



**Quality Management Plan
for Oklahoma Conservation Commission
Environmental Monitoring and Measurement
Activities**

**FY 2007 319(h) Project 2
EPA Grant # C9-996100-14**

October 15, 2007

**Oklahoma Conservation Commission
Water Quality Division
2800 N. Lincoln Blvd., Suite 160
Oklahoma City, Oklahoma 73105**

**Quality Management Plan for
Oklahoma Conservation Commission
Environmental Monitoring and Measurement Activities**

Oklahoma Conservation Commission (OCC)

Mike Thralls - Executive Director

Signature: _____ Date: _____

Dan Butler - Director, Water Quality Division

Signature: _____ Date: _____

Brooks Tramell- Monitoring Coordinator, Water Quality Division

Signature: _____ Date: _____

Greg Kloxin -Water Quality Division Quality Assurance Officer

Signature: _____ Date: _____

Oklahoma Office of the Secretary of Environment

Jennifer Myers Wasinger- Environmental Program Administrator

Signature _____ Date: _____

United States Environmental Protection Agency, Region VI

Tim Herfel - Project Officer

Signature _____ Date: _____

Approving Official- USEPA Region VI

Signature: _____ Date: _____

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ii. Distribution List of Approved and Duplicate Copies.

The following list of persons and their respective agencies receive finalized, signed, and USEPA Region VI-approved copies of this project plan:

Greg Kloxin	Oklahoma Conservation Commission
Brooks Trammel	Oklahoma Conservation Commission
Dan Butler	Oklahoma Conservation Commission
Jennifer Myers Wasinger	Office of the Secretary of Environment
Tim Herfel	USEPA Region VI

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1.0 Oklahoma Conservation Commission Management and Organization

1.1 Quality Assurance Policy Statement

The Oklahoma Conservation Commission (OCC) is an agency of the State of Oklahoma whose goal is to provide for the conservation of the renewable natural resources of the state. The OCC provides for:

- control and prevention of soil erosion, floodwater, and sediment damages
- furthering the conservation, development, utilization, and disposal of water and water resources
- preservation and development of natural resources
- conservation and development of water resources and water quality
- prevention of dam and reservoir impairment
- preservation of wildlife and natural beauty
- protection of wetlands
- promotion of recreational development
- protection of the tax base and public land
- protection and promotion of the health, safety, and general welfare of the people of the State of Oklahoma.

Through legislation, the Oklahoma Conservation Commission has jurisdiction over:

- monitoring, evaluation, and assessment of the state's waters to determine the extent of nonpoint source pollution
- the development of conservation plans
- soil conservation and erosion control
- wetland protection
- assessment and conservation plan development and implementation in watersheds of lakes.

This legislation also gives the OCC responsibility to serve as the technical lead agency for § 319 of the Clean Water Act and to develop a state strategy for wetland conservation. These functions are delegated to Water Quality Division (WQD) of the OCC.

The Oklahoma Conservation Commission works through the 88 Conservation Districts to accomplish the above goals and to operate projects. Working through local districts, OCC has contact with landowners and local leaders through which land use improvement programs are implemented.

All of the goals of OCC require the collection of consistent, accurate, and complete data as part of the completion of water quality and wetland demonstration projects. An effective Quality Assurance Program Plan provides comprehensive and consistent application of accepted quality control procedures throughout the entire project thus assuring the reliability of the project data.

It is the goal of OCC to implement a Quality Assurance Program Plan which, in conjunction with each project's Quality Assurance Project Plan, ensures soundness of all data used and provided by the OCC.

To accomplish these quality assurance goals, OCC has committed considerable staff time and resources to the development and implementation of consistent and effective quality assurance plans. These quality assurance plans develop and follow the policy statement for data generation and processing for all projects. Each of these plans has been thoroughly reviewed by the Oklahoma Office of the Secretary of Environment (OSE) and EPA Region VI with comments and recommendations being incorporated into each QA Project Plan revision as appropriate.

