans) annually until 2015 to address the remaining Priority One UWA watersheds not addressed in Table 1, according to the priority established by the

NPS Working Group. This will equate to 150 WRASs (WBPs) drafted by 2015 or WRASs (WBPs) for all priority I watersheds as established by the UWA.

- The NPS program will work with other State and Federal programs to identify alternative sources of funding to target and implement practices to achieve the long-term goal of beneficial use attainment by 2020 based on implementation plans developed by the State.

These goals are primarily the responsibility of the OCC, although the Office of the Secretary of the Environment, the Oklahoma Water Resources Board, the Oklahoma Corporation Commission, the Oklahoma Department of Environmental Quality, the Oklahoma Department of Agriculture and other agencies all play substantial supporting roles. This project will work towards these goals by providing the staff[1], supplies, and equipment to do the work, setting the framework, goals, and milestones for the work to be done during FY2011-FY2012 (planning) and demonstrating BMPs in priority watersheds (implementation). Two major goals of the program, assessment and continuing to expand the Blue Thumb Program (education), are covered under additional FY 2011-2012 workplans.

Project Overview: This project will be conducted by the OCC with assistance from the Office of the Secretary of the Environment, Oklahoma Conservation Districts, and other agencies, as necessary. Activities will be completed statewide, unless otherwise specified, although a primary focus is in priority watersheds. These activities will be completed between January 1 and December 31, 2011.

Activities FY 2011 /2012 319(h) Project 2. OCC Implementation of the NPS Management Program January - December 2011

The FY 2011-2012 OCC program is made up of five major tasks necessary to implement the June 2000 revision of the Section 319 Nonpoint Source Management Program and Assessment Report. These tasks follow the categories outlined in the mission statement of the program: planning, education, and implementation. Assessment and a considerable portion of education (BT) are funded under separate projects.

Task 1.	Administrative
Task 2.	Base Planning Programs
Task 3.	Base Program Education Activities
Task 4.	Base Implementation Programs

Task 1. OCC Administration

Description: This task includes twelve months of OCC administration of the 319 grant program including financial management, secretarial support, cooperation and coordination with other state and federal agencies, review of legislation and interaction with State legislators to encourage them to continue to support the NPS program, and other miscellaneous administrative duties necessary for maintenance of the program. The

[1] Descriptions of staff responsibilities are found in the current OCC Quality Management Plan, which is updated annually. An allocation of each staff member's time is specified under each task.

OCCWQ Division Director, WQ Cost Share and Finance Director, the OCC Grants Management Specialist, and the OCCWQ Executive Secretary will complete activities under this task.

All §319(h) federal monies must be matched at a 60:40 ratio by nonfederal funds, either through soft match, such as certain in-kind services, or hard match. Federal funds cannot be used to match §319(h) funds.

Goals/Objectives: To administer the NPS program to achieve meaningful, cost-effective outputs including reports, technical assistance, and BMP implementation that will provide timely implementation of the State's NPS Management Program between January and December 2011.

Subtask Scheduled Completion Dates or Milestones

Subtask #	Subtask Description	Date Due
2.1.1	Comprehensive Financial Management of Project Tasks- includes writing contracts with cooperators, processing invoices, requesting financial outlays, submitting reimbursement requests to OSE, preparing annual budgets, participating in state audits of federal funds, tracking grants, and holding fiscal meetings among OCC staff - completed by the WQ Programs Director and WQ Cost Share and Finance Director, and the OCC federal Grants Manager	ongoing
2.1.2	Employ an Executive Secretary - primary responsibilities include: expense tracking, typing and filing of all correspondence within the Water Quality Section; secretarial support to the Nonpoint Source Working Group; purchasing of supplies; functioning as the Section's receptionist; and many other duties as assigned.	1/1/11 – 12/31/11, ongoing
2.1.3	Miscellaneous administrative activities necessary to work towards the goals of the NPS Management Program. These tasks range from purchase and maintenance of equipment to tracking time spent on various projects. This also includes the maintenance of personnel matters. These tasks are the responsibilities of OCCWQ administrative staff.	1/1/11 – 12/31/11, ongoing

Deliverables:

Output #	Deliverable	Completion Date
2.1.1.a	Monthly reimbursement requests - **deliverable to OSE**	Monthly

Measures of Success

1. Maintain accounting records and budgets such that exceedances of the allowable 10% deviation from itemized budgets are reduced by 50% in monthly budget reviews completed by OSE.
2. Maintenance of correspondence and project-related paperwork such that all pertinent reports, correspondence, and miscellaneous paperwork can be found in electronic or paper files for at least 98% of the active OCC 319 projects.

3. Maintenance and Updates to the OCC Website such that at least 75% of approved reports and final outputs will be available via the internet for current and historical §319 projects.
4. Reduce unliquidated obligations to a level such that annual expenditures under the program equal or exceed annual funding levels.

Budget
Task 1 activities should consume an estimated total of 3,980 man-hours out of the total Projects 2-4 man-hours of 58,738[2] or seven percent of the man-hours allocated to 2011-2012 projects (2-4). In other words, seven percent of OCC permanent staff and intern time is allocated towards Task One duties.

Personnel	Estimated Man Hours per Subtask of Task 1			Total Time	% of total time**
	1	2	3		
Grants Management Specialist	1,040		0	1,040	100
WQ Division Director	100	0	260	360	17
WQ Cost Share and Finance. Director	500	0	0	500	24
Executive Secretary	0	2080	0	2080	100
Total	**1,640**	**2,080**	**260**	**3,980**	**7**

**based on amount of time spent on this Project 2 task as compared to total time per year. Total time per year includes time spent under FY 2011 -- 2012 Projects 2-4.

Task 1 Cost Estimates (Administrative costs - base funding)

	State	Federal	Total
Total Salary	$0	$87,598	**$87,598**
Total Fringe	$0	$38,218	**$38,218**
Total Indirect Costs	$0	$12,974	**$12,974**
Travel	$0	$0	**$0**
Supplies	$0	$0	**$0**
Motor Pool Contract	$0	$0	**$0**
Copier Contract	$0	$0	**$0**
Office Space Contract	$0	$2,000	**$2,000**
Total	**$0**	**$140,790**	**$140,790**

Task 2. Base Planning Programs

Description: Planning activities necessary to complete implementation of the State's NPS Management Program. This task is primarily the responsibility of the OCC water quality division. Within the division, primary responsibilities for completion of this task lie with the WQ Division Director, WQ Division Assistant Director, technical writers, WQ Cost Share and Finance Director, and the Environmental Projects Coordinator. Further delineation of

[2] 58,738 man hours, or 7,342 days times eight hours, is the total number of hours OCC permanent staff and interns will work as part of FY 2011 - 2012 Projects 2-4. This number includes paid holidays and paid leave.

responsibilities is shown under the subtask schedule. This task allows for public participation in the program through the activities of the NPS Working Group. Included under this task is a contract for legal services. The increasing numbers of lawsuits and increasing complexity of State and Federal statutes have made it beneficial to confer with legal counsel to insure that the program operates within the intent and limits of the statute, but also within the best-interests of the NPS program.

Goals/Objectives: To conduct statewide planning activities to implement the NPS program. To meet state and federal planning requirements such as the 303(d) List and the 319 Assessment Report and to plan statewide and watershed programs to remedy water quality problems during the FY 2011-FY 2012 project years between January and December, 2011. To allow the public to comment on and participate in the design of the State's NPS Program.

Subtask Schedule

Subtask #	Description	Due Date
2.2.1	Develop and update proposals and work plans for 319 and other funding sources for implementation of the NPS management program- responsibilities are the same as above	As needed
2.2.2	Represent OK at NPS & EPA meetings, workshops, conferences; cooperation and coordination with State and Federal agencies on NPS issues (as required by State law, and facilitated by the NPS Working Group and OSE), attending meetings as necessary for activities such as Total Maximum Daily Loads (TMDLs), education programs, coordination of monitoring programs, and coordination of implementation efforts. This is the responsibility of all OCC staff in their various capacities.	1/1/11 – 12/31/11, ongoing
2.2.3	Chair and coordinate the NPS working group. Plan and provide a venue and agenda for meetings. Post to members a summary of each meeting and conduct substantial communication through email and postal service correspondence. Chaired by OCCWQ Division Director, and many other OCCWQ staff share duties necessary to hold meetings and receive input from the working group.	Meet as necessary to update group on progress, review workplans, etc.
2.2.4	Represent the NPS Program on Oklahoma's Water Quality Monitoring Council- Completed by the Monitoring Director, WQ Assistant Director, and legal services	As needed
2.2.5	Support and review the development of Oklahoma's Water Quality Standards, Use Support Assessment Protocols, and biocriteria. OCC is mandated by state law to attend all OWQS hearings. Completed by the WQ Division Director, WQ Assistant Director, Monitoring Director, technical writers, and legal services	As needed
2.2.6	Participate in the TMDL working group and contribute to the next update of the integrated report. OCC will also review	As scheduled

	TMDLs for load allocations and will contribute, as necessary, to Watershed plans drafted by other agencies. Completed by the WQ Division Director, WQ Assistant Director, the Monitoring Director and the Technical Writers.	
2.2.7	Legislative Review- Participate in meetings and related efforts to further the goals of the NPS program. Provide recommendations to the Oklahoma Conservation Commission for consideration of changes to existing laws that will help further the mission and the efficiency of the NPS program. This is generally the responsibility of the OCC Executive Director, OCC Assistant Director, and the WQ Division Director, WQ Programs Senior Technical Writer, and the Monitoring Director.	1/1/11 – 12/31/11, ongoing
2.2.8	Begin the process to update the state's NPS Management Plan as vetted through the NPS Working Group. Completed primarily by the WQ Division Director, WQ Assistant Director, WQ Programs Senior Technical Writer with assistance from other staff as required.	1/1/11 – 12/31/11, ongoing

Deliverables

Output #	Deliverable	Completion Date
2.2.1	§319 workplan revisions	As needed
2.2.8	Updated NPS Management Plan	To be delivered as an element of the FY2012 workplan

Measures of Success

1. Conservation districts will have specific stream health information for planning conservation and prevention of NPS pollution. Ten of the eighty-eight Conservation Districts will utilize information summarized in OCC WQ reports or otherwise provided to them in their long-range plans.
2. Results from these planning efforts will be successful and efficient enough that at least sixty percent of the activities these planning efforts suggest will be drafted into 319 or other workplans or otherwise funded or completed by FY 2011.
3. Continued State legislative and monetary support for the NPS Program such that at least $1,000,000 is funded annually for the Locally-Led State Cost-Share Program and that at least, an additional $250,000 is funded annually for priority watershed projects. In addition, of the usual five or so legislative measures that the State legislature proposes each year that affect the NPS program, at least 3 of those will pass or fail relative to the best interests of the program.
4. Coordination with other State and Federal Agencies on NPS and water quality-related issues such that written notices of dissatisfaction, if any, regarding OCC's coordination with other agencies and groups is reduced by fifty percent.

Budget

Task 2 activities will require an estimated five percent of total OCCWQ permanent staff's and interns' man hours for FY 2011/2012 projects 2- 4.

Personnel	Estimated Man Hours per Subtask of Task 2								Total	% of total time
	2.2.1	2.2.2	2.2.3	2.2.4	2.2.5	2.2.6	2.2.7	2.2.8		
Div. Director	8	480	20	50	50	30	160	20	818	39
Div. Asst. Director	260	380	20	20	20	20	60	60	840	40
Tech. Writers (4)	120	340	20	20	220	40	40	80	880	11
Env. Proj. Coor.	0	100	0	0	0	0	0	0	100	5
GIS Tech.	0	140	0	0	0	0	0	0	140	10
Cost Share and Finance Director	0	110	0	0	0	0	0	0	110	5
Total	**388**	**1550**	**60**	**90**	**290**	**90**	**260**	**160**	**2,888**	**5**

Task 2 Cost Estimates

Component	State	Federal	**Total**
Total Salary	$0	$83,603	**$83,603**
Total Fringe	$0	$36,727	**$36,727**
Total IDC*	$0	$16,551	**$16,551**
Travel	$0	$9,500	**$9,500**
Supplies	$0	$3,205	**$3,205**
Motor Pool Contract	$0	$1,493	**$1,493**
Copier Contract	$0	$1,700	**$1,700**
Office Space Contract	$0	$12,000	**$12,000**
Total	**$0**	**$164,779**	**$164,779**

*- indirect costs are considered administrative costs.
**All Task 2 are considered base implementation costs.

Task 3. Base Program Training Activities

Description:

As a group, the OCC staff is highly trained and knowledgeable. Various state agencies, tribes, districts and other groups routinely request information and training regarding monitoring methods, data analysis, fish identification, education programs, and various other topics. To maintain this level of training, it is important to continue training of our own staff through courses, seminars, conferences, etc. The purpose of this subtask is to provide training to outside parties as well as training within OCCWQ.

Subtask Schedule:

Subtask #	Description	Due Date
2.3.1.a	Provide training and consultation as requested to outside agencies, tribes, groups, and other groups to include, but	December 2011

	not limited to, annual fish school (fish Identification), biological collections, data analysis, project planning, monitoring design, aquatic ecology courses, implementation programs, and assistance with Blue Thumb Programs	
2.3.1.b	Acquire training for OCCWQ staff funded through this grant in topics related to the NPS program to include, but not limited to, GIS analysis, quality assurance, data analysis, monitoring methods, program planning, and aquatic ecology.	January – December 2011

Deliverables:

Output	Description	Completion Date
2.3.1.a	Summary report of trainings to outside entities and those attended by OCCWQ personnel	December 2011

Measures of Success

For the period January through December 2011, the following successes are anticipated:

1. OCC will share information and knowledge through trainings, general information sharing, document/procedure review, etc. on at least twelve occasions during the project period.
2. OCC staff will attend at least ten training events and will incorporate knowledge, techniques, and/or partnerships developed from at least four of those into its program.

Budget

Task 3 activities are predicted to require an average of one percent of total permanent OCC staff and intern allocated under FY 2011-2012 projects 2-4.

Personnel	Est. Man Hours per Subtask of Task 3		Total	% of total
	1	**2**		
Division Director	0	40	40	2
Div. Assistant Director	20	80	100	5
Tech. Writers (3)	160	280	440	5
Environmental Programs Coordinator	0	40	40	2
Cost Share and Finance Director	0	30	30	2
GIS Technician	40	40	80	6
Network Administrator	0	50	50	4
Data Manager	0	80	80	2
Total	**220**	**640**	**860**	**1**

Task 3 Cost Estimates

Component	**State**	**Federal**	**Total**
Total Salary	$0	$21,510	**$21,510**
Total Fringe	$0	$9,967	**$9,967**
Total IDC*	$0	$3,772	**$3,772**
Travel	$0	$6,000	**$6,000**

Supplies	$0	$954	**$954**
Motor Pool Contract	$0	$2,445	**$2,445**
Copier Contract	$0	$500	**$500**
Office Space Contract	$0	$2,000	**$2,000**
Total	**$0**	**$47,148**	**$47,148**

*- indirect costs are considered administrative costs. All other costs in Task 3 are considered base implementation costs.

Task 4. Implementation of NPS Management Program Activities.

Description: One year of staff support, supplies, travel, and miscellaneous costs necessary to support implementation of NPS Management Program Activities. The NPS Management Program has outlined numerous activities that must be implemented in a program to control NPS pollution. Activities include the NPS annual report, semiannual reporting, and management of current projects outlined in the NPS Program. This includes management of all 319 projects. Task 4 activities will be completed between January 1 and December 31, 2011. This task is responsible for taking the results of one mechanism of the program (planning) to the next level of implementation.

Subtask 2.4.1 Program Reports: Reports necessary to communicate progress at implementing the NPS Management Program. Includes the 319 NPS Annual Report, Monthly Reports to the Conservation Commissioners, and Legislative Reports as requested. This subtask is the responsibility of the Environmental Projects Coordinator and the Technical Writers. Support comes from the GIS technician, the Data Entry Clerk, and the WQ Assistant Director.

Subtask 2.4.2 Support for Quality Control Program: collection of quality data requires implementation of a quality control program. Some of the required quality control procedures are completed by the field staff during sample collection and schedule quality assurance sessions. Quality Assurance activities of field staff that coincide with this project period are covered under FY 11-12, Project 3. However, these activities must be supported by core staff, funded under this project. These tasks include generation of the QMP, updating and drafting QAPPs, reviewing data, and conducting the quarterly QA sessions. This subtask is the responsibility of the QA Officer, Technical Writers, the data manager, data entry clerk, and the WQ Assistant Director.

Subtask 2.4.3 Implementation program management: OCC will continue to manage all OCC 319(h) projects and Priority Watershed Projects and provide necessary staff support where needed to implement the activities and to complete the necessary reporting. This will include semiannual review, monitoring in priority watersheds, project implementation and oversight by OCC, drafting reports, updating watershed based plans, and oversight for contracts for implementation of each of the OCC's 319 (h) projects. This subtask is the responsibility of the Environmental Projects Coordinator, and the WQ Division Director. Support is provided by the Monitoring Director, Water Quality Specialists, Data Entry Clerk, Data Manager, Financial and Cost-Share Director, WQ Division Assistant Director, and GIS Technician.

Subtask 2.4.4 Technical Transfer of NPS Control Information and Technology: To further NPS pollution control, the NPS Management Program describes several activities that serve to transfer new technology and to convey water quality data to the public. OCCWQ will make reports and other documents available to the public through the agency's website. As new NPS control technology becomes available, OCC will evaluate and adapt it to meet Oklahoma needs. Also included in this task are an infinite number of information requests from federal, state and local agencies, as well as private citizens. These requests include everything from raw data to entire reports from past projects to amalgamations of multiple reports. These information requests also include maps such as locations of impaired streams, reference streams, and information regarding the location of wetlands. Of course there are many requests for technical insight or assistance with a variety of issues. This subtask is primarily the responsibility of the Network Administrator, the WQ Assistant Director, GIS Specialist, technical writers, the Wetlands Programs Coordinator, the Environmental Programs Coordinator, the Data Manager, and the Data Entry Clerk.

Subtask 2.4.5 State Wide Implementation of NPS Controls: Numerous non-federally funded efforts are implemented to reduce NPS pollution in the State every year. Examples of these efforts include the OCC Locally-Led Cost-Share Program (legislative allocations for putting practices on the ground and paying of time and effort contributed by conservation districts to oversee the efforts), the Oklahoma Energy Resources Board Environmental Restoration Program, and countless cleanup days along State Roads, in parks, and along streams and waterways. In addition, every year a large number of landowners implement BMPs without cost-share assistance, simply because the practice can improve their land and protect its usefulness.

These efforts will be summarized to document the necessary match (in addition to that provided by State salaries, contractors, and district support) for this project. This match will be documented in reimbursement requests submitted to OSE, but will also be summarized in an end-of-project letter report. The following is a description of the basic types of Statewide BMP programs that will be used as sources of match for this grant.

OCC will implement a state funded program statewide for landowners to install best management practices to reduce NPS pollution and soil erosion. The purpose of the program by OCC rule OAC 155:20 1-1 is to provide financial assistance to land users identified as eligible for applying soil and water conservation or water quality best management practices. The program will function to demonstrate NPS controls and to promote voluntary implementation of NPS controls by adjacent landowners.

The Administrative Officer and State Cost-Share Coordinator manage this program. The Cost-Share Coordinator reviews the plans submitted to ensure that they are correct and meet the specifications of the program. The Administrative Officer oversees the overall program and corresponds with the 88 conservation districts, keeping them informed, answering questions, collecting data and reporting on implementation, tracking allocations, and many other duties related to running such a large program.

The conservation districts implement the locally-led program, interacting with the landowners, and as necessary, with NRCS and other appropriate entities to draft the conservation plans necessary to implement the program. The conservation districts devote

significant staff time to overseeing these programs. Districts also devote significant staff time to additional water quality efforts, ranging from education to long-range plan development. This time will be summarized to document match.

OCC has established a list of eligible cost-share conservation practices that will protect our soil and water natural resources. The OCC staff and Conservation Districts will plan and administer implementation of the approved practices. Cost share funds will be distributed through Conservation Districts according to OCC rules OAC 155:20. An accounting of the practices implemented, costs, and anticipated environmental benefits will be included in the 2011 and 2012 §319 Annual Reports and in a Federal Fiscal year report summarizing Statewide BMPs implemented with nonfederal monies.

The budgets for the FY 2011 - 2012 Projects 2 –4 require $ 1,713,470 of nonfederal funds to match the federal FY 2011 319(h) funds. At least $1,435,174 will be implemented through non-federally funded best management practice implementation across the state. The Oklahoma State Legislature has allocated funds to this locally led cost-share program for the past 12 years. These funds are matched at least 40% by the landowner, but often are matched closer to 50% or greater. Locally led and landowner match funds dispersed during the project period will be used to match the federal funds. Documentation and tracking of match is completed in such a manner as to insure that match is not double counted. For instance, Conservation District staff time devoted towards supporting the locally-led cost-share program will not be counted as match for priority watershed projects and vice-versa.