OCC's commitment to quality assurance is based upon specific data quality requirements. All data used by OCC must be of known quality, scientifically sound, and legally defensible. In order to achieve these goals, minimum quality control activities are established as an integral part of each project. Laboratory procedures must include specified tests for precision and accuracy, which must then be clearly documented and reported to OCC. Internal activities of data reduction and use are constantly reviewed to insure correct transfer of information. OCC requires a high standard (typically 90%) for completeness of data acquisition. Special consideration is given to representative sampling. Sample stations are selected to best accommodate the goals of the study, both with respect to location and number of stations. Time of sampling, frequency, and sampling conditions (e.g. during low flows) are all essential requirements of each monitoring project. Comparability of data is facilitated through detailed documentation of all data conditions (e.g. analytical methods used, sampling regime, etc.), strict adherence to the monitoring program plan, and accountability of all variables and discrepancies encountered during data acquisition and analysis.

1.2 Oklahoma Conservation Commission Organizational Hierarchy

In order to accomplish complete coordination of quality assurance (QA) activities at OCC, a system of QA program management has been established. The management system of OCC as a whole is diagrammed in Appendix 1. Specific roles and responsibilities of each of the personnel in water quality programs and wetland programs are described in Table 1.1.

The QA Officer (QAO) for the Water Quality Division (WQD) reports directly to the Director of the WQD. The QA Officer immediately informs the Division Director of any variations from established QA guidelines and actions taken to address the variation. The QA Officer is responsible for implementation of QA Project Plans, as directed by the QA Program Plan, for each project conducted by OCC staff. The QA Officer is responsible for all quality assurance aspects in division programs. This includes quality assurance oversight of sample collection and analysis techniques, sample delivery, sample preservation, chain of custody, data integrity, review of field and laboratory analysis, site selection, planning of sampling events, and other actions which directly or indirectly affect the quality of program results. All variances from QA Project Plans are reported to the QA Officer who takes appropriate action.

Data and sample collections are accomplished by OCC staff with occasional assistance from District employees and volunteers. Field staff are instructed in QA techniques. The QA Officer is responsible for insuring the completion of work as described in the QA Project Plans. The QA Officer is also responsible for insuring that quality control (QC) goals and methods (as described in the QA Project Plans) are met during data analysis.

Water quality samples collected by the OCC are analyzed by the Oklahoma Department of Agriculture Laboratory. The Department of Agriculture Laboratory QA Plan is currently on file with EPA Region VI. Samples for projects contracted to universities may be analyzed at university laboratories. Each contracting laboratory used by OCC has an appointed QA Officer who is responsible for all QC functions within the laboratory that affect the quality of the project data. Appropriate records are kept of all pertinent laboratory activities and are made available to the OCC QA Officer upon request. Laboratory QA Officers or Laboratory Managers report in writing to the OCC QA Officer of any variations of QA guidelines encountered in the analysis of samples.

Table 1.1 Roles and Responsibilities of Water Quality Program Personnel.

Water Quality Division Staff Responsibilities	
Mike Thralls Executive Director	Responsible for all operations of OCC including Water Quality.
Dan Butler Water Quality Director	Responsible for all water quality programs, the director is the final decision making authority within the Water Quality Division.
Ann Craven Executive Secretary	Division secretary, file manager, and data entry.

<p>Jim Leach Water Quality Cost Share and Finance Director</p>	<p>In addition to specific administrative duties assigned by the director, this position is responsible for financial management of all Division projects including oversight of the financial aspects of Division Cost-Share programs and documentation of non-federal match.</p>
<p>Shanon Phillips Water Quality Assistant Director</p>	<p>Second in OCC WQD command. In addition to specific duties assigned by the director, this position is primarily responsible for the design and implementation of the Commission's nonpoint source programs including water quality, biological and habitat monitoring, implementation of best management practices, and education programs.</p>
<p>Greg Kloxin QA/QC Officer, Senior Technical Writer</p>	<p>The QA/QC Officer is responsible for all aspects of the OCC-WQD quality assurance activities. QA/QC responsibilities include QMP and QA/QC development. The Quality Assurance Officer reports directly to the Water Quality Division Director. The Senior Technical Writer is responsible for data analysis and project reporting, workplan development, and oversight of three additional technical writers.</p>
<p>Judith Wilkins Environmental Projects Coordinator</p>	<p>The Environmental Projects Coordinator administers environmental projects for water quality grants.</p>
<p>Chris Dubois Wetlands Program Coordinator</p>	<p>The Wetlands Coordinator coordinates wetland grant administration. He is also responsible for grant development and wetlands demonstration project implementation. Additionally he prepares status reports required by EPA, wetland determinations, represents OCC at local, state, and federal level wetlands activities, and provides technical wetland expertise to Commission program staff.</p>
<p>Stacey Day Technical Writer, WQ Programs Specialist</p>	<p>Technical writer, data analyst, assistant QA officer, and field investigator.</p>
<p>Stacy Hansen Technical Writer, WQ Programs Specialist</p>	<p>Technical writer, data analyst, and field investigator.</p>
<p>Candace Cunningham Technical Writer, WQ Programs Specialist</p>	<p>Technical writer, data analyst, and field investigator.</p>
<p>Brooks Tramell</p>	<p>Responsible for all field sampling activities, and</p>

Monitoring Coordinator, Water Quality Specialist IV	participates in establishing Data Quality Objectives. Responsible for the supervision, coordination, and training of the field investigative personnel.
Wes Shockley Water Quality Specialist III, Creek County	Responsible for collection of field data and samples, landuse and landowner surveys, submission of samples to the lab, equipment maintenance, supervises all Water Quality Specialists I, and various related duties.
Jason Ramming Water Quality Specialist III, Statewide	Responsible for collection of field data and samples, landuse and landowner surveys, submission of samples to the lab, equipment maintenance, and various related duties.
Leonard Moore Water Quality Specialist II, Statewide	Responsible for collection of field data and samples, landuse and landowner surveys, submission of samples to the lab, equipment maintenance, and various related duties.
Jeanette Lamb Water Quality Specialist II, Statewide	Responsible for collection of field data and samples, landuse and landowner surveys, submission of samples to the lab, equipment maintenance, and various related duties. Occasional education programs.
Ben Berry Water Quality Specialist II, Statewide	Responsible for collection of field data and samples, landuse and landowner surveys, submission of samples to the lab, equipment maintenance, and various related duties. Occasional education programs.
Jerry Carr Water Quality Specialist II, Statewide	Responsible for collection of field data and samples, landuse and landowner surveys, submission of samples to the lab, equipment maintenance, and various related duties. Occasional education programs.
Cheryl Cheadle Statewide Blue Thumb Coordinator and Educational Program Supervisor	Responsible for the promotion of the Blue Thumb Program statewide to conservation districts and cities to provide technical support for Blue Thumb volunteer monitoring and education programs. Also responsible for supervision of implementation project education coordinators, Blue Thumb Educators, Blue Thumb Interns, and Blue Thumb Quality Assurance Officer.
Jean Lemmon Blue Thumb Quality Assurance Officer	Responsible for oversight and implementation of volunteer monitoring quality control and quality assurance programs.
Kim Shaw Statewide Blue Thumb Educator	Responsible for Blue Thumb WQ education efforts statewide.
Nicole Norris Blue Thumb WQ Educator	Responsible for Blue Thumb WQ education efforts in Eastern Oklahoma.
Bill DeShazo	Responsible for data entry, field sampling, supply