One of the most frequent causes for listings for beneficial use impairment in the 2002 Integrated Report is turbidity. Oklahoma has a long history of oil and gas production that, unfortunately, has resulted in many abandoned extraction and exploration sites that contribute sediment, salts, and hydrocarbons to area water resources. The Oklahoma Energy Resources Board (OERB) is responsible for remediation of environmental problems caused by orphaned exploration / production well sites in Oklahoma. The restoration is funded by a voluntary one-tenth of one percent assessment on the sale of oil and natural gas in Oklahoma. Any producer or royalty owner who does not wish to participate in the program can apply for a refund January 1 to March 31 each year. Historically, 95 percent of all OERB contributions remain in the fund.

Sites to be remediated are recommended by the Oklahoma Corporation Commission. At no cost to the landowner, the OERB activities include removing equipment, concrete, and trash, repairing erosion and saltwater "scars" left on the land, and removing hydrocarbon or other waste products. In 2002, approximately $3,538,877 worth of restoration activities were completed at over 1000 abandoned sites across the State. OCC will document OERB restoration efforts in priority watersheds during this project period to supplement necessary match not provided by the OCC Locally-led Cost-share Program.

Oklahoma State agencies are required by State statute to cooperate with each other to protect and promote the general welfare of the environment and natural resources of the State. Therefore, a MOU is not necessary with OERB to provide this information. However, monies used to repair erosion and saltwater scars will be used as match. A letter

report will document the type of repair, location, and date of completion of the activities that will be used as match.

In addition to OERB implementation and locally-led cost-share program implementation, OCC, the City of Tulsa, and the Oklahoma Scenic Rivers Commission have successfully acquired funding for a Conservation Reserve Enhancement Program (CREP) for the State of Oklahoma. Although federal USDA funding supports much of the implementation of riparian protection through the program, state funding is used to support the technical support staff that draft conservation plans and sell the program to watershed producers. This CREP project was pursued as a follow-up to 319 programs in the Eucha/Spavinaw and Illinois River Watersheds to extend the acreage of riparian protection supported through the 319 projects. OCC utilizes State funds to employ a CREP Coordinator. The CREP coordinator is responsible for annual reports on the CREP program for USDA. These reports summarize practice adoption, water quality monitoring results, and program successes and failures.

In addition, the state is in the process of applying for CREP programs in the Fort Cobb and Sugar Creek Watersheds in Caddo County, OK. The same matching fund structure from the state will be implemented to leverage USDA funds for these programs. The CREP coordinator will oversee these programs as well.

Two of the most significant potential sources of nonpoint source pollution the state are related to 1) excess surface application of animal waste (including poultry litter) for purposes of disposal and as a soil amendment and 2) traditional cultivation of cropland areas for row crop production. The OCC has undertaken many programs in the past to support strategies to reduce the impacts of these practices, ranging from soil testing, animal waste transport, education programs, and incentive programs to encourage application of best management practices related to these sources.

However, one limitation in implementing these programs has been the availability of equipment. For instance, although poultry litter may be less likely to cause water quality problems when applied to wheat fields in Garfield County as opposed to pasture land in Adair County, most Garfield County producers do not have access to a poultry litter spreader. The availability of no-till drills for conversion of conventional tillage to no-till production is another instance when availability of equipment severely limits the adoption of a particular best management practice.

In some areas of the State, Conservation Districts are able to provide equipment for lease to producers to help bridge this gap. However, because most Conservation Districts are severely limited in the amount of equipment they can purchase, many areas of the state cannot rely on Districts as a source of this equipment. Although the OCC is currently pursuing funding from the State legislature for establishment of a revolving loan program to help Districts purchase equipment necessary for critical BMPs, that funding is not currently available.

Economic conditions related to high fuel prices, high fertilizer prices and many other factors favor the transport of poultry litter to non-poultry producing portions of the state and the conversion to no-till cultivation more than ever before, but without equipment, adoption of

these practices will stall. Therefore, OCC proposes to use $30,000 to purchase either no-till drills or litter spreaders for Districts to implement these BMPs. It is anticipated this amount will help two districts purchase one of either type of equipment. The two districts chosen will be reimbursed 75% of the cost of the equipment. Districts will be selected based on a number of factors including appropriate use of the equipment, potential positive impacts on priority watersheds, and need.

Goals/Objectives: To implement the statewide and watershed activities outlined in the NPS Management Program.

Subtask Schedule:

Subtask #	Description	Due Date
2.4.1.a	Annual 319 Report (for previous year's activities)	January 2011
2.4.1.c	Legislative Reports on NPS related concerns will be prepared if requested by the Oklahoma Legislature.	Due as directed
2.4.2	OCC will implement a quality assurance program for all data collection. Implementation of this program will insure data is of appropriate quality and consistency with project DQOs. This task will be the responsibility of the Senior Tech Writer/Quality Assurance Officer, the Data Manager, Data Entry Clerk, the WQ Assistant Director, and the technical writers.	January – December 2011
2.4.2.a	Quality Management Plan	October 2011
2.4.2.b	Quarterly Calibration - OCC will conduct calibration of all field meters and procedures as outlined in the QMP and project QAPPs	Quarterly
2.4.2.c	Annual field review of field procedures.	April 2011
2.4.2.d	Data management review and QA.	Ongoing
2.4.2.e	QA problem resolution.	Ongoing
2.4.2.f	Submission of updated OCC SOPs	June 2011
2.4.2.g	Updates as necessary of current QAPPs to address necessary changes	June 2011
2.4.3.a	Semiannual review of projects	January & July
2.4.3.b	Draft reports as necessary for each of the 319(h) Projects	As scheduled in work programs
2.4.3.c	OCC will provide oversight for implementation of each of its 319(h) projects.	Ongoing
2.4.4	Support and explore developing technology through research, dissemination of information, reporting, and attendance/presentation at national conferences (6 conferences per year)	Ongoing
2.4.5.a	State cost share funds allocated	July 1, 2010
2.4.5.b	Conservation practices for the locally led Conservation Cost-Share Program approved by the Conservation Commissioners	Nov 2010
2.4.5.c	Funds available to conservation districts	January 1, 2011 – June 30, 2012

2.4.5.d	Annual Report on CREP program	December 2011

Deliverables:

Output #	Description	Due Date
2.4.1.a	Annual 319 Report (for previous year's activities)	January 2011
2.4.2.a	Quality Management Plan	October 2011
2.4.2.f	Submission of updated OCC SOPs	June 2011
2.4.2.g	Letter Report documenting no necessary changes or updated QAPPs, as appropriate	June 2011
2.4.3.a	Semiannual reports	January and July
2.4.3.b	Project reports	As scheduled
2.4.5.d	Annual Report on CREP program-deliverable to USDA. Copies to EPA	December 2011

Measures of Success

1. Increase the number of reports and outputs delivered in a timely manner by 50%.
2. Implementation of NPS BMPs in Oklahoma's 303(d) listed watersheds to include at least:
    a. 20 critical area plantings
    b. 35 grassed waterways
    c. 100 alternate water supplies (ponds, tanks, etc.)
    d. 150 pasture or range management (seeding, planting, etc.)
    e. 20 terraces
    f. 300 abandoned oil and gas extraction/exploration sites remediated.
3. Reduction in the number of streams listed on the 303(d) list for sediment and nutrient-related causes by at least ten segments per year.
4. Less than five percent of the data collected during this period will be flagged in our database as being of limited use.

Budget

Task 4 activities are expected to consume 37% of FY 2011 - 2012 Projects 2-4 man-hours.

Personnel	Estimated Man Hours per Subtask of Task 4.						
	1	2	3	4	5	Total	% of total time
Division Director	108	0	696	48	10	862	41
Division Assist. Director	448	0	532	100	60	1,140	69
Data Manager	1540	0	0	460	0	2,000	96
Data Entry Clerk/Summer Intern (PT)	1300	0	0	0	0	1,300	100
Tech. Writers (4)	5740	280	720	260	0	7,000	84

Environmental Project Coordinator	790	0	1110	0	40	1,940	93
WQ Financial and Cost Share Director	160	0	1,180	0	100	1,440	69
GIS Technician.	400	0	400	330	50	1,180	84
Network Administrator	0	0	0	1100	0	1,100	96
State Cost Share Coordinator	0	0	0	0	1248	1,248	100
CREP Coordinator	0	0	0	0	2080	2,080	100
Total	**10,486**	**280**	**4,638**	**2,298**	**3,588**	**21,290**	**37**

Task 4 Cost Estimates

Component	State	Federal**	**Total**
Total Salary	$72,628	$406,171	**$478,799**
Total Fringe	$43,468	$184,330	**$227,798**
Total IDC*	$0	$69,578	**$69,578**
Travel	$2,000	$14,500	**$16,500**
Supplies	$3,000	$28,041	**$31,041**
Motor Pool Contract	$7,200	$11,062	**$18,262**
Statewide BMPs	~~$624,784~~1,480,507	$0	**$1,624480,~~78450~~7**
Equipment	$0	$35,500	**$35,500**
Copier Contract	$0	$5,720	**$5,720**
Office Space Contract	$0	$22,000	**$22,000**
Total	**~~$753,080~~1,608,803**	**$776,902**	**$~~12,529~~385,~~9827~~05**

*- Indirect costs are considered administrative costs.
**$707,324 of salary, fringe, indirect costs, equipment, and contracts are incremental funds used to provide management and technical support of incrementally-funded priority watershed projects. All other task 4 costs are base funding.

Project 2 Outputs

Output #	Deliverable	Due Date
2.1.1.a	Monthly reimbursement requests - deliverable to OSE	Monthly
2.2.1	§319 workplan revisions	As needed
2.3.1.a	Combined summary report of trainings to outside entities and those attended by OCCWQ personnel	December 2011
2.4.1.a	Annual §319 Report (for previous year's activities)	January 2011
2.4.2.a	Quality Management Plan	October 2011
2.4.2.f	Submission of updated OCC SOPs	June 2011
2.4.2.g	Letter Report documenting no necessary changes or updated QAPPs, as appropriate	June 2011
2.4.3.a	Semiannual reports	January & July
2.4.3.b	Project reports	As scheduled
2.4.5.d	Annual Report on CREP program- deliverable to USDA. Copies to EPA	December 2011

ATTACHMENT A

Project 2 master budget	Task 1	Task 2	Task 3	Task 4	Total State	Total Federal	Total
Total salary	$87,598	$83,603	$21,510	$478,799	$72,628	$598,882	**$671,510**
Total fringe	$38,218	$36,727	$9,967	$227,798	$43,468	$269,242	**$312,710**
Total IDC	$12,974	$16,551	$3,772	$69,578	$0	$102,875	**$102,875**
Travel	$0	$9,500	$6,000	$16,500	$2,000	$30,000	**$32,000**
Supplies	$0	$3,205	$954	$31,041	$3,000	$32,200	**$35,200**
Motor Pool contract	$0	$1,493	2,445	$18,262	$7,200	$15,000	**$22,200**
Other (Statewide BMPs)	$0	$0	$0	~~$624,784~~1,480,507	$1,480,507~~$624,784~~	$0	**~~$624,784~~1,480,507**
Copier Contract	$0	$1,700	$500	$5,720	$0	$7,920	**$7,920**
Office space contract	$2,000	$12,000	$2,000	$22,000	$0	$38,000	**$38,000**
Equipment	$0	$0	$0	$35,500	$0	$35,500	**$35,500**
State Task Totals	**$0**	**$0**	**$0**	**~~$753,080~~1,608,803**	**$$1,608,803~~753,080~~**		**~~$753,080~~1,608,803**
Federal Task Totals	**$140,790**	**$164,779**	**$47,148**	**$776,902**		**$1,129,619**	**$1,129,619**
OCC annual program support total:	**$140,790**	**$164,779**	**$47,148**	**~~$1,529,982~~2,385,705**	**~~$753,080~~1,608,803**	**$1,129,619**	**$2,738,422 ~~1,882,699~~**

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Project: 3

Agency: Oklahoma Conservation Commission

Title: **FY 2011-2012 319(h) Project 3 Ambient and Implementation Monitoring Program- Cycle 1.3**

INTRODUCTION

Project Purpose: The purpose of this project is to implement year eleven of the Rotating Basin Monitoring Program (RBMP) and continue monitoring efforts for the priority watershed projects. Implementation of the RBMP will allow for the assessment of the beneficial use support status of streams in the specified watersheds, the collection of information about nonpoint sources of pollution, and the evaluation of success of NPS implementation and education efforts by this and other programs. Implementation monitoring efforts will continue necessary data collection to evaluate water quality and other impacts of ongoing priority watershed implementation projects.

Background: The NPS Management Program Mission Statement specifies that monitoring is a necessary component of the program. Specifically, short-term goals one (priority watershed implementation), two (source identification), three (water quality enhanced education), and four (action strategies) all rely on monitoring as a critical step. Monitoring provides sound information to define where a program should concentrate remediation and education efforts. In the case of implementation monitoring, efforts provide the information necessary to evaluate the environmental impact of priority watershed project activities.

Project Overview: This project will be conducted by the OCC with assistance from the Office of the Secretary of the Environment, Oklahoma Conservation Districts, and other state, federal, and tribal entities, as necessary. Activities covered under this workplan include both statewide and priority watershed monitoring components.

This project will fund year 11 of the RBMP (first year of the third cycle of the program) and will continue efforts for ongoing priority watershed projects. Funding will provide staff support, laboratory contracts, motor vehicle contracts, travel costs, and supplies for two years of monitoring in the applicable basins to be monitored as part of RBMP year 11 and one year of activities for implementation projects. Monitoring will include physical, chemical, and biological sampling in accordance with DQO's outlined in the appropriate QAPP. Sample analysis will be contracted to the certified laboratories identified in OCC's Quality Management Program. Vehicle leases will be contracted with the Oklahoma State Motor pool. Management of these contracts by OCC will occur as outlined in OCC's Quality Management Program.

Goals and Objectives:
Ambient Program - Oklahoma committed to systematically identifying waters and watersheds threatened or impaired by NPS pollution based on OWQS at least every

five years through the year 2020. The specific action for identifying NPS threats and impairments is to monitor water quality and the integrity of the aquatic community and habitat in approximately 250 streams in the State through a rotating program lasting five years.

The objectives of this portion of OCC's program include providing the staff support, vehicles, laboratory analysis, supplies, contracting, and travel costs to:

- Identify NPS threatened and impaired waterbodies to give an accurate assessment of Oklahoma's water quality as affected by NPS pollution;
- Identify sources and causes of NPS pollution as well as land use and best management practices that prevent NPS pollution from threatening waterbodies;
- Gather needed data to more intensively assess streams where impairment is identified to verify the causes of impairment, identify categorical and geographical sources and to gather other data needed to allow planning restoration strategies;
- Check water bodies previously identified as affected by NPS pollution to determine if threats or impairment continue;
- Evaluate successes and failures of various controls, best management practices, and education programs aimed at improving and protecting water quality.

Implementation Program – Watershed-scale implementation projects are ongoing in numerous priority watersheds across the State including the Illinois River, Eucha/Spavinaw, Thunderbird, North Canadian River, and Honey Creek (Grand Lake) through 319-funded and USDA Conservation Reserve Enhancement Programs. OCC will continue to conduct routine physico-chemical, biological, and habitat monitoring in accordance with DQOs detailed in the EPA approved QAPPs for each project. These monitoring efforts are a continuation of monitoring conducted under previous implementation projects in the watershed.

The sampling regime includes the use of automated samplers to collect continuous, flow-weighted samples simultaneously at both treatement and control sites in accordance with EPA's paired watershed design. To focus on the parameters of concern, and to reduce monitoring expenses, water quality samples will be analyzed only for total phosphorus, nitrate-nitrogen, nitrite-nitrogen, ammonium nitrogen, total coliform, E. coli, and Enterococcus bacteria. Field parameters to be collected include dissolved oxygen, pH, temperature, turbidity, conductivity and instantaneous discharge, and alkalinity. The final purpose of this data is to afford a weather corrected comparison of pre and post treament means of parameters of interest to investigate water quality impacts of BMP implementation (Spooner-Claussen method).

Task 1: Third Cycle Monitoring in the greater Grand-Neosho Basin.

This project includes funding for the two years of monitoring in the greater Grand-Neosho Basin, constituting basin-cycle 1.3 (Table 1). In addition to the routine of 20 water quality samples, one fish collection, one habitat assessment, and four benthic macroinvertebrate samples, the program also includes a probabilistic monitoring

component. Fifty randomly chosen sites will be monitored once for water quality, habitat, and biological collections. The purpose of the probabilistic sampling is to make statistically qualified statements regarding the status of streams in these basins. OCC works with EPA-Corvallis on an annual basis to achieve the random draw of potential sites and follows approved protocols for probability-based sampling.

Table 1. Rotating Basin Monitoring Program (Previous Five Year Cycle to Date).

§319 (h) Grant Year	Basin and Monitoring Cycle (basin.cycle)	Basins Monitored	Monitoring Period Funded
FY 2005	1.2	Upper Canadian and Neosho basins	2 years
FY 2006	2.2	Cimarron and Upper Arkansas	2 years
FY 2007	3.2	Lower North Canadian, Lower Canadian, and Lower Arkansas	2 years
FY 2009	4.2	Washita and Upper Red basins	2 years
FY 2010	5.2	Lower Red	2 years
FY 2011	**1.3**	**Grand-Neosho Basin**	**2 years**

Task 2: Success Monitoring in Watersheds with Current and Past NPS Implementation Projects.

Watershed-scale implementation projects are ongoing in numerous priority watersheds across the State including the Illinois River, Eucha/Spavinaw, Thunderbird, North Canadian River, and Honey Creek (Grand Lake) through 319-funded and USDA Conservation Reserve Enhancement Programs. Water quality monitoring is being conducted as part of these programs and funding for supplies, equipment, travel, and sample analysis is covered under Rotating Basin and other project workplans.

This task will fund staff support and vehicle support to continue priority watershed monitoring associated with ongoing 319 implementation projects in the Illinois River (including CREP), Spavinaw, and Honey Creek watersheds. All other costs such as QAPP development, project reporting, supplies, laboratory contracts, and equipment will be funded under the specific implementation project workplan or under projects such as 2011-2012 Projects 2 and 6.

Task Schedule:

Subtask #	Description of Milestone	Due Date
3.1.1	Small Watershed Rotating Basin Monitoring Program Year 11 QAPP	Feb. 2011
3.1.2	Monitoring for routine physical and chemical parameters	May 2011 –April 2013
3.1.3	Biological and habitat collection	
	Fish and habitat – summer collections	May – Aug. '11 and '12
	Benthic invertebrates winter and summer collections	May 2011 – February 2013
3.1.4	Report on each stream summarizing watershed conditions, water quality and support status for	December 2013*

	incorporation in the State 319 and 305(b) reports	
3.2.2	Conduct continuous flow weighted and other sampling at autosampler sites in priority watershed projects. Analysis of these data will be included in pertinent project reports.	January 2011 – December 2011

*document committed to in this workplan, but drafting of said document will be paid for with FY 2013 workplan.

Deliverables:

Progress regarding all activities listed in this Work plan will be included in the State's 319 Semiannual and Annual Report of Activities to EPA. Other outputs are as follows:

Subtask #	Description	Due Date
3.1	Small Watershed Rotating Basin Monitoring Program Year 11 QAPP	Feb. 2011
3.1.4	Report on each stream summarizing watershed conditions, water quality and support status for incorporation in the State §319 and 305(b) reports	December 2013*

*document committed to in this workplan, but drafting of said document will be paid for with FY 2013 workplans.

Measures of Success:

1. A comprehensive database of reference conditions and intensive assessment of streams and a less detailed database of streams for habitat and field parameters. This data will be used by at least three agencies or other organizations for at least five different reporting purposes by September, 2015.
2. Verification or removal of 2010 303d listed streams in two basins. Impairments, as detected, will be listed on the 2012 and 2014 303(d) lists.
3. Continued improvements in water quality in 319 demonstration area priority watersheds.

Budget

This budget contains base funding for monitoring staff support (7 Water Quality Specialists, one Monitoring Coordinator, and seven summer interns). Funding for support staff to these efforts (including writers and data entry staff) is supplied by FY 2011 – FY 2012 Project 2 and similar projects to be submitted for FY2013 - FY2014 funding. This budget also contains supplies, contracts, and travel budgets that are necessary to collect data for Year eleven.

Project 3 activities are predicted to require an average of thirty-five percent of total permanent and intern OCC staff time or 20,200 of the 58,738 man-hours allocated under FY 2011-2012 projects 2-4 (table below).