BT Assistant	procurement, information mailout, and educational activity facilitation pertaining to Blue Thumb programs.
Kevin Gustavson Grand Lake Coordinator	Responsible for the planning and promotion of Grand Lake Projects. Responsible for technical writing related to the Grand Lake watershed.
Shellie Willoughby GIS Technician	Responsible for maintenance, analysis, and presentation of geographically referenced data using GIS as detailed in various 319 and wetlands workplans.
Chris Dunlevy Information Systems Manager	Responsible for maintenance of computer network hardware and software necessary for activities of the WQD.
Margaret Blevins Data Manager	Responsible for all data management, supervising data tracking and entry, and maintaining standard operating procedures for all field activities. Also responsible for data receipt, cataloging, and entry into the WQ database.
Melody Kloxin Data Entry Technician	Assists with the entry of data into the WQ database under direction of the Data Manager.
Joe Schneider Spavinaw Creek Watershed Project Coordinator	Responsible for coordination of all Spavinaw Creek project activities, including conservation planning and administration of the cost share program to demonstrate water quality improvements in Spavinaw Creek.
Marti Mefford Honey Creek Watershed Project Coordinator	Responsible for coordination of Honey Creek project activities, including conservation planning and administration of the cost share program to demonstrate water quality improvements in Honey Creek.
Jill Ashbrener Spavinaw Project Plan Writer/Education Coordinator	Assists project coordinator with conservation plan writing. Responsible for watershed education program and coordinating with complimentary education efforts in the watershed.
Gina Levesque CREP Coordinator	Coordinates all agency activities and responsibilities relating to Oklahoma's Conservation Reserve Enhancement Program (CREP)
Monty Ramming Special Projects Coordinator	Coordinates and expedites activities between OCC and Conservation Districts. Responsible for on-site tracking of implementation activities.
Bobby Bilyeu Fort Cobb PT Plan Writer/Conservation Technician	Assists Project Coordinator with drafting of conservation plans, particularly portions requiring engineering specifications.
Ed Crall Fort Cobb Project Education Coordinator	Responsible for interagency education coordination in the Illinois river basin and to implement education programs for improving its water quality.

1.3 Current OCC Projects

Table 1.2 lists the current OCC-WQD projects through FY 2006. Future projects are to be incorporated when awarded.

Table 1.2. Current OCC-WQD Projects.

Grant	Task Number	Project Description
03 319(h)	02	NPS Program Implementation
03 319(h)	02	Statewide Blue Thumb
03 319(h)	03	Rotating Basin Monitoring Program
03 319(h)	04	Spavinaw Creek Watershed
03 1442	01	Building Partnerships Between Tribes and the Blue Thumb Program
03 104(b)(3)	01	National Wetland Inventory Map Digitization
03 104(b)(3)	02	Stream Corridor Riparian Area Restoration
03 104(b)(3)	03	McCurtain Co. Oxbow Enhancement and Outdoor Learning Center
04 319(h)	02	NPS Program Implementation
04 319(h)	03	Rotating Basin Monitoring Program
04 319(h)	04	Statewide Blue Thumb Program
04 319(h)	05	Phase I: Grand Lake Watershed Implementation Program
05 319(h)	02	NPS Program Implementation
05 319(h)	03	Rotating Basin Monitoring Program
05 319(h)	04	Statewide Blue Thumb Program
05 319(h)	05	Ft. Cobb Watershed TMDL Implementation Program
05 319(h)	10	A Demonstration of Process Technology for Converting Poultry Waste to Energy Part II
06 319(h)	06	NPS Program Implementation
06 319(h)	07	Rotating Basin Monitoring Program
06 319(h)	08	Statewide Blue Thumb Program
06 319(h)	09	Honey Creek Priority Watershed Implementation Project
CREP		Conservation Reserve Enhancement Program – Purchase of riparian easements in Priority Watersheds, which uses 319 match for monitoring & writers
07 319(h)	02	Oklahoma Conservation Commission Implementation of the NPS Management Program October 2007 – June 2008
07 319(h)	03	Rotating Basin Monitoring Program- Year 8
07 319(h)	04	Statewide Blue Thumb Program
07 319(h)	05	Northeastern Oklahoma Demonstration Farm
07 319(h)	06	North Canadian River Watershed Implementation Project

2.0 Quality System{tc \11 "2.0 Quality System Description}

2.1 Quality System Description

The quality systems of the Conservation Commission are described in this document, the Quality Management Plan (QMP). The QMP provides the foundation for projects involving the acquisition of environmental data conducted by OCC.

Quality Management Plans are prepared under the *EPA Requirements for Quality Management Plans*, EPA QA/R - 2 of May 2006. Review and revision of the QMP takes place on an annual basis or when changes in personnel or programs require modification of the QMP. The QMP is submitted to EPA Region VI for approval each year. When no changes are necessary, a certificate to this effect and new signature pages are submitted instead of the entire plan. The Quality Management Plan is prepared under direction of the Water Quality Division Director by the Water Quality Division Quality Assurance Officer and Water Quality Technical Writers and is reviewed by senior staff prior to distribution. Distribution of final approved copies of this plan and future QMP follows the list established in section ii of this document. Quality Management Plans and related communications are filed by year in the OCC - WQD filing system. A working copy of each year's QMP is maintained in a loose-leaf binder in the OCC - WQD library for easy reference. All versions of the OCC QMP are appropriately labeled and are archived as a regular feature of the OCC Computer Backup Program. The Division Secretary files Quality Assurance documents and maintains project files. All projects involving the acquisition of environmental data conducted by OCC are operated under the guidance of a QA Project Plan (QAPP). Specific procedures have been developed by OCC for each measurement activity and each project to assure the quality of data. These procedures are applied consistently throughout the project. Laboratory analyses are performed with appropriate tests for precision and accuracy. Goals for completeness of data acquisition are established at the beginning of each project through the Data Quality Objectives (DQO) process and referenced throughout all data generation activities, especially with respect to field measurements, sample collection, and laboratory analysis. Sampling sites are selected to insure that the data are representative of the study's goals. By adhering to a strict quality assurance program with these elements, all data generation and analysis are assured of being valid and defensible.

QA Project Plans are developed at the outset of each project. QA Project Plans are rigidly formatted and specific to each project and encompass all phases of the project. They are stand-alone documents that receive careful and independent review and approval by appropriate state and federal agencies prior to the initiation of any project element. Each QA Project Plan is prepared following the *EPA Requirements for Quality Assurance Project Plans*, EPA QA/R - 5 of May 2006.

Each QA Project Plan is prepared in document control format as required by QA/R5. Revisions are noted in the document control header along with the date of each revision. A record is kept of the official distribution of all QA Project Plans once they receive final approval.

There are a number of factors that should be addressed within the QA Project Plan utilizing the above format. These factors encompass all project activities that affect the quality of data. In addition, the QA Project Plan should identify all operations that must be covered by standard operating procedures. To accomplish these goals, activities such as the following should be reviewed:

- General network design
- Specific sampling site selection
- Sampling and analytical methodology
- Probes, collection devices, storage containers, and sample additives or preservatives
- Special precautions, such as heat, light, reactivity, combustibility, and holding time
- Federal reference, equivalent or alternate test procedures
- Instrument selection and use
- Calibration and standardization
- Preventive and remedial maintenance
- Replicate sampling
- Blind and spiked samples
- QA procedures such as intra- and inter- laboratory and field activities
- Documentation
- Sample custody
- Transportation
- Safety
- Data handling procedures
- Service contracts
- Measurement of precision, accuracy, completeness
- Representativeness and comparability
- Document control

Standard Operating Procedures

OCC - WQD Standard Operating Procedures (SOPs) are compiled in the master working document *Standard Operating Procedures for Water Quality Monitoring and Measurement Activities*. OCC SOPs are updated on an as needed basis, with the acquisition of new equipment or as new procedures are identified through the DQO process. The SOPs are reviewed annually to ensure that the procedures are appropriate and up to date. Copies of this dynamic document are maintained by the Quality Assurance Officer, each of the OCC field personnel, EPA Region VI Watershed Monitoring section, Oklahoma §319 Project Officer, Oklahoma Office of the Secretary of the Environment, and in the OCC library. SOP revisions are distributed to all manual holders. QA Project Plans reference the appropriate SOPs. The OCC QA Officer assists districts with the preparation and implementation of SOPs for their water quality projects.