Staff hours:

	Total	% of total time for FY 2011-2012 Projects 2-4
Water Quality Monitoring Coordinator	2080	100
Full- Time Water Quality Specialists (seven FT)	13,520	100
Water Quality Monitoring Interns (7 PT summer interns)	4600	100
Total Staff Time	**20,200**	**35**

Budget:

Component	State	Federal Total	Total
Total Salary	$0	$350,588	**$350,588**
Total Fringe	$0	$179,492	**$179,492**
Total IDC*	$0	$54,141	**$54,141**
Travel	$0	$25,000	**$25,000**
Equipment	$0	$25,000	**$25,000**
Supplies	$0	$40,000	**$40,000**
Contractual lab	$0	$334,612	**$334,612**
Motor Pool Contract**	$0	$70,000	**$70,000**
Storage and Staff Support at Creek, Hinton, and Cherokee County Conservation Districts	$0	$6,600	**$6,600**
Other	$0	$0	**$0**
Total Direct Costs	$0	$1,031,292	**$1,031,292**
Total Costs	**$0**	**$1,085,433**	**$1,085,433**

*- indirect costs are considered administrative costs. $500,158 is incremental monitoring costs and $585,275 is base monitoring costs.

**motor pool contract includes a one year lease of eight vehicles at a monthly rate to include maintenance and repair (engine and body), and gasoline. Monthly contract covers up to 1500 miles per month per vehicle average across the fleet. Mileage over 1500 miles is charged a flat fee per mile based on the type of vehicle.

Project: **4**

Agency: **Oklahoma Conservation Commission**

Project: **Statewide Blue Thumb Program- January 1, – December 31, 2011**

Blue Thumb (BT) is the water pollution education program of the Oklahoma Conservation Commission's Water Quality Division. Conservation Districts often serve as sponsors. Blue Thumb Programs count on volunteers to educate people about pollution prevention and stream health. The Blue Thumb Program is the primary means to address the NPS Management Program Short-term Goal Three:

> "Beginning in 1999, the State of Oklahoma will work to increase the existing coverage of water quality enhanced education programs by fifty percent for a statewide coverage of 100 percent by 2015. The NPS program will also spread these efforts to each of the top 10 priority watersheds..."

The BT program has been focused on growth since that time, reaching near 70% of its goal. Blue Thumb has been and continues to be active in over 50 counties statewide, with over 100 stream sites having been monitored by volunteers trained under the program (Figure 1). To ensure sustainability of program efforts, BT continues to focus on ways to support and improve existing programs based on the belief that stronger existing programs will offer a mechanism to encourage a more sustainable growth. Therefore, many efforts in the FY 2011 – 2012 BT workplans will focus on maintaining and improving existing programs.

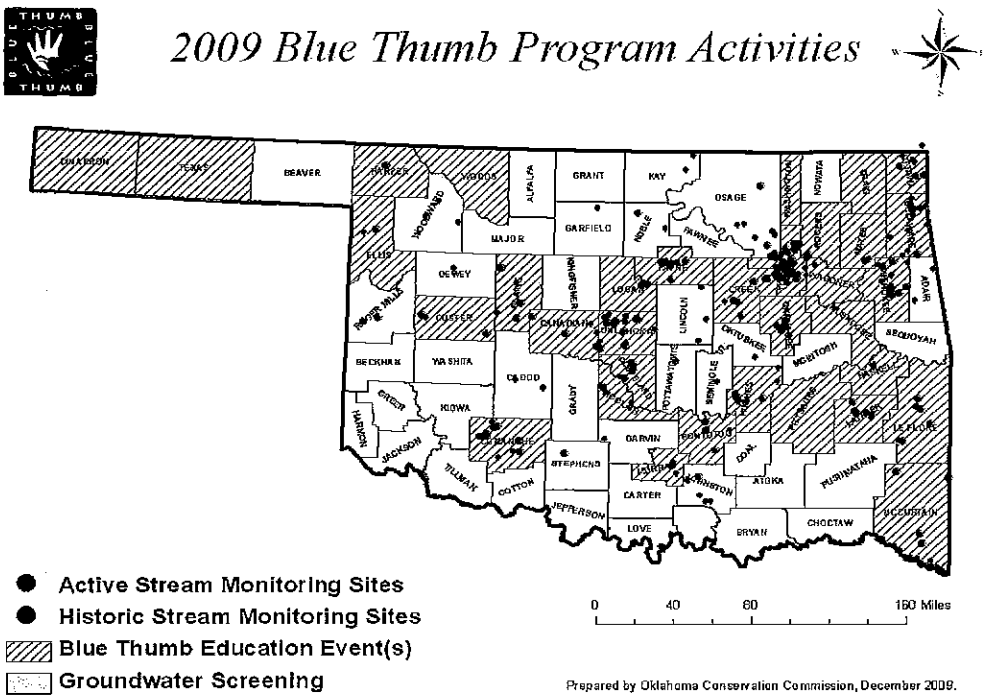

Figure 1. Map of BT Program Activities At End of CY 2009.

Subtask 4.1: **General Program Maintenance and Promotion Activities.** The Statewide Blue Thumb Program supports Conservation Districts, municipalities, other organizations, and volunteers as they protect local water resources through monitoring and education. With assistance from the Division, Blue Thumb staff will conduct activities necessary to maintain and promote the program to meet NPS management program goals between January 1 and December 31, 2011. This includes training sessions, data management, analysis and presentation (with assistance from OCC Technical Writers and Monitoring Director- paid for through FY 2011/2012 Projects 2 and 3), maintenance and distribution of monitoring kits and supplies, quality assurance sessions, distribution of curb-marking supplies, and numerous other activities. This also includes supervision and support of Priority Watershed Education Coordinators. The Statewide Blue Thumb program and staff are based primarily out of the Creek County Conservation District. Conservation Districts and partners such as the City of Tulsa provide significant support to the Blue Thumb program.

Volunteer monitoring is a fundamental component of the BT Program. Volunteers complete a rigorous training (generally 16+ hours spread out over 2 - 3 days) to be able to become certified volunteers. During this training, they learn the ins and outs of sampling methodology, use of volunteer kits for sample analysis, and related safety and procedural lessons. The training also provides background on NPS pollution, aquatic ecology, and best management practices. BT volunteers collect water quality data (temperature, dissolved oxygen, chloride, nitrate, ammonia, pH, orthophosphorus, discharge, and, in some cases, alkalinity, sulfate, fecal bacteria and pesticides (chlorpyrifos)) and ambient conditions such as temperature, cloud cover, etc. at least monthly at their designated sites. Benthic macroinvertebrate sampling is completed bi-annually at sites and fish collections are completed once every three to five years.

Data from BT volunteers is primarily used to educate volunteers and citizens about water quality and the principal factors contributing to stream health. However, the information is also used to varying degrees in NPS reports, the State's Integrated Report, and to supplement other efforts such as TMDL development, municipal monitoring for stormwater permits and other prioritization. Volunteer data can also be used to help document success of implementation efforts and has been used to report water quality standards violations to State and local agencies.

The BT Program encourages volunteers to evaluate their own data. Through data evaluation workshops, BT volunteers learn to compile, analyze and summarize the data they collect instead of BT Staff performing this work as it has been in the past. During these workshops, BT staff work with volunteers to complete actual data reports which are used by BT and the volunteers themselves to represent the issues to local citizens, authorities, and others regarding the current state of the resources they've monitored.

The BT Program is an important conduit between the OCC, the Conservation Districts, and the local citizens. In addition to its general role as an education program statewide, BT plays an important role in directing and implementing education in priority watershed projects. This includes everything from developing volunteer monitoring programs and

providing NPS education to producers, citizens and youth to directing the Education Watershed Advisory Group that helps decide what types of education should occur in the watershed and how best to reach the target audience. The BT program also participates in the Watershed Advisory Group meetings to help determine what practices should be implemented and at what rates they should be funded. In the future, as possible, BT may play a role in helping Conservation Districts set up the Watershed Advisory Groups by recommending BT volunteers who have shown appropriate strengths and backgrounds for the WAG.

To further support local resource conservation education, BT will offer $500 grants to 10 conservation districts this program year. The purpose of these grants is four-fold: (1) support of natural resource days with a water quality component, (2) assist with development or expansion of an outdoor classroom, (3) add a water quality element to an exhibit, scheduled tour, or open house, and (4) support a local science or ecology club.

A necessary component of any education program is the need to disseminate information and promote fundamental concepts supporting program goals. The BT program has been very successful in its current capacity to accomplish notoriety on behalf of water quality and conservation in Oklahoma. Blue Thumb seeks to expand its effectiveness in information delivery by purchasing basic video equipment and necessary software to produce effective media presentations for the web and social networking outlets. This equipment will also be used to document program activities and produce training videos for citizens and staff, among other activities.

One of the hallmarks of Blue Thumb and volunteer based WQ education in general has been the curb marking program. As an expansion to this concept, BT will provide signage assistance to cities (and possibly conservation districts) to educate the public about rain gardens, nature trails, changes to mowing/chemical application to protect water quality, and other conservation practices and features. Blue Thumb staff work diligently with cities and local government to promote concepts that have been adopted but lack advertisement necessary to promote their existence and substantiate their value to water quality.

Subtask 4.2: Statewide Watershed Education Events. Blue Thumb personnel will work with local sponsors and volunteers to plan watershed education events. These events will feature volunteer activities, conservation opportunities and assistance available through local agencies, and most importantly, data interpretation sessions with volunteers that help volunteers learn how to interpret their own data and provide information on the condition of the waterbodies in question. These programs include activities ranging from data collection, storage, and analysis to education events, promotions, and the formation of watershed protection groups.

Another role for Blue Thumb in Statewide Watershed Education Events is that of providing assistance to local citizens in watershed plan development. To date, most of the plans developed by the State of Oklahoma have been plans developed by agencies,

rather than watershed groups. The Blue Thumb Program could be an effective mechanism by which to increase the participation of local citizens in development of watershed plans.

Subtask 4.3: Groundwater Education/Screening Program for Western Oklahoma
Until the fall of 2000, Statewide Blue Thumb operated primarily to support stream monitoring. Although surface water monitoring remains the focus of BT volunteer monitoring efforts, interest in groundwater quality has grown across the state due to many factors ranging from drought conditions to new federal regulations such as the new limits associated with arsenic. Groundwater protection activities consist of a groundwater screening event that brings together agencies and groups with an interest in the environment. One activity is a fair with a booth from which local citizens can obtain a container for a water sample. Sample bottles are also handed out from conservation districts. Bottles come with instructions for sample collection and wellhead protection information. The sample is then returned to volunteers for testing at a designated time and place. A Blue Thumb Staff member or Blue Thumb volunteer with leadership training oversees volunteer training and water quality testing activities. Because monitoring is not performed frequently, the presence of a staff member is a critical part of the quality assurance process. Preparing presentations, exhibits, and promoting the event are accomplished much like the activities under watershed education above.

Groundwater screenings test alkalinity, sulfate, chloride, nitrate and pH. Data from groundwater screenings is explained to the well owner relative to the safety of their water supply, potential sources of any contamination observed, and precautions to take to help protect their well. Information about threatened or polluted wells is provided to the Conservation District who can then help the landowner hunt down likely sources and recommend protective BMPs. These analyses are **screenings**, so anytime the results suggest cause for concern (levels above or closely below water quality standards), the well owner is encouraged to contact a certified lab (county or state ODEQ office) about having the well professionally tested. Because these are screenings, information, while maintained in BT records, is not stored in the WQ database.

Subtask 4.4: Support to Cities for Urban NPS education and Low Impact Development

The Blue Thumb program provides support to cities to educate citizens concerning urban NPS issues. Activities such as curb marking, water quality education, and volunteer training serve to enlighten citizens regarding local water issues and things they can do at home to improve water quality.

In addition, there is increasing interest in "green" development and reducing water quality impacts from municipal areas through the adoption of the principles of low impact development. Cities such as Norman, Oklahoma City, Tulsa, and others are establishing "green" development task forces to consider modifications to their city

ordinances and stormwater management plans. Blue Thumb often receives requests to assist cities with this problem and is devoting increasingly more effort to this task.

The Blue Thumb Low Impact Development (LID) expert will:

- represent the NPS Program on such working groups and task forces
- continue development of some draft LID ordinances to offer as examples to interested communities
- offer trainings and make presentations on LID to interested groups, and
- remain updated on the latest developments in the field of LID.

Goals and Objectives:

The goals of the Statewide Blue Thumb program include:

- Promote the Blue Thumb Program throughout Oklahoma, particularly through conservation districts
- Organize and provide support to satellite programs
- Plan and participate in Blue Thumb volunteer training sessions
- Organize, promote, and participate in educational activities for satellite programs
- Schedule field activities and quality assurance sessions
- Continued monitoring of all current Statewide Blue Thumb sites
- Initiate monitoring program within at least two new areas, annually
- Initiate groundwater education/screening programs with Conservation Districts
- Generate data interpretations for groups with monitoring activities
- Work with local monitoring groups to plan watershed education events for people living within the watersheds of these streams
- Provide educational materials for loan (EnviroScape, groundwater model, videos)
- Cooperate with Conservation Districts to provide NPS Education events, develop EdWAGs and WAGs, and other activities associated with Priority Watershed Projects, to support Priority Watershed education personnel, as needed.

Because a major component of the Blue Thumb Program is dependant on volunteer monitoring, the Blue Thumb Program will maintain a rigorous quality assurance (QA) component to assure that volunteers are collecting data with known quality objectives. The Blue Thumb program QA officer will accomplish the following:

- Update the Blue Thumb Project QAPP as necessary to reflect changes in sites, monitoring schedules, etc.
- Conduct quality assurance sessions for monitoring volunteers and staff,
- Participate in Blue Thumb volunteer training,
- Lead field activities (fish and macroinvertebrate collections, habitat assessments),
- Oversee equipment and supplies,
- Manage Blue Thumb Data, and
- Distribute data to volunteers.

Subtask Schedule:

Subtask #	Description	Due Date
4.1.a	Hold at least five new volunteer training sessions across the State to both add new groups to the BT program and maintain and support existing groups	January – December 2011
4.1.b	BT staff will work with volunteer groups/individuals to complete data reports/interpretations for the streams on which fish collections have most recently been completed, and data has been received.	November - December 2011
4.1.c	Semi-annual Reports	January & July
4.1.d	Update and/or recertify Blue Thumb QAPP	June 2011
4.1.e	BT volunteers and/or staff will attend and present data or program activities at a minimum of two conferences	January – Dec. 2011
4.2	BT volunteers or staff will participate in or hold an average of at least five education events per month during the project period	Ongoing
4.3	Target at least two areas or Conservation Districts to Develop, hold, or otherwise participate in groundwater education/screening programs	January – December 2011
4.4	BT will work with at least two cities to begin the process of incorporating LID principles into their city code	Ongoing

Deliverables:

Output	Description	Completion Date
4.1.b	Cooperate with volunteers to generate annual data reports for BT groups that complete fish collections. Reports will be published to the web.	December 2011
4.1.c	Semi-Annual Progress Reports	January and July
4.1.d	Updated BT QAPP	June 2011
4.3	Blue Thumb Final Report summarizing program activities for FY 2011	December 2011

Measures of Success

Each Blue Thumb Program is established to meet locally identified environmental problems. Listed waterbodies (303d) within program areas will be targeted for volunteer monitoring as often as possible and education programs will include measures to address pollutants. Major environmental benefits cannot be reasonably expected as a result of a single project year. Longer-term benefits/goals of a Blue Thumb Program are streams fully supporting their beneficial uses. Because BT seeks to establish an informed citizenry that understands the causes and effects of NPS pollution, the program works at the local level to take action through education, programs, and citizens' complaints as well as local governmental actions. In several years the measures of success from such actions will be impressive. For the period January 1 through December 31, 2011, the following successes are anticipated:

1. Continuation of at least 75% of existing programs with active monitoring or other BT events. BT groups submit volunteer data monthly and QA sessions are scheduled quarterly for each monitoring group. In cases of lagging participation, BT will evaluate the vibrancy of programs on a semi-annual basis, associated with participation in QA sessions, etc. BT will work with the Conservation Districts and leadership volunteers to take steps to address lagging programs, which will be summarized in the semi-annual reports. In addition, we will attempt to compare reasons for the lag to determine whether or not programmatic changes need to occur. This aspect will be summarized in the final report.
2. Continue monitoring active BT stream sites and draft data reports on approximately five sites annually through the BT program
3. Blue Thumb Volunteers will staff exhibits/provide presentations to professional organizations at least twice.
4. The BT program will provide leadership and support to volunteers to use data reports as the base for at least two watershed events.
5. All subtasks and outputs will be met by the projected dates.

Budget

Project 4 activities are predicted to require an average of sixteen percent of total permanent OCC staff and intern time or 9,520 of the 58,738 man hours allocated under FY 2011/2012 projects 2-4. Support from OCC WQ personnel such as WQ Director, tech writers, data manager, etc. to complete such tasks are all provided for under 2011/2012 Project 2.

Personnel	Est. Man Hours per Subtask of Task 4				Total	% of total
	1	2	3	4		
Education Staff (4 FT)*	3,200	3,320	400	1,400	8,320	100
Education Staff (3 PT)*	800	400	0	0	1200	100
Total	**4,000**	**3,720**	**400**	**1,400**	**9,520**	**16**

* includes fulltime (FT) Statewide Blue Thumb Coordinator/Educational Program Supervisor, full time (FT) Blue Thumb QA officer, FT Blue Thumb Program Educator, FT Blue Thumb Low Impact Development Specialist, one part-time Blue Thumb Education Specialist and 2 summer interns (PT).

Project 4 Cost Estimates

Component	State	Federal	Total
Total Salary	$0	$ 186,723	**$ 186,723**
Total Fringe	$0	$ 88,307	**$ 88,307**
Total IDC*	$0	$26,482	**$26,482**
Travel	$0	$20,000	**$20,000**
Supplies	$0	$38,640	**$38,640**
Contractual lab	$0	$17,000	**$17,000**
Motor Pool Contract	$0	$30,000	**$30,000**
Conservation District Support Contract	$150,000	$16,000**	**$166,000**
Other	$0	$0	**$0**

Total	**$150,000**	**$423,152**	**$573,152**

*- indirect costs are considered administrative costs. $124,078 of salary, fringe, travel, supplies, etc. is incremental costs to support incremental programs. All other costs in Project 4 are considered base implementation costs.

**- Monies paid to Creek County Conservation District and Latimer County Conservation District for district support of the Blue Thumb personnel. Covers telephone, copying, office space, and related costs accrued by the District due to their support the Statewide Blue Thumb Program. Match provided by support from other BT Conservation Districts with active BT Programs.

Project: 5

Agency: Oklahoma Conservation Commission

Title: Lake Thunderbird Watershed Implementation Project, Phase II

INTRODUCTION:

Project Location:

Lake Thunderbird, in central Oklahoma, is a water supply reservoir for the cities of Norman, Del City, and Midwest City, which have a combined population of approximately 178,000. The Lake Thunderbird watershed covers approximately 258 square miles in Oklahoma and Cleveland Counties (Figure 1). The major tributary to Lake Thunderbird is the Little River, and other tributaries include Hog Creek, Clear Creek, Dave Blue Creek, Jim Blue Creek, Rock Creek, Moore Creek, Kitchen Creek, and Elm Creek. In addition, Lake Stanley Draper is located in the watershed.

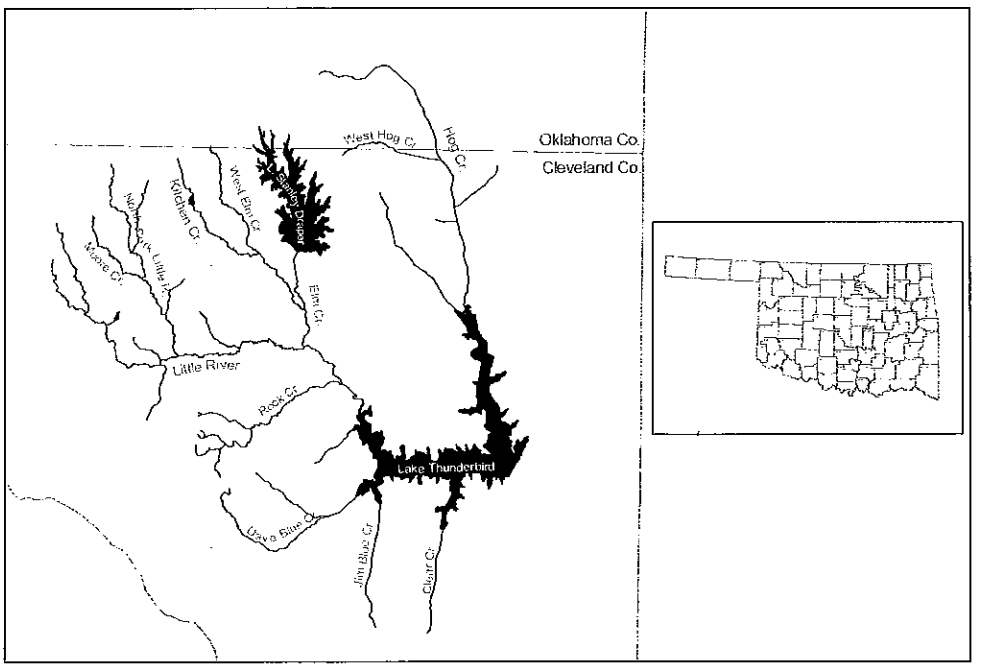

Figure 1. Lake Thunderbird Watershed.

Problem Statement

The Lake Thunderbird Watershed in central Oklahoma has a rapidly expanding urban component. The Lake is managed by the Central Oklahoma Master Conservancy District (COMCD), and serves as a water supply for Norman, Del City and Midwest City. The lake is also a major recreational resource for the area.

According to the Oklahoma Department of Environmental Quality (ODEQ) 2004 Integrated Report, Lake Thunderbird is not supporting its Fish and Wildlife Propagation (Warm Water Aquatic Community) designated use due to turbidity and low dissolved oxygen. Lake Stanley Draper is similarly impaired due to turbidity. Moore Creek is listed on the 2004 303(d) list as being impaired by chloride and total dissolved solids and not meeting its Agriculture designated use, and Elm Creek is not supporting its Primary Body Contact Recreation use due to impairment by pathogens, specifically *E. coli*. The excessive nutrient loading in the watershed and the resulting eutrophication of Lake Thunderbird is impacting the cities of Norman, Moore, and Del City which depend on the lake to supply drinking water and recreation. Significant taste and odor problems have been linked to eutrophication in the lake and led to complaints from water users.

In addition, the recent drought has resulted in significant lowering of the lake. A bathymetric survey of the lake completed by the Oklahoma Water Resources Board (OWRB) suggests that the lake has lost approximately 11% of its area and volume and mean depth has decreased approximately 22% since impoundment in 1966. Drought conditions and increasing water needs for the area increase the importance of protecting the water quality and storage capacity of the lake.

COMCD has been heavily focused on diagnosing and correcting water quality problems in the lake, and has cooperated with the OWRB to monitor water quality and implement some in-lake controls to address turbidity and eutrophication. Although the OWRB regularly monitors Lake Thunderbird as part of their Beneficial Use Monitoring Program, beginning in 2000, OWRB began working more closely with the COMCD to recommend management strategies for the lake and to conduct more intensive water quality monitoring. One recommendation of this collaboration was to upgrade the lakes aeration system to reduce algal productivity and reduce hypolimnetic anoxia. Another recommendation was to reduce shoreline erosion by reducing effective fetch and armoring eroding shoreline with natural materials.

However, the lake remains listed on the 303(d) list and although steps have been taken in portions of the watershed to limit new development, much of the watershed is expected to continue rapidly urbanizing. Several areas of the watershed are already developed to the level expected in the 2025 plan.

The City of Norman and the COMCD are both exploring options to limit water quality pollution to the lake. In 2005, the City of Norman approached the Oklahoma Conservation Commission for assistance with their stormwater master plan and protecting Lake Thunderbird. The OCC is cooperating with Norman on their stormwater Master Plan as part of a 104(b)(3) project. As part of a 2004 319 project, OCC worked

with Dr. Baxter Vieux of Vieux and Associates and with the University of Oklahoma to model the watershed and recommend load reductions necessary to meet beneficial use support in the lake. Dr. Vieux had previously modeled the watershed and had conducted recent water quality monitoring for the COMCD to help them predict some of the consequences of unregulated growth for the water supply reservoir.

The results of Dr. Vieux's modeling exercises suggest several things. The first of which is that metropolitan areas are well ahead of growth rates predicted in their 2025 plans. Secondly, although all portions of the lake, as represented by OWRB monitoring stations, violate water quality standards at various times, one station in particular is largely responsible for standards exceedences. Nutrient concentration and turbidity values are significantly higher at this station (upper Little River Arm) than in the remainder of the lake. This station is located upstream of a bridge and causeway which partially separate this arm from the main body of the lake.

The effect of this separation is an effective in-situ treatment or at least sedimentation of significant quantities of pollutants. Modeling of this arm to increase residence time and treatment capacity predicts significant decreases of nutrient concentrations and turbidity loading to the lake as well as reductions in standards violations. Vieux and Assoc. have recommended similar treatment wetlands in the upper end other tributary arms.

Finally, the Vieux and Associates model suggests subwatersheds where the most significant sources of loading exist. Not surprisingly, these subwatersheds are the most highly urbanized and urbanizing areas. The Vieux and Associates modeling also recognized that development that does occur in the watershed will need to be increasingly low-impact (LID) in order to protect the water resource.

Objective:

In 2008, the OCC and partners began a project to start addressing water quality issues resulting from the aggressive development by building LID capacity within the watershed through education and demonstration. Due to the timeline and budget for the total project, it was deemed appropriate to implement the effort in a phased approach. Through the initial phase, partners have accomplished many tasks, the highlights of which include conducting research of LID practices most applicable to the area, organizing/facilitating an LID workshop for area civic officials (to occur November), conducting all preliminary work necessary for development of the demonstration neighborhood, and beginning the construction phases of the project. This project will fund Phase II of the effort, continuing educational activities, completing construction, initializing monitoring, and conducting research regarding local wetlands as an option for stormwater treatment.

Overview:

This project will be managed by the OCC with oversight from the Office of the Secretary of Environment. Judith Wilkins, OCC's Environmental Projects Coordinator will be the

overall Project Manager although completion of individual tasks will be the responsibility of various individuals as detailed later. This project will fund Phase II or the remainder of the project activities up to three years with application of funds beginning January 2011.

To facilitate the majority of the tasks outlined in this workplan, OCC will again contract with the University of Oklahoma (Reid Coffman) who will act as the principal investigator and project coordinator for specific tasks outlined in the *Total Project Outputs* table (p 9). Dr. Coffman is an assistant professor with OU's Division of Landscape Architecture and is a recognized expert in ecological site design involving innovative stormwater techniques. He brings to the table an extensive association with other professors, experts, and professionals in his field (see Appendix 1), notable of which is one of the state's premier developers, Richard McKown. Richard is noted for incorporating and promoting LID stormwater BMPs in his designs. A recent example of his work was incorporation of extensive greenbelt and rain garden BMPs in a 125 ac development (Carrington Lakes) in the South Canadian River watershed of Norman. Richard's builder on this project, Zac Roach, is considering the "Green Professional Certification" offered by the National Association of Home Builders.

Potential sources in the watershed include both agricultural and urban areas. Agriculture in the watershed occurs largely in the form of small, urban ranchettes where landowners own 5-20 acres to keep a few horses or a small herd of cattle. Preliminary results from the Vieux and Associates model suggest that although these areas contribute some to overall loading, the most significant pollutant sources are found in rapidly urbanizing areas of the watershed. In addition, the small acreage size managed by the typical agricultural producer coupled with the respectively large number of small landowners adds significantly to the difficulty of significantly reducing loading from agricultural areas.

Therefore this project will focus on urban sources. Although a significant portion of the watershed is still in pasture and urban ranchette agriculture, very little of the watershed is not incorporated. Therefore, reduction of NPS from agricultural sources in the watershed might be best achieved through zoning requirements. OCC and partners will work with the watershed cities to recommend potential zoning changes.

~~This project was developed based on the nine key components of a watershed based plan. Although not all components of the WBP are addressed specifically in the workplan, it was developed to work toward the goals and activities outlined in the WBP.~~This project was developed as part of the Watershed Based Plan (WBP) accepted by EPA October 14, 2010. Since this project is a component of the overall WBP, it was developed based on the nine key elements of a WBP; however, not all nine elements are addressed in the project. Overall, the goals and activities of this project are outlined in the WBP.

Project Tasks:

Completion of the full-scale project will require five years. Due to this timeline and total budget for the project, it was deemed appropriate to implement the effort in a phased approach funded by two separate workplans. The bulk of the planning, design and construction activities are allocated under OCC's FY07/FY08 319(h) "Project 10". This workplan will fund the second phase of the project to complete education activities, evaluate wetland remediation, and complete monitoring programs begun under the initial workplan.

Task 10.1. Planning and Education

Task Description: The Thunderbird watershed encompasses parts of several different communities and as such, falls under the land use control of several jurisdictions (Figure 2). Different zoning designations and especially different subdivision regulations and building codes complicate the holistic management of stormwater mitigation strategies in the watershed. This task will assess current impediments to effective stormwater management that exist in community zoning ordinances, subdivision regulations, building codes and other land development ordinances that effectively prohibit principles and practices of Low Impact Development and BMPs for the project site. Examples of existing codes from nearby states supporting LID development and BMP implementation will be reviewed and compiled for educational purposes and as a critical reference to develop a model code for the City of Norman. Visits will occur with local officials and professionals through direct communication and meetings to educate them on how existing land development policies may contribute to the degradation of the watershed. The selected examples of existing codes will be presented to officials in Norman, Moore, Noble and Oklahoma City, Oklahoma and Cleveland Counties as well as Central Oklahoma Master Conservancy District (COMCD) and state agency officials.

After researching impediments, a model LID code will be written for the City of Norman with the intent of providing guidance on the planning, design and construction of new

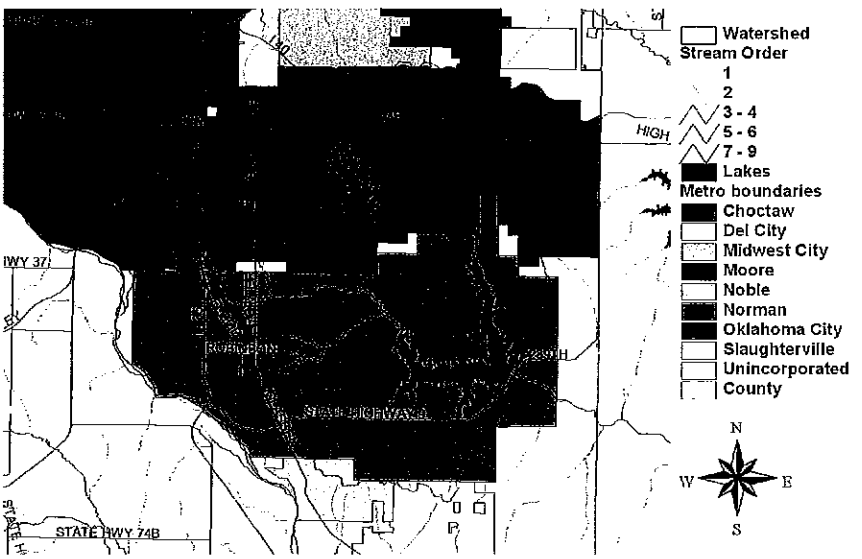

Figure 2. Municipal jurisdictions occurring over the Lake Thunderbird Watershed.

land developments. Coordination will occur with city officials in the appropriate departments including planning, public works, engineering and the parks and recreation department.

A day-long training program will be offered for civic officials in Oklahoma interested in LID techniques. The program will utilize the findings generated from the Norman demonstration project to present the pros and cons of different stormwater mitigation measures and discuss the costs and benefits of different techniques.

Task Schedule:

Subtask #	Milestone Description	Completion Date
10.1.2	Produce an informational report regarding impediments to LID in current regs, how different structural and nonstructural LID techniques are being used, and an assessment of effective LID BMPs applicable to this area of the state	September 2011
10.1.3	Draft a model LID code for City of Norman to be merged into existing subdivision regs that will also be adaptable to other communities in the state	September 2013
10.1.4	Organize and facilitate a LID training program for civic officials in OK utilizing findings from the Norman demonstration project to present pros and cons of the different stormwater mitigation techniques deployed	May 2014

Deliverables:

Output #	Deliverable	Due Date
10.1.2	Informational report	September 2011
10.1.3	Model LID code	September 2013

Task 10.2. Design and Construction of a Demonstration Neighborhood

Task 10.2.6. Construction Assessment

This task will assess the life cycle costs of the selected BMPs compared to the conventional design. Initially a review of the owner's project requirements (OPR) and designer's basis of design documents for the BMPs selected will occur. Based on the budgets and desired benefits identified at that time, the life cycle cost models will be developed. At the conclusion of design, comparisons of the design and cost estimates to the OPR will be assessed and the life cycle cost analysis will be modified accordingly. Following construction, the models will be modified with actual construction costs and updated benefit predictions. At the conclusion of the study the models would again be updated with as much actual benefit data as we are able to collect.

Task Schedule:

Subtask #	Description	Milestones
10.2.6a	Develop model to assess life cycle costs of selected BMPs compared to conventional design	December 2011
10.2.6b	Update life cycle cost models with actual benefit data realized at the conclusion of the project period	May 2014

Deliverables:

Output #	Description	Due Date
10.2.6a	Initial life cycle cost model and analysis report	December 2011
10.2.6b	Updated model and final analysis report	May 2014

Task 10.3. Monitoring

Task 10.3.2. Demonstration Project Monitoring

Collection of sufficient water quality and quantity data is critical to evaluation of success of LID BMPs. A robust suite of storm water quality parameters (standard physical parameters, nutrients, solids, metals, oxygen demand, oil, grease, herbicides and pesticides, etc.) will be necessary to fully evaluate the viability of LID BMPs and determine changes in storm water quantity amounts between the project subwatersheds. This task will comprise monitoring efforts to make these determinations.

To evaluate storm water quality and quantity differences between the two developments, the toe of each urban watershed will be instrumented with continuous flow monitoring systems (e.g., weirs or flumes with data-logging pressure transducers or bubblers), automatic flow-activated composite samplers, and tipping-bucket rain gauges. Composite storm water samples will be analyzed for physical parameters (e.g., pH, dissolved oxygen, temperature, specific conductance, etc.), total suspended solids, biochemical oxygen demand, total and dissolved reactive phosphorus, nitrate-nitrogen, ammonia-nitrogen, copper, lead, zinc, oil and grease, and selected common herbicides and pesticides. Suspended sediment concentration may be substituted for TSS if it is cost comparable. Storm hydrographs will be developed and evaluation will include calculation of runoff volumes, peak discharge, runoff depths, lag times, concentration changes, and area-adjusted mass loadings and exports. It is hypothesized that significant differences will be realized between the two watersheds.

Monitoring will occur upon approval of the Quality Assurance Project Plan (*will be completed under Project 10*) and will be accomplished with existing OCC and contractor equipment. Samples will be collected as soon as possible after an appropriate storm event, preserved as appropriate and transported to the contracted laboratories for

analysis. All analyses and sampling methods will follow U.S. EPA protocols and/or contractor Standard Operating Procedures.

Task Schedule:

Subtask #	Milestone Description	Due Date
10.3.2b	Perform analysis of monitoring data – One year post construction completion	December 2011
10.3.2c	Perform analysis of monitoring data – Two years post construction completion	December 2012
10.3.2d	Perform final analysis of monitoring data	May 2014

Deliverables:

Subtask #	Milestone Description	Due Date
10.3.2b	Initial Final Report of findings – Yr 1	December 2011
10.3.3c	Preliminary report of findings – Yr 2	December 2012
10.3.4d	Final report of findings	May 2014

Task 10.4. Wetland Treatment Study

Natural wetlands provide certain ecosystem services on which society places great value (e.g., storm water abatement, flood mitigation, water quality improvement). However, the great majority of natural wetlands have been converted to other uses and these ecosystem services have been subsequently lost. Therefore, created and restored wetlands (typically built to replace lost function and provide wildlife habitat) and treatment wetlands (designed and constructed specifically for water quality improvement) have become popular best management practices incorporated into watershed planning in recent years.

Because of the water quality improvement benefits they provide, incorporation of some type of treatment wetlands has been discussed in Lake Thunderbird watershed planning. For this task, the viability of wetlands as a best management practice will be evaluated. Four sub-tasks will be addressed.

First, a general analysis of historic wetland types in the watershed will be conducted (*will be completed under Project 10*). Based upon land use/land cover, topography and hydrology data, a determination of possible wetland implementation sites will be made. Second, large-scale wetland creation and restoration will be evaluated. Although these types of ecosystems are not considered 'treatment wetlands', they do provide water quality benefits, especially in disturbed or rapidly developing watersheds. This evaluation will focus on wetland development on the main stem of Lake Thunderbird feeder streams, e.g., the Little River Arm of the lake north of Alameda Street in Norman. The viability of large-scale wetland creation and restoration will be evaluated from multiple perspectives including technical, social and economic feasibility. The water quality benefits provided by these systems are often only one consideration of many when evaluating large land area transformations. Third, the possibility of targeted, small-scale storm water treatment wetlands will be evaluated. These on-site systems, in

residential or commercial areas or at particular lower-order tributary locations, are designed specifically to address storm water constituents. They are designed with a focus on water quality, so other ancillary benefits (e.g., habitat provision) are not a consideration in the evaluation process. Lastly, the information and data collected in sub-tasks 1-3 will be combined and collated into a decision matrix for the Lake Thunderbird watershed. The relative benefits of a small number of large created or restored wetlands lower in the watershed will be evaluated against installation of a large number of small targeted treatment wetlands higher in the watershed.

Task Schedule:

Subtask #	Milestone Description	Due Date
10.4c	Evaluation of creating large-scale treatment wetland on Little River Arm of T-Bird	June 2011
10.4d	Evaluation of small-scale storm water treatment wetlands	December 2011
10.4e	Development of decision matrix and final report	June 2012

Deliverables:

Output #	Description	Due Date
10.4e	Final report on wetland treatment study	December 2013

Total Project Outputs:

Output #	Description	Person Responsible	Due Date
10.1.2	Informational report	Contractor	September 2011
10.1.3	Model LID code	Contractor	September 2013
10.2.6a	Initial life cycle cost model and analysis report	Contractor	December 2011
10.2.6b	Updated model and final analysis report	Contractor	May 2014
10.3.1b	Update Thunderbird WBP to include ODEQ TMDL modeling results and recommendations	OCC	August 2011
10.3.2b	Initial Final Report of findings – Yr 1	OCC/Contractor	December 2011
10.3.3c	Preliminary report of findings – Yr 2	OCC/Contractor	December 2012
10.3.4d	Final report of findings	OCC/Contractor	May 2014
10.4e	Final report on wetland treatment study	Contractor	December 2013
	Semi-annual Reports	OCC/Contractor	July & January

Project Management:

This project will be managed by the Oklahoma Conservation Commission in cooperation with the Office of the Secretary of the Environment. The Oklahoma Conservation Commission will provide oversight for all project activities.

Project Duration:

The project in its entirety will comprise a total five year duration, ending December 2014. Although this includes activities funded under OCC FY07/FY08 319(h) Project 10, all elements of the project timeline are presented to facilitate understanding of project work-flow. ***(Project elements before the phase break (Figure 3) are being funded and are deliverable under the Project 10 workplan).***

Figure 3. Project phasing timeline.

Project Budget (Second Phase):

Object Class Categories	Federal	State	Total
a. Personnel	$0.00	$0.00	$0.00
b. Fringe Benefits	$0.00	$0.00	$0.00
c. Travel	$0.00	$0.00	$0.00
d. Equipment	$0.00	$0.00	$0.00
e. Supplies	$0.00	$0.00	$0.00
g. Contractual	$270,357.00	$180,238.00	$450,595.00
h. Other	$20,339.00	$13,559.00	*$33,898.00
i. Total Direct Charges (sum of 6a-6h)	$290,696.00	$193,797.00	$484,493.00
j. Indirect Charges	$0.00	$0.00	$0.00
k. TOTALS (sum of i and j)	$290,696.00	$193,797.00	$484,493.00

*These funds will be expended on additional LID work with other partners in the Thunderbird watershed outside the demonstration area. Detail will be provided as soon as plans become more developed.