Another Quality Systems Tool in use at the OCC-WQD is management review of projects on a semi-annual basis. Additional quality assessments used by the OCC-WQD are outlined in Section 9.1.

2.2 Quality System Applicability

The Quality Systems described in the QMP apply to all projects listed in Section 1.3. These projects generally encompass monitoring one or more aspects of the state's aquatic resources. OCC monitoring activities include:

1. Stream physical habitat assessment
2. Biological monitoring - Benthic invertebrates
3. Biological monitoring - Fish
4. Biological monitoring - Algal productivity
5. Water quality monitoring - physical/chemical
6. Stream flow and stream time of travel
7. Wetland physical habitat assessment
8. Soil description
9. Wetland plant inventories
10. Land use
11. Rosgen stream assessments (Levels I-IV)
12. Identification of bacterial strains
13. Best Management Practice tracking using photodocumentation

3.0 Personnel Qualifications and Training

3.1 Water Quality Programs Staff Requirements.

One of the fundamental aspects of assuring quality data is proper training and qualifications of all personnel participating in data generation, analysis, assessment, and reporting. The educational background of all project members must be appropriately suited to the individual's responsibilities. It is beneficial if the academic background is broad enough to encompass more than one area of expertise (e.g. botany and statistics). Professional training and expertise often provide essential techniques and knowledge that are missed in a formal educational background (e.g. field sampling techniques, or use of a particular type of computer system or model). There are no statutory requirements for professional or other certification for the OCC Water Quality Program. The OCC uses the Oklahoma Department of Agriculture Water Quality Laboratory, the Oklahoma Department of Environmental Quality State Environmental Laboratory, and university laboratories, which are certified by the Oklahoma Department of Environmental Quality and have minimum training requirements and certification requirements for their personnel to achieve laboratory certification.

All OCC staff assigned to a project are selected on the basis of appropriate educational background with appropriate technical skills developed through effective training and experience. This requirement applies to all levels of the project including field personnel, data analysts, and QA management staff. Staff qualifications are listed in Table 3.1. Prior to the initiation of each project, the WQD Director selects the OCC staff members for each project element based upon qualifications and experience. If additional skills are required (training, equipment use, software, etc.), arrangements are made to train the appropriate staff. Throughout this process the WQD-OCC QA Officer makes recommendations to the WQD Director on the most appropriate actions to be taken with respect to quality assurance.

Because OCC does not exercise any authority over personnel decisions of outside agencies or contractors, the quality assurance requirements with respect to personnel qualifications within these resources are served in the selection process. When outside assistance is required, the requirements for qualified personnel are clearly established in the selection process. This includes technicians as well as QA management. The criteria of the project and the agencies' or contractor's scope of work are clearly established at the outset along with confirmation of qualifications of all involved personnel.

Table 3.1 OCC Staff Qualifications

	Degrees, certification	Years experience
Dan Butler Water Quality Division Director	B.S., M.S.	26

Shanon Phillips Water Quality Division Assistant Director	B.S., M.S.	14
Jim Leach Water Quality Cost Share and Finance Director	B.S., M.S.	30
Greg Kloxin QA/QC Officer, Senior Technical Writer	B.S., M.S.	12
Chris Dubois Wetlands Program Coordinator	B.S., M.S.	5
Stacey Day Technical Writer	B.S., PhD	2
Stacy Hansen Technical Writer	B.S., M.A.	1
Candace Cunningham Technical Writer	B.S.	1
Chris Dunlevy Information Systems Manager	B.S. Microsoft certification	11
Judith Wilkins Environmental Projects Coordinator		3
Wes Shockley Water Quality Specialist III	B.S.	14
Brooks Tramell Monitoring Coordinator	B.S.	12
Jason Ramming Water Quality Specialist III	B.S.	7
Leonard Moore Water Quality Specialist II		18
Jeanette Lamb Water Quality Specialist II	B.S., M.S.	11
Jerry Carr Water Quality Specialist II	B.S.	3
Ben Berry Water Quality Specialist II	B.S.	5
Cheryl Cheadle State Wide Blue Thumb Coordinator and Educational Program Supervisor	B.S.	19
Kim Shaw Statewide Blue Thumb Educator	B.S.	5
Nicole Norris Blue Thumb WQ Educator	B.S.	7
Jean Lemmon Blue Thumb Quality Assurance Officer	B.S.	15
Bill DeShazo		1