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Contractual Budget (Second Phase):

CATEGORY		Federal	Contractor Provided Match	Total
Salaries				
	Faculty*	$36,437.00	$15,000.00	
	Grad Students	$110,330.00		
	Undergrad	$0.00		
	Fringe	$17,757.00		
Travel		$13,960.00		
Direct Costs				
	Materials	$25,000.00		
	Sub-contracts**	$0.00	$145,473.00	
	BMP Conference	$0.00		
	Tuition	$15,605.00	$19,765.00	
Indirect (26%)		$51,268.00		
TOTALS		$270,357.00	$180,238.00	$450,595.00

*Match from IQC course release time

**Match from Terra Verde Development, LTD, in-kind services

APPENDIX 1. CONTRACT PARTNERSHIIP AND ASSOCIATED ROLES

The Team

Reid Coffman, Principal Investigator and Project Coordinator, O.U.
Shanon Phillips, Director, Water Quality Division, OCC
Greg Kloxin, Assistant Director, Water Quality Division, OCC
Chris DuBois, Wetlands Coordinator, Water Quality Division, OCC
Judith Wilkins, Environmental Projects Coordinator, Water Quality Division, OCC
Bob Nairn, Co-investigator and Coordinator of Monitoring and Assessment, O.U.
Charles Warnken, Co-investigator and Coordinator of Planning and Education, O.U.
Richard McKown, Partnering Developer, Terra Verde Development LLC
Keith Strevett, Co-investigator for Assessment, O.U.
Geoff Canty, Partnering Watershed Specialist, Watershed Restoration Inc.
Dave Boeck, Co-investigator Architectural Specialist, O.U.
Bill McManus, Co-investigator Construction Specialist, O.U.
Kelly Coffman, Partnering Landscape Architect, Guernsey & Company
Karl Stickley, Partnering Engineer, Guernsey & Company
Oklahoma Institute for Quality Communities, Partnering Agency, O.U.
Center for Restoration of Ecosystems and Watersheds, Partner, O.U.
Planning Director Susan Conner, City of Norman, Partnering Agency

Reid Coffman, MLA PhD, Assistant Professor Division of Landscape Architecture, will act as principal investigator for the project. He is a recognized expert in ecological site design involving innovative stormwater techniques and has recently directed stormwater quality BMPs prototype installations within the Little River watershed in coordination with team member Richard McKown. He will oversee all aspects of the project from a contractor's role and operate as the lead individual for the site planning, design and construction phases.
Bob Nairn, PhD, Associate Professor School of Civil Engineering and Environmental Science and Director of the Center for Restoration of Ecosystems and Watersheds (CREW), will lead the investigation on water quality evaluation. He is expert in ecological engineering applications and pollutant removal for water quality improvement. He will oversee all water quality evaluation and monitoring.
Charlie Warnken, PhD, Assistant Professor of Regional and Community Planning and Director of the new Institute for Quality Communities, will lead the community planning and agency official education component for the project. He is expert in participatory planning and involved throughout Oklahoma in guiding sustainable community development practices.
Richard McKown, partner with Terra Verde Development LLC, will lead the construction implementation of the BMPs in a residential community within the watershed. Terra Verde is the land development partner to Ideal Homes. Ideal Homes is a local company that is national leader in sustainable initiatives including Energy Star, Zero Energy and LEED. He will provide the land area and coordinate the construction of the demonstration project.
Keith Strevett, Professor of Civil Engineering and Environmental Science, will provide support for the assessment and surface water quality work with CREW. His experience includes water quality modeling and field implementation studies; development of watershed management plans; non-point source water quality management; development of compliance strategies; development of water quality deterioration indicators; and natural channel design through fluvial geomorphology studies. He has previously worked for local agencies and as an external

consultant to provide experience in water quality model development with extensive knowledge of water quality and water quantity field methods

Geoff Canty, PhD Vice-President of Watershed Restoration Incorporated, will advise on water quality policy and environmental strategy.

Dave Boeck, RA, Associate Professor in the Division of Architecture, will support with architecture design services for the BMPs. He is a local architect involved in environmentally responsible residential design.

Bill McManus, Associate Professor in the Division of Construction Science, will advise on construction efficiencies and lead a life cycle cost analysis of the BMPs.

Kelly Coffman, Registered Landscape Architect and Environmental Planner, with C.H. Guernsey, will lead construction document creation. She is an expert on design and construction of environmentally sensitive projects involving landscape hydrology and plants in residential and public spaces in urban settings. She will create and supervise the project construction drawings and advise on implementation.

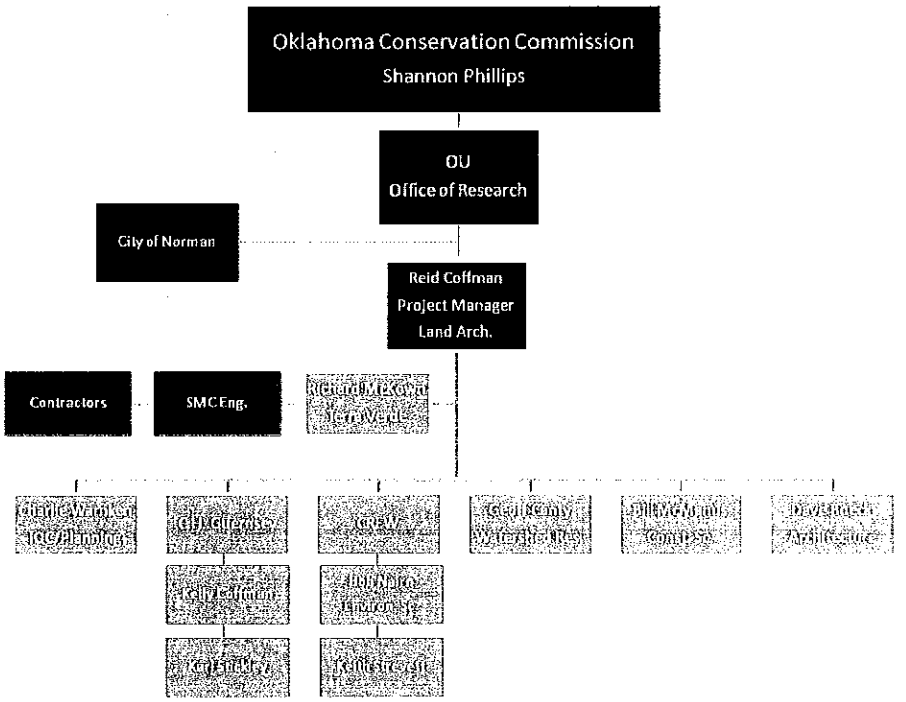
Karl Stickley, Professional Engineer with C.H. Guernsey, will provide input to specific BMP treatments for Guernsey and support the document creation. As a hydrology expert, he led previous surface water engineering projects incorporating structural best management practices.

The Oklahoma Institute for Quality Communities (IQC), part of the University of Oklahoma's College of Architecture, is a newly established applied research and public outreach center with a mission of providing education and training to civic officials across Oklahoma on community planning and development issues, of which water management- assessing the quality and quantity of water supplies and threats to these supplies- is a central theme of the IQC. The IQC is a vehicle with which to publicize the findings from the Norman demonstration project and disseminate these findings to other communities. Working with the Oklahoma Office of the Secretary of the Environment and the Oklahoma Municipal League (OML), the IQC will partner with select communities to provide training and education to those involved with land development in order to increase awareness about threats to surface water supplies and practical and effective LID techniques. The IQC will provide staffing support to coordinate the BMP education component for agency officials and faculty support for the development and dissemination of the design and planning material.

The Center for Restoration of Ecosystems and Watersheds (CREW) was founded at OU in Fall 2004 to address the need for holistic research on environmental impacts and the development of sustainable environmental remediation and restoration technologies. CREW research uses a systems perspective based on the premise that sustainable solutions require working with natural ecological and biogeochemical processes and not against them. Ecological engineering is emphasized – the design and construction of sustainable ecosystems that integrate human society with its natural environment for the benefit of both. Ecologically engineered systems are designed to require less fossil fuel input, produce less pollution and represent cost-effective alternatives to traditional energy- and resource-intensive technologies. CREW research is conducted on multiple scales (e.g., laboratory bench-top, microcosm, greenhouse and field) but specific ecosystem and watershed-scale demonstrations are emphasized with a current focus on solving mining-related environmental problems. For this project, CREW will provide leadership on the technical evaluation and determination of success of the BMPs implemented as part of the comparative watershed study. CREW will conduct all water quality and quantity monitoring and assessment in the paired watersheds as well as provide a feasibility study of the possible impacts of large-scale treatment wetland and/or wetland creation/restoration efforts in the watershed.

The City of Norman will act as a regulatory agency for the project, but is participating as a partnering agency that will provide periodic comment on planning and design issues.

Project Flow Chart:



Project: 6

Agency: Oklahoma Conservation Commission

Title: **FY 2011 - 2012 §319(h) Project 6 Oklahoma Conservation Commission Implementation of the NPS Management Program January – December 2012**

INTRODUCTION

Project Purpose: The purpose of this project is to provide staff support and funding to implement Oklahoma's Comprehensive Nonpoint Source Pollution Program, including planning, assessment, education, and implementation activities between January 1, and December 31, 2012.

Background: The mission of the NPS Program in Oklahoma is to conserve and improve water resources through assessment, planning, education, and implementation. In establishing an effective program to address NPS pollution, a hierarchy of tasks is followed to insure that a sound and pragmatic approach is undertaken. As outlined in the mission statement, there are four major components addressed in the Nonpoint Source Management Plan: Assessment, Planning, Education, and Implementation.

The NPS Management Plan establishes the short-term and long-term goals of the State's NPS program. The long-term goal of the program is:

By 2015, the State of Oklahoma's NPS Program will establish a State-approved Watershed Restoration Action Strategy, TMDL, or implementation plan (unless the original basis for listing a waterbody is no longer valid) to restore and maintain beneficial uses in all watersheds impacted by NPS pollution in the 1998 303(d) List. By 2020, the State will attain and maintain beneficial uses in waterbodies listed on the 1998 303(d) list as threatened or impaired by NPS pollution.

The five short-term goals established in the plan to work towards this long-term goal are:

- Follow the priorities established by the Unified Watershed Assessment, TMDL schedule, and the NPS Working Group to reduce NPS loading in the top ten priority watersheds to levels that allow for support of beneficial uses.
- Identify pollutant sources within watersheds listed on the 1998 303(d) list as threatened or impaired by NPS pollution. Completion of ten source assessments per year would translate to the completion of 150 within fifteen years, addressing most of streams on the 303(d) list.
- Increase the existing coverage of water quality enhanced education programs by fifty percent for a statewide coverage of 100 percent by 2015. These enhanced programs currently exist in approximately 41 of 77 or 53% of Oklahoma counties. The NPS program will also spread these efforts to each of the top 10 priority watersheds identified by the NPS Working Group.
- The State will draft ten Watershed Restoration Action Strategies (currently referred to as Watershed Based Plans) annually until 2015 to address the remaining Priority One UWA watersheds not addressed in Table 1, according to the priority established by the

NPS Working Group. This will equate to 150 WRASs (WBPs) drafted by 2015 or WRASs (WBPs) for all priority I watersheds as established by the UWA.

- The NPS program will work with other State and Federal programs to identify alternative sources of funding to target and implement practices to achieve the long-term goal of beneficial use attainment by 2020 based on implementation plans developed by the State.

These goals are primarily the responsibility of the OCC, although the Office of the Secretary of the Environment, the Oklahoma Water Resources Board, the Oklahoma Corporation Commission, the Oklahoma Department of Environmental Quality, the Oklahoma Department of Agriculture and other agencies all play substantial supporting roles. This project will work towards these goals by providing the staff[1], supplies, and equipment to do the work, setting the framework, goals, and milestones for the work to be done during FY2011-FY2012 (planning) and demonstrating BMPs in priority watersheds (implementation). Two major goals of the program, assessment and continuing to expand the Blue Thumb Program (education), are covered under additional FY 2011-2012 workplans.

Project Overview: This project will be conducted by the OCC with assistance from the Office of the Secretary of the Environment, Oklahoma Conservation Districts, and other agencies, as necessary. Activities will be completed statewide, unless otherwise specified, although a primary focus is in priority watersheds. These activities will be completed between January 1 and December 31, 2012.

Activities FY 2011 /2012 §319(h) Project 6. OCC Implementation of the NPS Management Program January - December 2012

The FY 2011-2012 OCC program is made up of five major tasks necessary to implement the June 2000 revision of the Section 319 Nonpoint Source Management Program and Assessment Report. These tasks follow the categories outlined in the mission statement of the program: planning, education, and implementation. Assessment and a considerable portion of education (BT) are funded under separate projects.

Task 1.	Administrative
Task 2.	Base Planning Programs
Task 3.	Base Program Education Activities
Task 4.	Base Implementation Programs

Task 1. OCC Administration

Description: This task includes twelve months of OCC administration of the 319 grant program including financial management, secretarial support, cooperation and coordination with other state and federal agencies, review of legislation and interaction with State legislators to encourage them to continue to support the NPS program, and other miscellaneous administrative duties necessary for maintenance of the program. The

[1] Descriptions of staff responsibilities are found in the current OCC Quality Management Plan, which is updated annually. An allocation of each staff member's time is specified under each task.

OCCWQ Division Director, WQ Cost Share and Finance Director, the OCC Grants Management Specialist, and the OCCWQ Executive Secretary will complete activities under this task.

All §319(h) federal monies must be matched at a 60:40 ratio by nonfederal funds, either through soft match, such as certain in-kind services, or hard match. Federal funds cannot be used to match §319(h) funds.

Goals/Objectives: To administer the NPS program to achieve meaningful, cost-effective outputs including reports, technical assistance, and BMP implementation that will provide timely implementation of the State's NPS Management Program between January and December 2012.

Subtask Scheduled Completion Dates or Milestones

Subtask #	Subtask Description	Date Due
6.1.1	Comprehensive Financial Management of Project Tasks- includes writing contracts with cooperators, processing invoices, requesting financial outlays, submitting reimbursement requests to OSE, preparing annual budgets, participating in state audits of federal funds, tracking grants, and holding fiscal meetings among OCC staff - completed by the WQ Programs Director and WQ Cost Share and Finance Director, and the OCC federal Grants Manager	ongoing
6.1.2	Employ an Executive Secretary - primary responsibilities include: expense tracking, typing and filing of all correspondence within the Water Quality Section; secretarial support to the Nonpoint Source Working Group; purchasing of supplies; functioning as the Section's receptionist; and many other duties as assigned.	1/1/12 – 12/31/12, ongoing
6.1.3	Miscellaneous administrative activities necessary to work towards the goals of the NPS Management Program. These tasks range from purchase and maintenance of equipment to tracking time spent on various projects. This also includes the maintenance of personnel matters. These tasks are the responsibilities of OCCWQ administrative staff.	1/1/12 – 12/31/12, ongoing

Deliverables

Output	Deliverable	Completion Date
6.1.1.a	Monthly reimbursement requests - **deliverable to OSE**	Monthly

Measures of Success

1. Maintain accounting records and budgets such that exceedances of the allowable 10% deviation from itemized budgets are reduced by 50% in monthly budget reviews completed by OSE.
2. Maintenance of correspondence and project-related paperwork such that all pertinent reports, correspondence, and miscellaneous paperwork can be found in electronic or paper files for at least 98% of the active OCC §319 projects.

3. Maintenance and Updates to the OCC Website such that at least 75% of approved reports and final outputs will be available via the internet for current and historical 319 projects.
4. Reduce unliquidated obligations to a level such that annual expenditures under the program equal or exceed annual funding levels.

Budget
Task 1 activities should consume an estimated total of 3,980 man-hours out of the total Projects 6, 7 & 8 man-hours of 58,738[2] or seven percent of the man-hours allocated to 2011-2012 projects (6-8). In other words, seven percent of OCC permanent staff and intern time is allocated towards Task One duties.

Personnel	Estimated Man Hours per Subtask of Task 1			Total Time	% of total time**
	1	2	3		
Grants Management Specialist	1,040		0	1,040	100
WQ Division Director	100	0	260	360	17
WQ Cost Share and Finance. Director	500	0	0	500	24
Executive Secretary	0	2080	0	2080	100
Total	**1,640**	**2,080**	**260**	**3,980**	**7**

**based on amount of time spent on this Project 6 task as compared to total time per year. Total time per year includes time spent under FY 2011 - 2012 Projects 6-8.

Task 1. Cost Estimates (Administrative costs - base funding)

	State	Federal	Total
Total Salary	$0	$87,598	**$87,598**
Total Fringe	$0	$38,218	**$38,218**
Total Indirect Costs	$0	$12,974	**$12,974**
Travel	$0	$0	**$0**
Supplies	$0	$0	**$0**
Motor Pool Contract	$0	$0	**$0**
Copier Contract	$0	$0	**$0**
Office Space Contract	$0	$2,000	**$2,000**
Total	**$0**	**$140,790**	**$140,790**

Task 2. Base Planning Programs

Description: Planning activities necessary to complete implementation of the State's NPS Management Program. This task is primarily the responsibility of the OCC water quality division. Within the division, primary responsibilities for completion of this task lie with the WQ Division Director, WQ Division Assistant Director, technical writers, WQ Cost Share and Finance Director, and the Environmental Projects Coordinator. Further delineation of

[2] 58,738 man hours, or 7,342 days times eight hours, is the total number of hours OCC permanent staff and interns will work as part of FY 2011 - 2012 Projects 6-8. This number includes paid holidays and paid leave.

responsibilities is shown under the subtask schedule. This task allows for public participation in the program through the activities of the NPS Working Group. Included under this task is a contract for legal services. The increasing numbers of lawsuits and increasing complexity of State and Federal statutes have made it beneficial to confer with legal counsel to insure that the program operates within the intent and limits of the statute, but also within the best-interests of the NPS program.

Goals/Objectives: To conduct statewide planning activities to implement the NPS program. To meet state and federal planning requirements such as the 303(d) List and the 319 Assessment Report and to plan statewide and watershed programs to remedy water quality problems during the FY 2011-FY 2012 project years between January and December, 2012. To allow the public to comment on and participate in the design of the State's NPS Program.

Subtask Schedule

Subtask #	Description	Due Date
6.2.1	Develop and update proposals and work plans for 319 and other funding sources for implementation of the NPS management program- responsibilities are the same as above	As needed
6.2.2	Represent OK at NPS & EPA meetings, workshops, conferences; cooperation and coordination with State and Federal agencies on NPS issues (as required by State law, and facilitated by the NPS Working Group and OSE), attending meetings as necessary for activities such as Total Maximum Daily Loads (TMDLs), education programs, coordination of monitoring programs, and coordination of implementation efforts. This is the responsibility of all OCC staff in their various capacities.	1/1/12 – 12/31/12, ongoing
6.2.3	Chair and coordinate the NPS working group. Plan and provide a venue and agenda for meetings. Post to members a summary of each meeting and conduct substantial communication through email and postal service correspondence. Chaired by OCCWQ Division Director, and many other OCCWQ staff share duties necessary to hold meetings and receive input from the working group.	Meet as necessary to update group on progress, review workplans, etc.
6.2.4	Represent the NPS Program on Oklahoma's Water Quality Monitoring Council- Completed by the Monitoring Director, WQ Assistant Director, and legal services	As needed
6.2.5	Support and review the development of Oklahoma's Water Quality Standards, Use Support Assessment Protocols, and biocriteria. OCC is mandated by state law to attend all OWQS hearings. Completed by the WQ Division Director, WQ Assistant Director, Monitoring Director, technical writers, and legal services	As needed
6.2.6	Participate in the TMDL working group and contribute to the next update of the integrated report. OCC will also review	As scheduled

	TMDLs for load allocations and will contribute, as necessary, to Watershed plans drafted by other agencies. Completed by the WQ Division Director, WQ Assistant Director, the Monitoring Director and the Technical Writers.	
6.2.7	Legislative Review- Participate in meetings and related efforts to further the goals of the NPS program. Provide recommendations to the Oklahoma Conservation Commission for consideration of changes to existing laws that will help further the mission and the efficiency of the NPS program. This is generally the responsibility of the OCC Executive Director, OCC Assistant Director, and the WQ Division Director, WQ Programs Senior Technical Writer, and the Monitoring Director.	1/1/12 – 12/31/12, ongoing
6.2.8	Update the state's NPS Management Plan as vetted through the NPS Working Group. Completed primarily by the WQ Division Director, WQ Assistant Director, WQ Programs Senior Technical Writer with assistance from other staff as required.	1/1/12 – 12/31/12, ongoing

Deliverables

Output #	Deliverable	Completion Date
6.2.1	319 workplan revisions	As needed
6.2.8	Updated NPS Management Plan	December 2012

Measures of Success

1. Conservation districts will have specific stream health information for planning conservation and prevention of NPS pollution. Ten of the eighty-eight Conservation Districts will utilize information summarized in OCC WQ reports or otherwise provided to them in their long-range plans.
2. Results from these planning efforts will be successful and efficient enough that at least sixty percent of the activities these planning efforts suggest will be drafted into 319 or other workplans or otherwise funded or completed by FY 2012.
3. Continued State legislative and monetary support for the NPS Program such that at least $1,000,000 is funded annually for the Locally-Led State Cost-Share Program and that at least, an additional $250,000 is funded annually for priority watershed projects. In addition, of the usual five or so legislative measures that the State legislature proposes each year that affect the NPS program, at least 3 of those will pass or fail relative to the best interests of the program.
4. Coordination with other State and Federal Agencies on NPS and water quality-related issues such that written notices of dissatisfaction, if any, regarding OCC's coordination with other agencies and groups is reduced by fifty percent.

Budget

Task 2 activities will require an estimated five percent of total OCCWQ permanent staff's and interns' man hours for FY 2011/2012 projects 6 - 8.

Personnel	Estimated Man Hours per Subtask of Task 2								Total	% of total time
	6.2.1	6.2.2	6.2.3	6.2.4	6.2.5	6.2.6	6.2.7	6.2.8		
Div. Director	8	480	20	50	50	30	160	20	818	39
Div. Asst. Director	260	380	20	20	20	20	60	60	840	40
Tech. Writers (4)	120	340	20	20	220	40	40	80	880	11
Env. Proj. Coor.	0	100	0	0	0	0	0	0	100	5
GIS Tech.	0	140	0	0	0	0	0	0	140	10
Cost Share and Finance Director	0	110	0	0	0	0	0	0	110	5
Total	**388**	**1550**	**60**	**90**	**290**	**90**	**260**	**160**	**2,888**	**5**

Task 2. Cost Estimates

Component	State	Federal	**Total**
Total Salary	$0	$83,603	**$83,603**
Total Fringe	$0	$36,727	**$36,727**
Total IDC*	$0	$16,551	**$16,551**
Travel	$0	$9,500	**$9,500**
Supplies	$0	$3,205	**$3,205**
Motor Pool Contract	$0	$1,493	**$1,493**
Copier Contract	$0	$1,700	**$1,700**
Office Space Contract	$0	$12,000	**$12,000**
Total	**$0**	**$164,779**	**$164,779**

*- indirect costs are considered administrative costs.
**All Task 6 are considered base implementation costs.

Task 3. Base Program Training Activities

Description:

As a group, the OCC staff is highly trained and knowledgeable. Various state agencies, tribes, districts and other groups routinely request information and training regarding monitoring methods, data analysis, fish identification, education programs, and various other topics. To maintain this level of training, it is important to continue training of our own staff through courses, seminars, conferences, etc. The purpose of this subtask is to provide training to outside parties as well as training within OCCWQ.

Subtask Schedule

Subtask #	Description	Due Date
6.3.1.a	Provide training and consultation as requested to outside agencies, tribes, groups, and other groups to include, but not limited to, annual fish school (fish Identification), biological collections, data analysis, project planning, monitoring design, aquatic ecology courses, implementation programs, and assistance with Blue Thumb Programs	December 2012
6.3.1.b	Acquire training for OCCWQ staff funded through this grant in topics related to the NPS program to include, but not limited to, GIS analysis, quality assurance, data analysis, monitoring methods, program planning, and aquatic ecology.	January – December 2012

Deliverables:

Output #	Deliverable	Completion Date
6.3.1.a	Summary report of trainings to outside entities and those attended by OCCWQ personnel	December 2012

Measures of Success

For the period January through December 2012, the following successes are anticipated:

1. OCC will share information and knowledge through trainings, general information sharing, document/procedure review, etc. on at least twelve occasions during the project period.
2. OCC staff will attend at least ten training events and will incorporate knowledge, techniques, and/or partnerships developed from at least four of those into its program.

Budget

Task 3 activities are predicted to require an average of one percent of total permanent OCC staff and intern allocated under FY 2011-2012 projects 6-8.

Personnel	Est. Man Hours per Subtask of Task 3		Total	% of total
	1	2		
Division Director	0	40	40	2
Div. Assistant Director	20	80	100	5
Tech. Writers (3)	160	280	440	5
Environmental Programs Coordinator	0	40	40	2
Cost Share and Finance Director	0	30	30	2
GIS Technician	40	40	80	6
Network Administrator	0	50	50	4
Data Manager	0	80	80	2
Total	**220**	**640**	**860**	**1**

Task 3. Cost Estimates

Component	State	Federal	Total
Total Salary	$0	$21,510	**$21,510**
Total Fringe	$0	$9,967	**$9,967**
Total IDC*	$0	$3,772	**$3,772**
Travel	$0	$6,000	**$6,000**
Supplies	$0	$954	**$954**
Motor Pool Contract	$0	$2,445	**$2,445**
Copier Contract	$0	$500	**$500**
Office Space Contract	$0	$2,000	**$2,000**
Total	**$0**	**$47,148**	**$47,148**

*- indirect costs are considered administrative costs. All other costs in Task 3 are considered base implementation costs.

Task 4. Implementation of NPS Management Program Activities.

Description: One year of staff support, supplies, travel, and miscellaneous costs necessary to support implementation of NPS Management Program Activities. The NPS Management Program has outlined numerous activities that must be implemented in a program to control NPS pollution. Activities include the NPS annual report, semiannual reporting, and management of current projects outlined in the NPS Program. This includes management of all 319 projects. Task 4 activities will be completed between January 1 and December 31, 2012. This task is responsible for taking the results of one mechanism of the program (planning) to the next level of implementation.

Subtask 6.4.1 Program Reports: Reports necessary to communicate progress at implementing the NPS Management Program. Includes the 319 NPS Annual Report, Monthly Reports to the Conservation Commissioners, and Legislative Reports as requested. This subtask is the responsibility of the Environmental Projects Coordinator and the Technical Writers. Support comes from the GIS technician, the Data Entry Clerk, and the WQ Assistant Director.

Subtask 6.4.2 Support for Quality Control Program: collection of quality data requires implementation of a quality control program. Some of the required quality control procedures are completed by the field staff during sample collection and schedule quality assurance sessions. Quality Assurance activities of field staff that coincide with this project period are covered under FY 11-12, Project 7. However, these activities must be supported by core staff, funded under this project. These tasks include generation of the QMP, updating and drafting QAPPs, reviewing data, and conducting the quarterly QA sessions. This subtask is the responsibility of the QA Officer, Technical Writers, the data manager, data entry clerk, and the WQ Assistant Director.

Subtask 6.4.3 Implementation program management: OCC will continue to manage all OCC 319(h) projects and Priority Watershed Projects and provide necessary staff support where needed to implement the activities and to complete the necessary reporting. This will include semiannual review, monitoring in priority watersheds, project implementation and oversight by OCC, drafting reports, updating watershed based plans, and oversight for contracts for implementation of each of the OCC's 319 (h) projects. This subtask is the

responsibility of the Environmental Projects Coordinator, and the WQ Division Director. Support is provided by the Monitoring Director, Water Quality Specialists, Data Entry Clerk, Data Manager, Financial and Cost-Share Director, WQ Division Assistant Director, and GIS Technician.

Subtask 6.4.4 Technical Transfer of NPS Control Information and Technology: To further NPS pollution control, the NPS Management Program describes several activities that serve to transfer new technology and to convey water quality data to the public. OCCWQ will make reports and other documents available to the public through the agency's website. As new NPS control technology becomes available, OCC will evaluate and adapt it to meet Oklahoma needs. Also included in this task are an infinite number of information requests from federal, state and local agencies, as well as private citizens. These requests include everything from raw data to entire reports from past projects to amalgamations of multiple reports. These information requests also include maps such as locations of impaired streams, reference streams, and information regarding the location of wetlands. Of course there are many requests for technical insight or assistance with a variety of issues. This subtask is primarily the responsibility of the Network Administrator, the WQ Assistant Director, GIS Specialist, technical writers, the Wetlands Programs Coordinator, the Environmental Programs Coordinator, the Data Manager, and the Data Entry Clerk.

Subtask 6.4.5 State Wide Implementation of NPS Controls: Numerous non-federally funded efforts are implemented to reduce NPS pollution in the State every year. Examples of these efforts include the OCC Locally-Led Cost-Share Program (legislative allocations for putting practices on the ground and paying of time and effort contributed by conservation districts to oversee the efforts), the Oklahoma Energy Resources Board Environmental Restoration Program, and countless cleanup days along State Roads, in parks, and along streams and waterways. In addition, every year a large number of landowners implement BMPs without cost-share assistance, simply because the practice can improve their land and protect its usefulness.

These efforts will be summarized to document the necessary match (in addition to that provided by State salaries, contractors, and district support) for this project. This match will be documented in reimbursement requests submitted to OSE, but will also be summarized in an end-of-project letter report. The following is a description of the basic types of Statewide BMP programs that will be used as sources of match for this grant.

OCC will implement a state funded program statewide for landowners to install best management practices to reduce NPS pollution and soil erosion. The purpose of the program by OCC rule OAC 155:20 1-1 is to provide financial assistance to land users identified as eligible for applying soil and water conservation or water quality best management practices. The program will function to demonstrate NPS controls and to promote voluntary implementation of NPS controls by adjacent landowners.

The Administrative Officer and State Cost-Share Coordinator manage this program. The Cost-Share Coordinator reviews the plans submitted to ensure that they are correct and meet the specifications of the program. The Administrative Officer oversees the overall program and corresponds with the 88 conservation districts, keeping them informed,

answering questions, collecting data and reporting on implementation, tracking allocations, and many other duties related to running such a large program.

The conservation districts implement the locally-led program, interacting with the landowners, and as necessary, with NRCS and other appropriate entities to draft the conservation plans necessary to implement the program. The conservation districts devote significant staff time to overseeing these programs. Districts also devote significant staff time to additional water quality efforts, ranging from education to long-range plan development. This time will be summarized to document match.

OCC has established a list of eligible cost-share conservation practices that will protect our soil and water natural resources. The OCC staff and Conservation Districts will plan and administer implementation of the approved practices. Cost share funds will be distributed through Conservation Districts according to OCC rules OAC 155:20. An accounting of the practices implemented, costs, and anticipated environmental benefits will be included in the 2011 and 2012 §319 Annual Reports and in a Federal Fiscal year report summarizing Statewide BMPs implemented with nonfederal monies.

The budgets for the FY 2011 - 2012 Projects 6 – 8 require $ 1,713,470 of nonfederal funds to match the federal FY 2012 319(h) funds. At least $1,435,174 will be implemented through non-federally funded best management practice implementation across the state.

The Oklahoma State Legislature has allocated funds to this locally led cost-share program for the past 12 years. These funds are matched at least 40% by the landowner, but often are matched closer to 50% or greater. Locally led and landowner match funds dispersed during the project period will be used to match the federal funds. Documentation and tracking of match is completed in such a manner as to insure that match is not double counted. For instance, Conservation District staff time devoted towards supporting the locally-led cost-share program will not be counted as match for priority watershed projects and vice-versa.

One of the most frequent causes for listings for beneficial use impairment in the 2002 Integrated Report is turbidity. Oklahoma has a long history of oil and gas production that, unfortunately, has resulted in many abandoned extraction and exploration sites that contribute sediment, salts, and hydrocarbons to area water resources. The Oklahoma Energy Resources Board (OERB) is responsible for remediation of environmental problems caused by orphaned exploration / production well sites in Oklahoma. The restoration is funded by a voluntary one-tenth of one percent assessment on the sale of oil and natural gas in Oklahoma. Any producer or royalty owner who does not wish to participate in the program can apply for a refund January 1 to March 31 each year. Historically, 95 percent of all OERB contributions remain in the fund.

Sites to be remediated are recommended by the Oklahoma Corporation Commission. At no cost to the landowner, the OERB activities include removing equipment, concrete, and trash, repairing erosion and saltwater "scars" left on the land, and removing hydrocarbon or other waste products. In 2002, approximately $3,538,877 worth of restoration activities were completed at over 1000 abandoned sites across the State. OCC will document

OERB restoration efforts in priority watersheds during this project period to supplement necessary match not provided by the OCC Locally-led Cost-share Program.

Oklahoma State agencies are required by State statute to cooperate with each other to protect and promote the general welfare of the environment and natural resources of the State. Therefore, a MOU is not necessary with OERB to provide this information. However, monies used to repair erosion and saltwater scars will be used as match. A letter report will document the type of repair, location, and date of completion of the activities that will be used as match.

In addition to OERB implementation and locally-led cost-share program implementation, OCC, the City of Tulsa, and the Oklahoma Scenic Rivers Commission have successfully acquired funding for a Conservation Reserve Enhancement Program (CREP) for the State of Oklahoma. Although federal USDA funding supports much of the implementation of riparian protection through the program, state funding is used to support the technical support staff that draft conservation plans and sell the program to watershed producers. This CREP project was pursued as a follow-up to 319 programs in the Eucha/Spavinaw and Illinois River Watersheds to extend the acreage of riparian protection supported through the 319 projects. OCC utilizes State funds to employ a CREP Coordinator. The CREP coordinator is responsible for annual reports on the CREP program for USDA. These reports summarize practice adoption, water quality monitoring results, and program successes and failures.

In addition, the state is in the process of applying for CREP programs in the Fort Cobb and Sugar Creek Watersheds in Caddo County, OK. The same matching fund structure from the state will be implemented to leverage USDA funds for these programs. The CREP coordinator will oversee these programs as well.

Two of the most significant potential sources of nonpoint source pollution the state are related to 1) excess surface application of animal waste (including poultry litter) for purposes of disposal and as a soil amendment and 2) traditional cultivation of cropland areas for row crop production. The OCC has undertaken many programs in the past to support strategies to reduce the impacts of these practices, ranging from soil testing, animal waste transport, education programs, and incentive programs to encourage application of best management practices related to these sources.

However, one limitation in implementing these programs has been the availability of equipment. For instance, although poultry litter may be less likely to cause water quality problems when applied to wheat fields in Garfield County as opposed to pasture land in Adair County, most Garfield County producers do not have access to a poultry litter spreader. The availability of no-till drills for conversion of conventional tillage to no-till production is another instance when availability of equipment severely limits the adoption of a particular best management practice.

In some areas of the State, Conservation Districts are able to provide equipment for lease to producers to help bridge this gap. However, because most Conservation Districts are severely limited in the amount of equipment they can purchase, many areas of the state cannot rely on Districts as a source of this equipment. Although the OCC is currently

pursuing funding from the State legislature for establishment of a revolving loan program to help Districts purchase equipment necessary for critical BMPs, that funding is not currently available.

Economic conditions related to high fuel prices, high fertilizer prices and many other factors favor the transport of poultry litter to non-poultry producing portions of the state and the conversion to no-till cultivation more than ever before, but without equipment, adoption of these practices will stall. Therefore, OCC proposes to use $30,000 to purchase either no-till drills or litter spreaders for Districts to implement these BMPs. It is anticipated this amount will help two districts purchase one of either type of equipment. The two districts chosen will be reimbursed 75% of the cost of the equipment. Districts will be selected based on a number of factors including appropriate use of the equipment, potential positive impacts on priority watersheds, and need.

Goals/Objectives: To implement the statewide and watershed activities outlined in the NPS Management Program.

Subtask Schedule

Subtask #	Description	Due Date
6.4.1.a	Annual 319 Report (for previous year's activities)	January 2012
6.4.1.c	Legislative Reports on NPS related concerns will be prepared if requested by the Oklahoma Legislature.	Due as directed
6.4.2	OCC will implement a quality assurance program for all data collection. Implementation of this program will insure data is of appropriate quality and consistency with project DQOs. This task will be the responsibility of the Senior Tech Writer/Quality Assurance Officer, the Data Manager, Data Entry Clerk, the WQ Assistant Director, and the technical writers.	January – December 2012
6.4.2.a	Quality Management Plan	October 2012
6.4.2.b	Quarterly Calibration - OCC will conduct calibration of all field meters and procedures as outlined in the QMP and project QAPPs	Quarterly
6.4.2.c	Annual field review of field procedures.	April 2012
6.4.2.d	Data management review and QA.	Ongoing
6.4.2.e	QA problem resolution.	Ongoing
6.4.2.f	Submission of updated OCC SOPs	June 2012
6.4.2.g	Updates as necessary of current QAPPs to address necessary changes	June 2012
6.4.3.a	Semiannual review of projects	January & July
6.4.3.b	Draft reports as necessary for each of the 319(h) Projects	As scheduled in work programs
6.4.3.c	OCC will provide oversight for implementation of each of its 319 (h) projects.	Ongoing
6.4.4	Support and explore developing technology through research, dissemination of information, reporting, and attendance/presentation at national conferences (6	Ongoing

	conferences per year)	
6.4.5.a	State cost share funds allocated	July 1, 2011
6.4.5.b	Conservation practices for the locally led Conservation Cost-Share Program approved by the Conservation Commissioners	Nov 2011
6.4.5.c	Funds available to conservation districts	January 1, 2012 – June 30, 2013
6.4.5.d	Annual Report on CREP program	December 2012

Deliverables

Subtask #	Description	Due Date
6.4.1.a	Annual 319 Report (for previous year's activities)	January 2012
6.4.2.a	Quality Management Plan	October 2012
6.4.2.f	Submission of updated OCC SOPs	June 2012
6.4.2.g	Letter Report documenting no necessary changes or updated QAPPs, as appropriate	June 2012
6.4.3.a	Semiannual reports	January and July
6.4.3.b	Project reports	As scheduled
6.4.5.d	Annual Report on CREP program-deliverable to USDA. Copies to EPA	December 2012

Measures of Success

1. Increase the number of reports and outputs delivered in a timely manner by 50%.
2. Implementation of NPS BMPs in Oklahoma's 303(d) listed watersheds to include at least:
    a. 20 critical area plantings
    b. 35 grassed waterways
    c. 100 alternate water supplies (ponds, tanks, etc.)
    d. 150 pasture or range management (seeding, planting, etc.)
    e. 20 terraces
    f. 300 abandoned oil and gas extraction/exploration sites remediated.
3. Reduction in the number of streams listed on the 303(d) list for sediment and nutrient-related causes by at least ten segments per year.
4. Less than five percent of the data collected during this period will be flagged in our database as being of limited use.

Budget

Task 4 activities are expected to consume 37 % of FY 2011 - 2012 Projects 6-8 man-hours.

Personnel	Estimated Man Hours per Subtask of Task 4						
	1	2	3	4	5	Total	% of total time
Division Director	108	0	696	48	10	862	41
Division Assist. Director	448	0	532	100	60	1,140	69
Data Manager	1540	0	0	460	0	2,000	96
Data Entry Clerk/Summer Intern (PT)	1300	0	0	0	0	1,300	100
Tech. Writers (4)	5740	280	720	260	0	7,000	84
Environmental Project Coordinator	790	0	1110	0	40	1,940	93
WQ Financial and Cost Share Director	160	0	1,180	0	100	1,440	69
GIS Technician.	400	0	400	330	50	1,180	84
Network Administrator	0	0	0	1100	0	1,100	96
State Cost Share Coordinator	0	0	0	0	1248	1,248	100
CREP Coordinator	0	0	0	0	2080	2,080	100
Total	**10,486**	**280**	**4,638**	**2,298**	**3,588**	**21,290**	**37**

Task 4 Cost Estimates

Component	State	Federal**	**Total**
Total Salary	$72,628	$406,171	**$478,799**
Total Fringe	$43,468	$184,330	**$227,798**
Total IDC*	$0	$69,578	**$69,578**
Travel	$2,000	$14,500	**$16,500**
Supplies	$3,000	$28,041	**$31,041**
Motor Pool Contract	$7,200	$11,062	**$18,262**
Statewide BMPs	~~$624,784~~1,465,307	$0	**~~$624,784~~1,465,307**
Equipment	$0	$35,500	**$35,500**
Copier Contract	$0	$5,720	**$5,720**
Office Space Contract	$0	$22,000	**$22,000**
Total	**~~$753,080~~1,593,603**	**$776,902**	**~~$1,529,982~~2,370,505**

*- indirect costs are considered administrative costs.
**$707,324 of salary, fringe, indirect costs, equipment, and contracts are incremental funds used to provide management and technical support of incrementally-funded priority watershed projects. All other task 4 costs are base funding.

Project 6 Outputs

Output #	Deliverable	Due Date
6.1.1.a	Monthly reimbursement requests - **deliverable to OSE**	Monthly
6.2.1	319 workplan revisions	As needed
6.2.8	Updated NPS Management Plan	December 2012
6.3.1.a	Combined summary report of trainings to outside entities and those attended by OCCWQ personnel	December 2012
6.4.1.a	Annual 319 Report (for previous year's activities)	January 2012
6.4.2.a	Quality Management Plan	October 2012
6.4.2.f	Submission of updated OCC SOPs	June 2012
6.4.2.g	Letter Report documenting no necessary changes or updated QAPPs, as appropriate	June 2012
6.4.3.a	Semiannual reports	January & July
6.4.3.b	Project reports	As scheduled
6.4.5.d	Annual Report on CREP program-deliverable to USDA. Copies to EPA	December 2012

ATTACHMENT

Project 6 master budget	Task 1	Task 2	Task 3	Task 4	Total State	Total Federal	Total
Total salary	$87,598	$83,603	$21,510	$478,799	$72,628	$598,882	**$671,510**
Total fringe	$38,218	$36,727	$9,967	$227,798	$43,468	$269,242	**$312,710**
Total IDC	$12,974	$16,551	$3,772	$69,578	$0	$102,875	**$102,875**
Travel	$0	$9,500	$6,000	$16,500	$2,000	$30,000	**$32,000**
Supplies	$0	$3,205	$954	$31,041	$3,000	$32,200	**$35,200**
Motor Pool contract	$0	$1,493	2,445	$18,262	$7,200	$15,000	**$22,200**
Other (Statewide BMPs)	$0	$0	$0	$1,465,307~~624,784~~	$1,465,307~~624,784~~	$0	**$1,465,307~~624,784~~**
Copier Contract	$0	$1,700	$500	$5,720	$0	$7,920	**$7,920**
Office space contract	$2,000	$12,000	$2,000	$22,000	$0	$38,000	**$38,000**
Equipment	$0	$0	$0	$35,500	$0	$35,500	**$35,500**
State Task Totals	**$0**	**$0**	**$0**	**~~$753,080~~1,593,603**	**~~$753,080~~1,593,603**		**~~$753,080~~1,593,603**
Federal Task Totals	**$140,790**	**$164,779**	**$47,148**	**$776,902**		**$1,129,619**	**$1,129,619**
OCC annual program support total:	**$140,790**	**$164,779**	**$47,148**	**~~$1,529,982~~2,370,505**	**~~$753,080~~1,593,603**	**$1,129,619**	**~~$1,882,699~~2,723,222**

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Project: 7

Agency: Oklahoma Conservation Commission

Title: **FY 2011-2012 319(h) Project 7 Ambient and Implementation Monitoring Program- Cycle 2.3**

INTRODUCTION

Project Purpose: The purpose of this project is to implement year twelve of the Rotating Basin Monitoring Program (RBMP) and continue monitoring efforts for the priority watershed projects. Implementation of the RBMP will allow for the assessment of the beneficial use support status of streams in the specified watersheds, the collection of information about nonpoint sources of pollution, and the evaluation of success of NPS implementation and education efforts by this and other programs. Implementation monitoring efforts will continue necessary data collection to evaluate water quality and other impacts of ongoing priority watershed implementation projects.