BT Assistant		
Kevin Gustavson Grand Lake Coordinator	B.A., PhD	5
Shellie Willoughby GIS Technician	B.S., M.S	8
Joe Schneider Spavinaw Creek Watershed Project Coordinator	B.S	41
Monty Ramming Special Projects Coordinator	B.S.	6
Ed Crall Ft. Cobb Project Education Coordinator	B.S.	6
Bobby Bilyeu Fort Cobb Project PT Plan Writer/Conservation Technician	B.S.	34
Margaret Blevins, Data Manager	A.A.	25
Melody Kloxin Data Entry Technician	A.A.	6
Jill Ashbrener Spavinaw Creek Project Education Coordinator and Project Conservation Planner	B.S.	1
Gina Levesque CREP Coordinator	A. A.	8

3.2 OCC Training Requirements

Based on the assessed training needs of all personnel, training programs are administered, as necessary, to all personnel who are deficient in skills required for their jobs to develop the level of competence necessary to carry out their assigned functions. Training may include attendance at job-related training courses or seminars, workshops, or professional meetings. Project specific minimum training requirements are established in each QAPP. This means that when developing a QAPP, the DQOs are developed to determine the data required to meet the decision makers' needs. Available resources are also reviewed in this process. Deficiencies in the level of training required are addressed by training existing personnel, hiring qualified personnel, or contracting for services by qualified personnel.

All supervisory personnel are required by the state to take at least 12 hours of continuing education certified by the Human Resources Development Division of the Oklahoma Office of Personnel Management.

Training for most routine procedures occurs on the job with experienced personnel directing the activities of new personnel. An exception to this is where health and safety are involved. For example, all personnel involved in electro-fishing annually update their CPR training with the Red Cross of Oklahoma. The effectiveness of training is assessed through field and performance audits. Where specific problems in data acquisition have been identified, training activities are commensurate to the problem. For example, if the problem encountered is related to the calibration of a dissolved oxygen meter, the training response is conducted in-house. On the other hand, a factory representative may be required to do the training if the problem encountered is related to the calibration of an automatic sampler. Qualified trainers are identified in the process of planning by OCC senior personnel and the QA officer.

Training materials and course contents are generally based on the standard operating procedures and requirements for data acquisition determined in the DQO process. Therefore, training and course contents are updated with each new project or with the annual review of the SOP.

In order to encourage professional development and to bring new methods into the agency, personnel are encouraged to attend professional meetings at the state and national level. This also allows staff members involved with on the job training to be updated with new or better methods. Likewise personnel are encouraged to attend training available outside the agency from EPA, USFWS, and the Forest Service. Flexible hours within the limits that personnel accomplish their assigned duties are afforded to those wishing to continue their education based on individual merit.

4.0 Procurement of Items and Services.

4.1 OCC Guidelines for Purchase of Equipment and Supplies.

All equipment and supplies required for OCC Water Quality Division programs acquired with funding through various EPA grants or by state funds are purchased according to the Central Purchasing Act *title 74 85.1 85.44c* of the Oklahoma Statutes and the following guidelines:

The Director of Water Quality shall select one primary and one alternate division purchasing representative. As of March 1, 2007, the primary Water Quality Division purchasing representative is Ann Craven and the alternates are Judith Wilkins and Jim Leach. The alternate purchasing representatives shall serve in the absence of the primary representative. The representative shall serve as the point of contact for the division with the OCC Certified Procurement Officer (Steven Coffman).