Background: The NPS Management Program Mission Statement specifies that monitoring is a necessary component of the program. Specifically, short-term goals one (priority watershed implementation), two (source identification), three (water quality enhanced education), and four (action strategies) all rely on monitoring as a critical step. Monitoring provides sound information to define where a program should concentrate remediation and education efforts. In the case of implementation monitoring, efforts provide the information necessary to evaluate the environmental impact of priority watershed project activities.

Project Overview: This project will be conducted by the OCC with assistance from the Office of the Secretary of the Environment, Oklahoma Conservation Districts, and other state, federal, and tribal entities, as necessary. Activities covered under this workplan include both statewide and priority watershed monitoring components.

This project will fund year 12 of the RBMP (second year of the third cycle of the program) and will continue efforts for ongoing priority watershed projects. Funding will provide staff support, laboratory contracts, motor vehicle contracts, travel costs, and supplies for two years of monitoring in the applicable basins to be monitored as part of RBMP year 12 and one year of activities for implementation projects. Monitoring will include physical, chemical, and biological sampling in accordance with DQO's outlined in the appropriate QAPP. Sample analysis will be contracted to the certified laboratories identified in OCC's Quality Management Program. Vehicle leases will be contracted with the Oklahoma State Motor pool. Management of these contracts by OCC will occur as outlined in OCC's Quality Management Program.

Goals and Objectives:
Ambient Program - Oklahoma committed to systematically identifying waters and watersheds threatened or impaired by NPS pollution based on OWQS at least every

five years through the year 2020. The specific action for identifying NPS threats and impairments is to monitor water quality and the integrity of the aquatic community and habitat in approximately 250 streams in the State through a rotating program lasting five years.

The objectives of this portion of OCC's program include providing the staff support, vehicles, laboratory analysis, supplies, contracting, and travel costs to:

- Identify NPS threatened and impaired waterbodies to give an accurate assessment of Oklahoma's water quality as affected by NPS pollution;
- Identify sources and causes of NPS pollution as well as land use and best management practices that prevent NPS pollution from threatening waterbodies;
- Gather needed data to more intensively assess streams where impairment is identified to verify the causes of impairment, identify categorical and geographical sources and to gather other data needed to allow planning restoration strategies;
- Check water bodies previously identified as affected by NPS pollution to determine if threats or impairment continue;
- Evaluate successes and failures of various controls, best management practices, and education programs aimed at improving and protecting water quality.

Implementation Program – Watershed-scale implementation projects are ongoing in numerous priority watersheds across the State including the Illinois River, Eucha/Spavinaw, Thunderbird, North Canadian River, and Honey Creek (Grand Lake) through 319-funded and USDA Conservation Reserve Enhancement Programs. OCC will continue to conduct routine physico-chemical, biological, and habitat monitoring in accordance with DQOs detailed in the EPA approved QAPPs for each project. These monitoring efforts are a continuation of monitoring conducted under previous implementation projects in the watershed.

The sampling regime includes the use of automated samplers to collect continuous, flow-weighted samples simultaneously at both treatement and control sites in accordance with EPA's paired watershed design. To focus on the parameters of concern, and to reduce monitoring expenses, water quality samples will be analyzed only for total phosphorus, nitrate-nitrogen, nitrite-nitrogen, ammonium nitrogen, total coliform, E. coli, and Enterococcus bacteria. Field parameters to be collected include dissolved oxygen, pH, temperature, turbidity, conductivity and instantaneous discharge, and alkalinity. The final purpose of this data is to afford a weather corrected comparison of pre and post treament means of parameters of interest to investigate water quality impacts of BMP implementation (Spooner-Claussen method).

Task 1: Third Cycle Monitoring in the Cimarron and Upper Arkansas Basins.

This project includes funding for the two years of monitoring in the Cimarron and Upper Arkansas Basins, constituting basin-cycle 2.3 (Table 1). In addition to the routine of 20 water quality samples, one fish collection, one habitat assessment, and four benthic macroinvertebrate samples, the program also includes a probabilistic monitoring

component. Fifty randomly chosen sites will be monitored once for water quality, habitat, and biological collections. The purpose of the probabilistic sampling is to make statistically qualified statements regarding the status of streams in these basins. OCC works with EPA-Corvallis on an annual basis to achieve the random draw of potential sites and follows approved protocols for probability-based sampling.

Table 1. Rotating Basin Monitoring Program (Previous Five Year Cycle to Date).

§319 (h) Grant Year	Basin and Monitoring Cycle (basin.cycle)	Basins Monitored	Monitoring Period Funded
FY 2005	1.2	Upper Canadian and Neosho basins	2 years
FY 2006	2.2	Cimarron and Upper Arkansas	2 years
FY 2007	3.2	Lower North Canadian, Lower Canadian, and Lower Arkansas	2 years
FY 2009	4.2	Washita and Upper Red basins	2 years
FY 2010	5.2	Lower Red	2 years
FY 2011	1.3	Grand-Neosho Basin	2 years
FY 2012	**2.3**	**Cimarron and Upper Arkansas basins**	**2 years**

Task 2: Success Monitoring in Watersheds with Current and Past NPS Implementation Projects.

Watershed-scale implementation projects are ongoing in numerous priority watersheds across the State including the Illinois River, Eucha/Spavinaw, Thunderbird, North Canadian River, and Honey Creek (Grand Lake) through 319-funded and USDA Conservation Reserve Enhancement Programs. Water quality monitoring is being conducted as part of these programs and funding for supplies, equipment, travel, and sample analysis is covered under Rotating Basin and other project workplans.

This task will fund staff support and vehicle support to continue priority watershed monitoring associated with ongoing 319 implementation projects in the Illinois River (including CREP), Spavinaw, Honey Creek and North Canadian watersheds. All other costs such as QAPP development, project reporting, supplies, laboratory contracts, and equipment will be funded under the specific implementation project workplan or under projects such as 2011-2012 Projects 2 and 6.

Task Schedule

Subtask #	Description of Milestone	Due Date
7.1.1	Small Watershed Rotating Basin Monitoring Program Year 12 QAPP	Feb. 2012
7.1.2	Monitoring for routine physical and chemical parameters	May 2012 –April 2014
7.1.3	Biological and habitat collection	
	Fish and habitat – summer collections	May – Aug. '12 and '13
	Benthic invertebrates winter and summer collections	May 2012 – February 2014
7.1.4	Report on each stream summarizing watershed conditions, water quality and support status for	December 2014*

	incorporation in the State 319 and 305(b) reports	
7.2.2	Conduct continuous flow weighted and other sampling at autosampler sites in priority watershed projects. Analysis of these data will be included in pertinent project reports.	January 2012 – December 2012

*document committed to in this Workplan, but drafting of said document will be paid for with FY 2014 workplan

Deliverables:

Progress regarding all activities listed in this Work plan will be included in the State's §319 Semiannual and Annual Report of Activities to EPA. Other outputs are as follows:

Output #	Description	Due Date
7.1	Small Watershed Rotating Basin Monitoring Program Cycle 2.3 QAPP	Feb. 2012
7.1.4	Report on each stream summarizing watershed conditions, water quality and support status for incorporation in the State 319 and 305(b) reports	December 2014*

*document committed to in this workplan, but drafting of said document will be paid for with FY 2014 workplan

Measures of Success:

1. A comprehensive database of reference conditions and intensive assessment of streams and a less detailed database of streams for habitat and field parameters. This data will be used by at least three agencies or other organizations for at least five different reporting purposes by September, 2015.
2. Verification or removal of 2010 303d listed streams in two basins. Impairments, as detected, will be listed on the 2012 and 2014 303(d) lists.
3. Continued improvements in water quality in 319 demonstration area priority watersheds.

Budget

This budget contains base funding for monitoring staff support (7 Water Quality Specialists, one Monitoring Coordinator, and seven summer interns). Funding for support staff for these efforts (including writers and data entry staff) is supplied by FY 2011 – FY 2012 Project 6 and similar projects to be submitted for FY2013 - FY2014 funding. This budget also contains supplies, contracts, and travel budgets that are necessary to collect data for year twelve.

Project 7 activities are predicted to require an average of thirty-five percent of total permanent and intern OCC staff time or 20,200 of the 58,738 man-hours allocated under FY 2011-2012 projects 6-8 (table below).

Staff hours:

	Total	% of total time for FY 2011-2012 Projects 6-8
Water Quality Monitoring Coordinator	2080	100
Full- Time Water Quality Specialists (seven FT)	13,520	100
Water Quality Monitoring Interns (7 PT summer interns)	4600	100
Total Staff Time	**20,200**	**35**

Budget:

Component	State	Federal Total	Total
Total Salary	$0	$350,588	**$350,588**
Total Fringe	$0	$179,492	**$179,492**
Total IDC*	$0	$54,141	**$54,141**
Travel	$0	$25,000	**$25,000**
Equipment	$0	$0	**$0**
Supplies	$0	$40,000	**$40,000**
Contractual lab	$0	$334,612	**$334,612**
Motor Pool Contract**	$0	$70,000	**$70,000**
Storage and Staff Support at Creek, Hinton, and Cherokee County Conservation Districts	$0	$6,600	**$6,600**
Other	$0	$0	**$0**
Total Direct Costs		$1,006,292	**$1,006,292**
Total Costs	**$0**	**$1,060,433**	**$1,060,433**

*- indirect costs are considered administrative costs. $401,047 is incremental monitoring costs and $659,386 is base monitoring costs.

**motor pool contract includes a one year lease of eight vehicles at a monthly rate to include maintenance and repair (engine and body), and gasoline. Monthly contract covers up to 1500 miles per month per vehicle average across the fleet. Mileage over 1500 miles is charged a flat fee per mile based on the type of vehicle.

Project: 8

Agency: Oklahoma Conservation Commission

Project: Statewide Blue Thumb Program- January 1, – December 31, 2012

Blue Thumb (BT) is the water pollution education program of the Oklahoma Conservation Commission's Water Quality Division. Conservation Districts often serve as sponsors. Blue Thumb Programs count on volunteers to educate people about pollution prevention and stream health. The Blue Thumb Program is the primary means to address the NPS Management Program Short-term Goal Three:

> "Beginning in 1999, the State of Oklahoma will work to increase the existing coverage of water quality enhanced education programs by fifty percent for a statewide coverage of 100 percent by 2015. The NPS program will also spread these efforts to each of the top 10 priority watersheds..."

The BT program has been focused on growth since that time, reaching near 70% of its goal. Blue Thumb has been and continues to be active in over 50 counties statewide, with over 100 stream sites having been monitored by volunteers trained under the program (Figure 1). To ensure sustainability of program efforts, BT continues to focus on ways to support and improve existing programs based on the belief that stronger existing programs will offer a mechanism to encourage a more sustainable growth. Therefore, many efforts in the FY 2011 – 2012 BT workplans will focus on maintaining and improving existing programs.

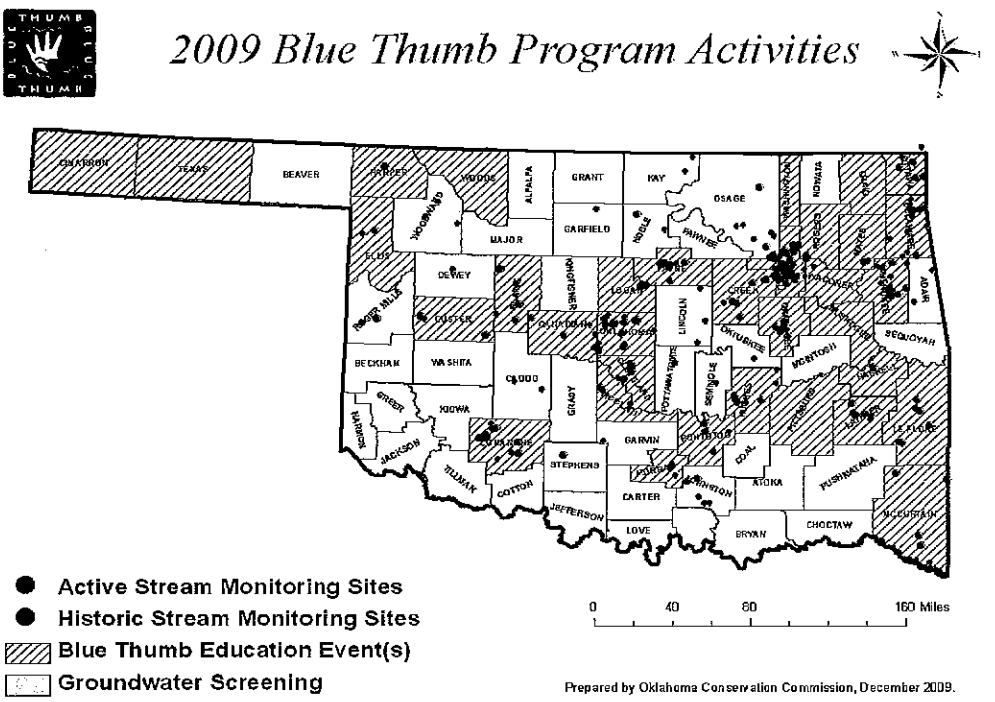

Figure 1. Map of BT Program Activities At End of CY 2009.

Subtask 8.1: General Program Maintenance and Promotion Activities. The Statewide Blue Thumb Program supports Conservation Districts, municipalities, other organizations, and volunteers as they protect local water resources through monitoring and education. With assistance from the Division, Blue Thumb staff will conduct activities necessary to maintain and promote the program to meet NPS management program goals between January 1 and December 31, 2012. This includes training sessions, data management, analysis and presentation (with assistance from OCC Technical Writers and Monitoring Director- paid for through FY 2011/2012 Projects 6 and 7), maintenance and distribution of monitoring kits and supplies, quality assurance sessions, distribution of curb-marking supplies, and numerous other activities. This also includes supervision and support of Priority Watershed Education Coordinators. The Statewide Blue Thumb program and staff are based primarily out of the Creek County Conservation District. Conservation Districts and partners such as the City of Tulsa provide significant support to the Blue Thumb program.

Volunteer monitoring is a fundamental component of the BT Program. Volunteers complete a rigorous training (generally 16+ hours spread out over 2 - 3 days) to be able to become certified volunteers. During this training, they learn the ins and outs of sampling methodology, use of volunteer kits for sample analysis, and related safety and procedural lessons. The training also provides background on NPS pollution, aquatic ecology, and best management practices. BT volunteers collect water quality data (temperature, dissolved oxygen, chloride, nitrate, ammonia, pH, orthophosphorus, discharge, and, in some cases, alkalinity, sulfate, fecal bacteria and pesticides (chlorpyrifos)) and ambient conditions such as temperature, cloud cover, etc. at least monthly at their designated sites. Benthic macroinvertebrate sampling is completed bi-annually at sites and fish collections are completed once every three to five years.

Data from BT volunteers is primarily used to educate volunteers and citizens about water quality and the principal factors contributing to stream health. However, the information is also used to varying degrees in NPS reports, the State's Integrated Report, and to supplement other efforts such as TMDL development, municipal monitoring for stormwater permits and other prioritization. Volunteer data can also be used to help document success of implementation efforts and has been used to report water quality standards violations to State and local agencies.

The BT Program encourages volunteers to evaluate their own data. Through data evaluation workshops, BT volunteers learn to compile, analyze and summarize the data they collect instead of BT Staff performing this work as it has been in the past. During these workshops, BT staff work with volunteers to complete actual data reports which are used by BT and the volunteers themselves to represent the issues to local citizens, authorities, and others regarding the current state of the resources they've monitored.

The BT Program is an important conduit between the OCC, the Conservation Districts, and the local citizens. In addition to its general role as an education program statewide, BT plays an important role in directing and implementing education in priority watershed projects. This includes everything from developing volunteer monitoring programs and

providing NPS education to producers, citizens and youth to directing the Education Watershed Advisory Group that helps decide what types of education should occur in the watershed and how best to reach the target audience. The BT program also participates in the Watershed Advisory Group meetings to help determine what practices should be implemented and at what rates they should be funded. In the future, as possible, BT may play a role in helping Conservation Districts set up the Watershed Advisory Groups by recommending BT volunteers who have shown appropriate strengths and backgrounds for the WAG.

To further support local resource conservation education, BT will offer $500 grants to 10 conservation districts this program year. The purpose of these grants is four-fold: (1) support of natural resource days with a water quality component, (2) assist with development or expansion of an outdoor classroom, (3) add a water quality element to an exhibit, scheduled tour, or open house, and (4) support a local science or ecology club.

A necessary component of any education program is the need to disseminate information and promote fundamental concepts supporting program goals. The BT program has been very successful in its current capacity to accomplish notoriety on behalf of water quality and conservation in Oklahoma. Blue Thumb seeks to expand its effectiveness in information delivery by purchasing basic video equipment and necessary software to produce effective media presentations for the web and social networking outlets. This equipment will also be used to document program activities and produce training videos for citizens and staff, among other activities.

One of the hallmarks of Blue Thumb and volunteer based WQ education in general has been the curb marking program. As an expansion to this concept, BT will provide signage assistance to cities (and possibly conservation districts) to educate the public about rain gardens, nature trails, changes to mowing/chemical application to protect water quality, and other conservation practices and features. Blue Thumb staff work diligently with cities and local government to promote concepts that have been adopted but lack advertisement necessary to promote their existence and substantiate their value to water quality.

Subtask 8.2: Statewide Watershed Education Events. Blue Thumb personnel will work with local sponsors and volunteers to plan watershed education events. These events will feature volunteer activities, conservation opportunities and assistance available through local agencies, and most importantly, data interpretation sessions with volunteers that help volunteers learn how to interpret their own data and provide information on the condition of the waterbodies in question. These programs include activities ranging from data collection, storage, and analysis to education events, promotions, and the formation of watershed protection groups.

Another role for Blue Thumb in Statewide Watershed Education Events is that of providing assistance to local citizens in watershed plan development. To date, most of the plans developed by the State of Oklahoma have been plans developed by agencies,

rather than watershed groups. The Blue Thumb Program could be an effective mechanism by which to increase the participation of local citizens in development of watershed plans.

Subtask 8.3: Groundwater Education/Screening Program for Western Oklahoma
Until the fall of 2000, Statewide Blue Thumb operated primarily to support stream monitoring. Although surface water monitoring remains the focus of BT volunteer monitoring efforts, interest in groundwater quality has grown across the state due to many factors ranging from drought conditions to new federal regulations such as the new limits associated with arsenic. Groundwater protection activities consist of a groundwater screening event that brings together agencies and groups with an interest in the environment. One activity is a fair with a booth from which local citizens can obtain a container for a water sample. Sample bottles are also handed out from conservation districts. Bottles come with instructions for sample collection and wellhead protection information. The sample is then returned to volunteers for testing at a designated time and place. A Blue Thumb Staff member or Blue Thumb volunteer with leadership training oversees volunteer training and water quality testing activities. Because monitoring is not performed frequently, the presence of a staff member is a critical part of the quality assurance process. Preparing presentations, exhibits, and promoting the event are accomplished much like the activities under watershed education above.

Groundwater screenings test alkalinity, sulfate, chloride, nitrate and pH. Data from groundwater screenings is explained to the well owner relative to the safety of their water supply, potential sources of any contamination observed, and precautions to take to help protect their well. Information about threatened or polluted wells is provided to the Conservation District who can then help the landowner hunt down likely sources and recommend protective BMPs. These analyses are **screenings**, so anytime the results suggest cause for concern (levels above or closely below water quality standards), the well owner is encouraged to contact a certified lab (county or state ODEQ office) about having the well professionally tested. Because these are screenings, information, while maintained in BT records, is not stored in the WQ database.

Subtask 8.4: Support to Cities for Urban NPS education and Low Impact Development

The Blue Thumb program provides support to cities to educate citizens concerning urban NPS issues. Activities such as curb marking, water quality education, and volunteer training serve to enlighten citizens regarding local water issues and things they can do at home to improve water quality.

In addition, there is increasing interest in "green" development and reducing water quality impacts from municipal areas through the adoption of the principles of low impact development. Cities such as Norman, Oklahoma City, Tulsa, and others are establishing "green" development task forces to consider modifications to their city

ordinances and stormwater management plans. Blue Thumb often receives requests to assist cities with this problem and is devoting increasingly more effort to this task.

The Blue Thumb Low Impact Development (LID) expert will:

- represent the NPS Program on such working groups and task forces
- continue development of some draft LID ordinances to offer as examples to interested communities
- offer trainings and make presentations on LID to interested groups, and
- remain updated on the latest developments in the field of LID.

Goals and Objectives:

The goals of the Statewide Blue Thumb program include:

- Promote the Blue Thumb Program throughout Oklahoma, particularly through conservation districts
- Organize and provide support to satellite programs
- Plan and participate in Blue Thumb volunteer training sessions
- Organize, promote, and participate in educational activities for satellite programs
- Schedule field activities and quality assurance sessions
- Continued monitoring of all current Statewide Blue Thumb sites
- Initiate monitoring program within at least two new areas, annually
- Initiate groundwater education/screening programs with Conservation Districts
- Generate data interpretations for groups with monitoring activities
- Work with local monitoring groups to plan watershed education events for people living within the watersheds of these streams
- Provide educational materials for loan (EnviroScape, groundwater model, videos)
- Cooperate with Conservation Districts to provide NPS Education events, develop EdWAGs and WAGs, and other activities associated with Priority Watershed Projects, to support Priority Watershed education personnel, as needed.

Because a major component of the Blue Thumb Program is dependant on volunteer monitoring, the Blue Thumb Program will maintain a rigorous quality assurance (QA) component to assure that volunteers are collecting data with known quality objectives. The Blue Thumb program QA officer will accomplish the following:

- Update the Blue Thumb Project QAPP as necessary to reflect changes in sites, monitoring schedules, etc.
- Conduct quality assurance sessions for monitoring volunteers and staff,
- Participate in Blue Thumb volunteer training,
- Lead field activities (fish and macroinvertebrate collections, habitat assessments),
- Oversee equipment and supplies
- Manage Blue Thumb Data, and
- Distribute data to volunteers.

Subtask Schedule:

Subtask #	Description	Due Date
8.1.a	Hold at least five new volunteer training sessions across the State to both add new groups to the BT program and maintain and support existing groups	January – December 2012
8.1.b	BT staff will work with volunteer groups/individuals to complete data reports/interpretations for the streams on which fish collections have most recently been completed, and data has been received.	November - December 2012
8.1.c	Semi-annual Reports	January and July
8.1.d	Update and/or recertify Blue Thumb QAPP	June 2012
8.1.e	BT volunteers and/or staff will attend and present data or program activities at a minimum of two conferences	January – December 2012
8.2	BT volunteers or staff will participate in or hold an average of at least five education events per month during the project period	Ongoing
8.3	Target at least two areas or Conservation Districts to Develop, hold, or otherwise participate in groundwater education/screening programs	January – December 2012
8.4	BT will work with at least two cities to begin the process of incorporating LID principles into their city code	Ongoing

Deliverables:

Output #	Description	Completion Date
8.1.b	Cooperate with volunteers to generate annual data reports for BT groups that complete fish collections. Reports will be published to the web.	December 2012
8.1.c	Semi-Annual Progress Reports	January & July
8.1.d	Updated BT QAPP	June 2012
8.3	Blue Thumb Final Report summarizing program activities for FY 2012	December 2012

Measures of Success

Each Blue Thumb Program is established to meet locally identified environmental problems. Listed waterbodies (303d) within program areas will be targeted for volunteer monitoring as often as possible and education programs will include measures to address pollutants. Major environmental benefits cannot be reasonably expected as a result of a single project year. Longer-term benefits/goals of a Blue Thumb Program are streams fully supporting their beneficial uses. Because BT seeks to establish an informed citizenry that understands the causes and effects of NPS pollution, the program works at the local level to take action through education, programs, and citizens' complaints as well as local governmental actions. In several years the measures of success from such actions will be impressive. For the period January 1 through December 31, 2012, the following successes are anticipated:

1. Continuation of at least 75% of existing programs with active monitoring or other BT events. BT groups submit volunteer data monthly and QA sessions are scheduled quarterly for each monitoring group. In cases of lagging participation, BT will evaluate the vibrancy of programs on a semi-annual basis, associated with participation in QA sessions, etc. BT will work with the Conservation Districts and leadership volunteers to take steps to address lagging programs, which will be summarized in the semi-annual reports. In addition, we will attempt to compare reasons for the lag to determine whether or not programmatic changes need to occur. This aspect will be summarized in the final report.
2. Continue monitoring active BT stream sites and draft data reports on approximately five sites annually through the BT program
3. Blue Thumb Volunteers will staff exhibits/provide presentations to professional organizations at least twice.
4. The BT program will provide leadership and support to volunteers to use data reports as the base for at least two watershed events.
5. All subtasks and outputs will be met by the projected dates.

Budget

Project 8 activities are predicted to require an average of sixteen percent of total permanent OCC staff and intern time or 9,520 of the 58,738 man hours allocated under FY 2011/2012 projects 6-8. Support from OCC WQ personnel such as WQ Director, tech writers, data manager, etc. to complete such tasks are all provided for under 2011/2012 Project 6.

Personnel	Est. Man Hours per Subtask of Task 4				Total	% of total
	1	2	3	4		
Education Staff (4 FT)*	3,200	3,320	400	1,400	8,320	100
Education Staff (3 PT)*	800	400	0	0	1200	100
Total	**4,000**	**3,720**	**400**	**1,400**	**9,520**	**16**

* includes fulltime (FT) Statewide Blue Thumb Coordinator/Educational Program Supervisor, full time (FT) Blue Thumb QA officer, FT Blue Thumb Program Educator, FT Blue Thumb Low Impact Development Specialist, one part-time Blue Thumb Education Specialist and 2 summer interns (PT).

Project 8 Cost Estimates

Component	State	Federal	Total
Total Salary	$0	$ 186,723	**$ 186,723**
Total Fringe	$0	$ 88,307	**$ 88,307**
Total IDC	$0	$26,482	**$26,482**
Travel	$0	$20,000	**$20,000**
Supplies	$0	$38,640	**$38,640**
Contractual lab	$0	$17,000	**$17,000**
Motor Pool Contract	$0	$32,200	**$32,500**
Conservation District Support Contract	$150,000	$16,000**	**$166,000**
Other	$0	$0	**$0**

Total	**$150,000**	**$425,352**	**$575,352**

*- indirect costs are considered administrative costs. $124,077 of salary, fringe, travel, supplies, etc. is incremental costs to support incremental programs. All other costs in Project 8 are considered base implementation costs.

**- Monies paid to Creek County Conservation District and Latimer County Conservation District for district support of the Blue Thumb personnel. Covers telephone, copying, office space, and related costs accrued by the District due to their support the Statewide Blue Thumb Program. Match provided by support from other BT Conservation Districts with active BT Programs.

OKLAHOMA CONSERVATION COMMISSION

EPA Region 6 §319 Special Project Proposal

PROJECT TITLE: Supplementary Priority Watershed Implementation Project for the Eucha/Spavinaw, Illinois River, and Honey Creek Watersheds

AGENCY:
Oklahoma Conservation Commission
4545 N Lincoln Blvd
Lincoln Plaza Office, Suite 11A
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PROJECT CONTACT:
Judith Wilkins, Environmental Projects Coordinator
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PROJECT OBJECTIVE: Priority watershed implementation projects have been underway for a number of years in the Eucha/Spavinaw, Illinois River, and Honey Creek watersheds. Due to reported successes and effective program delivery by local staff, program demand is at an all time high to the point that project coordinators in these watersheds maintain a burgeoning list of producers awaiting additional monies for cost share of BMPs. At present, these lists show demand for additional funds that top 1.5 million dollars just for cost share assistance to implement new BMPs in these watersheds. Despite the spatial scale of some of these watersheds, the program is realizing improvements in water quality that will likely be threatened without continuity of efforts. Such improvements have been substantiated with previous success stories, and OCC anticipates additional successes in the next couple of years.

The purpose of this project is to continue implementation efforts in these watersheds to address NPS-related impairments to their streams and recipient reservoirs. General objectives of the project are to: (1) continue implementing practices that will reduce nutrient loading to help meet load reduction goals identified in current TMDL or similar modeling reports, (2) support the Oklahoma Conservation Reserve Enhancement Program (CREP) in the Eucha/Spavinaw and Illinois River watersheds to protect riparian areas with the greatest potential to reduce nutrient loading, and (3) provide technical assistance to producers in these watersheds in the development of total resource conservation plans that will address priority NPS issues identified in these watersheds. An additional goal is to determine water quality effects through continuous, flow-weighted sampling in both treatment and control watersheds using EPA's paired watershed method. However, because of the precedent of current projects in these watersheds, monitoring activities are already occurring under EPA approved QAPPs and will continue to be funded by other projects. Because of this, **the majority of funds requested in this proposal are intended to be put on the ground through cost share of priority BMPs to abate NPS pollution in the project watersheds.**

To achieve the list of objectives, this project will require the participation by many different groups. In addition to Commission staff, those that will participate in this project include the Delaware County Conservation District, Adair County Conservation District, Cherokee County Conservation District, Oklahoma State University Cooperative Extension Service, Oklahoma Scenic River Commission, Natural Resources Conservation Service, Farm Service Agency, local producers, and poultry integrators among others.

PROJECT LOCATION AND BACKGROUND:

Eucha/Spavinaw: Lakes Eucha and Spavinaw are water supply reservoirs for a combined population of nearly 1 million people. Located in an area of intense poultry and cattle production, the Eucha / Spavinaw watershed spans the Oklahoma-Arkansas border covering 229,807 acres (Figure 1). Lakes Eucha and Spavinaw and streams in their watershed are of concern because of water quality impairments due to elevated nutrient loading and associated eutrophication. Waterbodies in the watershed are listed on the 303(d) list for violations of water quality standards related to nutrients, dissolved oxygen, and bacteria. Degradation of these waters impacts the Cities of Tulsa and Jay who depend on the lakes for drinking water (app. 400,000 people served) and high quality recreational areas. Implementation efforts have been ongoing for some time. Reported success in Beaty Creek, a subwatershed, has resulted in a strong and growing demand in the greater Spavinaw watershed.

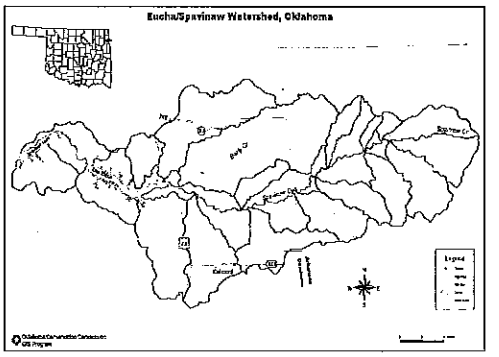

Figure 1. Eucha-Spavinaw Watershed.

Illinois River: One of Oklahoma's highest priority watersheds, the Illinois River straddles the OK/AR border covering 1,069,530 total acres, of which 54% occurs in Oklahoma (Figure 2). Most of the river and its major tributaries (Barren Fork and Flint Creek) are classified as state scenic rivers and along with Lake Tenkiller are some of Oklahoma's most popular recreational destinations supporting a sizeable tourism industry in the region. The Illinois River, Lake Tenkiller and some of the principal tributaries in the watershed are violating water quality standards for nutrients, bacteria, and other issues. Both states have worked to seek solutions by funding a number of programs through the years including recent efforts with the Farm Services Agency to initiate Conservation Reserve Enhancement Programs (CREP) in the watershed. Because of these efforts, program demands by producers in the watershed are at an all time high and backlogs of potential cooperators awaiting additional funding are building.

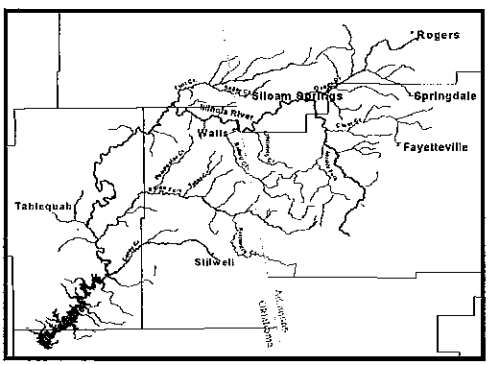

Figure 2. Illinois River Watershed.

Honey Creek: The Honey Creek watershed (Figure 3) is a subwatershed of Grand Lake O' the Cherokees, one of Oklahoma's premier recreational reservoirs and an important drinking water supply. The majority of the 79,000 acre Honey Creek watershed is located in a vigorous poultry

and cattle producing area of northeast Oklahoma. As a subwatershed of Grand Lake that includes an arm of the lake, Honey Creek is also affected by NPS pollution from residential and development sources. Honey Creek and Grand Lake are of concern as both are listed on the state's 303(d) for pathogens, low dissolved oxygen, sulfate, TDS, chloride, and unknown causes (based on poor fish collection). A priority watershed implementation project has been ongoing since 2006, and efforts have resulted in interest and education opportunities for folks across state lines.

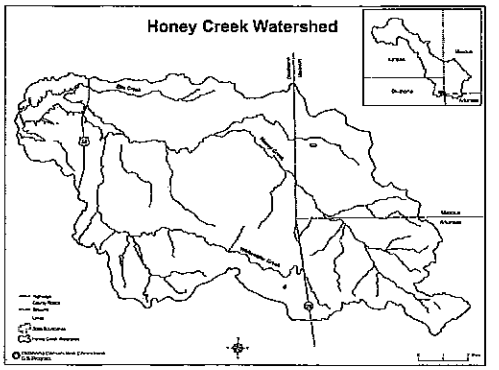

Figure 3. Honey Creek Watershed.

PROJECT DESCRIPTION:

Overview: The purpose of this project is to continue implementation efforts in three priority watersheds to address NPS-related impairments to their streams and recipient reservoirs. Nine element watershed based plans (WBP) have been submitted and favorably reviewed for Eucha/Spavinaw and Honey Creek, and one for the Illinois River is currently under review. Because this is a supplement to existing efforts, project activities are included and will support/employ load reduction goals, priority BMPs, and targeting schemes outlined in detail in the respective WBPs and currently approved workplans. In all cases, this information is based upon detailed Soil and Water Assessment Tool (SWAT) modeling studies that not only indicate load hotspots in the watersheds for targeting but model implementation scenarios to determine BMPs most effective in reduction of priority NPS pollutants, particularly phosphorus and sediment. All cost share efforts (including selection of BMPs) proceed according to policies outlined in Watershed Implementation Plans developed and approved by local watershed advisory groups (WAG) comprised of local producers, conservation district board members, OCC staff, and other stakeholders.

Due to previous and current projects, local coordinators are currently in place and working to contact landowners regarding availability of cost share assistance for implementation of priority BMPs. Therefore, stakeholder networks and local partnerships so crucial to effectiveness of these programs are already in place and have been operating effectively for multiple years in each watershed. It is because of these efforts that word has spread resulting in an increasing momentum of interest and demand for more monies for cost share of BMPs. Project coordinators in all three watersheds have current waiting lists of producers anticipating additional funds from this supplementary project.

Of importance to current efforts and the project proposed here is the monitoring necessary to document water quality impacts. A particular strength of this proposed project is that monitoring networks have already been established in each watershed in accordance with data quality objectives as outlined in approved QAPPs. The monitoring design implements continuous, flow-weighted composite sampling in a paired watershed design to assess weekly loads of macro-nutrients (TP, o-P, TKN, Nit-Nit, and ammonia). In-situ field measurements of common parameters are also collected on a weekly basis. Because monitoring efforts are being funded by

current grants, it will not be necessary to expend funds from the proposed project to conduct the monitoring necessary to verify water quality improvements.

Task 1. Project Local Management: Task one involves continuance of employment for local Project Coordinators and a part time Plan Writer to conduct implementation efforts, writing of conservation plans, and education and outreach activities in their respective watersheds. This task will also fund a stipend to respective Conservation Districts who provide clerical and educational support for the implementation of the project as well as office space and telephone service for project staff.

Time Frame: January 2011 – December 2012

Task 2. BMP Implementation: This task involves the continued implementation of practices selected by the local WAGs for project watersheds as established under their respective originating projects. The BMPs to be continued in both watersheds focus on reduction of nutrient, sediment, and bacteria loading. General BMP types are the same for all watersheds and include (1) riparian establishment to include fencing, vegetative establishment, off-site watering, livestock shelters and incentive payments; (2) buffer zone establishment to include fencing and incentive payments; (3) Streambank Stabilization to include fencing and vegetative plantings; (4) Animal Waste Storage Facilities or Composters; (5) Pasture Establishment; (6) Pasture Management; (7) Proper Waste Utilization for poultry producers, and (7) Heavy Use Areas. Education and outreach are also important components of the implementation program, involving such activities as demonstration farm tours, field days, media releases, newsletters, and cooperative efforts with Blue Thumb staff in volunteer monitoring. Additional educational support from the Division's Blue Thumb program is funded under core OCC workplans.

Oversight of implementation is the responsibility of the respective Project Coordinators and conservation districts. OCC staff will draft the farm plans and agreements between the landowner and conservation district to implement approved practices. Distribution of funds will follow the pattern established with previous projects in these watersheds. Landowners eligibility will be selected through targeting defined under previous projects. All practices will be implemented on a cost-share basis.

Time Frame: January 2011 – October 2012

Task 3. Tracking/Evaluation of BMP Implementation and Final Report: A GIS data layer of farm plans and BMPs will be created and maintained by project staff for reporting project performance and future watershed modeling efforts. Project staff will make regular site visits to assess progress in implementing planned BMPs and employ photodocumentation techniques to track BMP establishment/success in accordance with procedures outlined in currently approved QAPPs. Semiannual progress reviews will formally assess cooperator performance and ensure monies are not tied up in unproductive contracts.

OCC writing staff will draft a final report to include full discussion of implementation and education efforts and a current evaluation of monitoring data to document water quality improvements and continue assessment of waters for attainment of beneficial uses. All

implementation data will be presented in maps according to general BMP type and comparisons between BMP occurrence and targeted areas made. Estimates of load reductions expected due to implementation efforts will be made using EPA's STEPL model. The final report will include as much as possible information on BMPs implemented in the watershed through other efforts such as EQIP, the State's locally-led cost-share program, and solely through landowner funding.

Time Frame: ***Tracking/Evaluation - January 2011 – December 2012***
Final Report – December 2012
Deliverable: ***Final Report***

MEASURES OF SUCCESS: The primary measure of success will be improvement in water quality sufficient for removal of waterbodies in these watersheds from the 303(d) list. Additional measures include: full implementation of BMPs as planned in Task 2, a significant reduction (at least 20%) in load based on STEPL estimates, and a strong occurrence of implementation in targeted areas.

PROJECT OUTPUTS:

1. Semi-annual Reports (January and July through project period)
2. Final Report (December 2012)

PROJECT MANAGEMENT AND DURATION: This project will be managed by the OCC with oversight from the Office of the Secretary of Environment. Judith Wilkins, OCC's Environmental Project Coordinator, will be the overall Project Manager although completion of individual tasks will be the responsibility of various individuals as detailed above. This project will fund activities over a two year period from January 2011 through December 2012.

PROJECT BUDGET:

STATE	**$1,666,667**		
FEDERAL	**$2,500,000**		
TOTAL	**$4,166,667**		
Object Class Categories	**State**	**Federal**	**Total**
a. Personnel	$0	$374,500	$374,500
b. Fringe Benefits	$0	$161,000	$161,000
c. Travel	$0	$5,000	$5,000
d. Equipment	$0	$0	$0
e. Supplies	$0	$10,000	$10,000
f. Contractual	$0	$50,000	$50,000
g. Construction	$0	$0	$0
h. Other	$1,666,667	$1,899,500	$3,566,167
i. Total Direct Charges (sum of 6a-6h)	$1,666,667	$2,500,000	$4,166,667
j. Indirect Charges	$0	$0	$0
k. TOTALS (sum of i and j)	**$1,666,667**	**$2,500,000**	**$4,166,667**

Changes to Priority Watershed Cost-share programs in Eucha/Spavinaw, Honey Creek, and Illinois River Watershed to assure consistency within districts and between programs.

1) With knowledge of additional future monies for the priority watershed projects, the Delaware County board recommended the following changes to the Eucha/Spavinaw Project in September (9/8/2010):
   - Increase percentage cost-share rates for ponds, pasture planting, cross-fencing, watering tanks, pipeline and wells to 80%
   - Increase percentage for heavy use areas to 75%
   - Septic systems and winter feeding facilities stay the same at 60%
   - Increase riparian area exclusion payment from $50/acre to $90/acre
2) Illinois River, Honey Creek, and Eucha/Spavinaw will increase eligible riparian area enrollment to full width of the floodplain to reduce fence washouts
3) Increase allowable rates for aerobic systems to 80% up to $6500 for Eucha/Spavinaw, Honey Creek, and Illinois River Projects. Less than 10% of septic systems in these areas have been required by ODEQ to be converted to aerobic systems; however, these systems are considerably more expensive. An 80% cost-share would be consistent with the share to replace traditional systems.