The Director of Water Quality shall establish signature authority for forms OCC uses in the purchasing process. Primary signature authority is the Director of Water Quality. The Director of Water Quality may approve one additional representative with signature authority.

A request for acquisition form (OCC-CPO-1) shall be used for all purchases. This form shall contain information regarding who is requesting the acquisition, the acquisition description, acquisition price estimate, specification of product or service, whether acquisition is a sole source, and approval signature of director or designee.

The Certified Procurement Officer upon approval of a completed acquisition form shall initiate a request for an invitation to bid, contact a vendor, initiate an order through the state procurement system, or obtain telephone or facsimile bids pursuant to rules of the Department of Central Services.

Specifications of all analytical equipment, reagents, standards, buffers and containers are determined according to the SOP for the required procedures and to meet the DQOs of a given project. As procured all equipment and supplies must meet the minimum standard required for the acceptance of supplies in the QA Project Plan.

4.2 OCC Guidelines for Contract of Services.

All contracts for services with outside agencies, universities, and local conservation districts are written with suitable oversight and quality assurance requirements to meet established project DQOs and grant conditions. All contracts must be approved by a simple majority vote of the five Oklahoma Conservation Commissioners.

Because OCC does not exercise authority over personnel decisions of outside agencies or contractors, the quality assurance requirements with respect to personnel qualifications within these resources are served in the selection process. When outside assistance is required, the requirements for qualified personnel are clearly established in the selection process. This includes technicians as well as QA management. The criteria of the project and the agencies' or contractors' scope of work are clearly established at the outset along with confirmation of qualifications of all involved personnel.

5.0 Documents and Records. {tc \l1 "5.0 Documents and Records.}

5.1 OCC Quality Assurance Document Control System.

All OCC Workplans and Project Proposals are prepared according to the format required by the specific grant. All OCC Workplans are prepared and revised by or under the supervision of the Division Director. Workplans prepared by the OCC undergo internal review by senior staff and by staff appropriate to the project. Before a workplan is finalized, it may undergo revisions resulting from inputs from EPA staff and project cooperators. A final workplan includes an introductory project description, project background, project objectives, and tasks with milestones and deliverable outputs to accomplish the project objectives. The workplan broadly defines the commitments and the financial resources for a specific project. Each project workplan submitted is dated and kept on file for a period of at least five years past completion of the project. Project files are established for all workplans with tentative approval. The initial workplan and all subsequent revisions are filed chronologically in a dedicated section in four section top clasped file folders. All workplan approval documents and correspondence are also filed in this section. All versions of OCC workplans are appropriately labeled and archived as a regular feature of the OCC Computer Backup Program. Filing of Documents and maintenance of project files is done by the WQD Secretary.

All OCC documents are subject to the State Records Management Act *title 67:201* of the Oklahoma Statutes. All OCC records are submitted to the Oklahoma Archives and Record Commission according to a schedule established by the Archives and Records Commission. The Archives and Records Commission decides the final dispensation of OCC Documents, e.g. classification of final reports as permanent records to be microfilmed and archived. The OCC officer in charge of this is the OCC Executive Secretary.

Quality Management Plans, including this document, are prepared under the *EPA Requirements for Quality Management Plans*, EPA QA/R - 2 of May 2006. The Quality Management Plan is prepared under the direction of the WQD Director by the WQD Quality Assurance Officer and the WQD Technical Writers. Senior staff review this document prior to distribution. Final approved copies of this plan and future QMP follows the list established in section ii of this document. Quality Management Plans and related communications are filed by year in the OCC WQD filing system. A working copy of each year's QMP is maintained in a loose-leaf binder in the OCC WQD library for easy reference. All versions of OCC QMP are appropriately labeled and are archived as a regular feature of the OCC Computer Backup Program. The WQD Secretary files the Quality Assurance documents and maintains project files.

Quality Assurance Project Plans (QAPPs) are prepared as required according to the *EPA Requirements for Quality Assurance Project Plans*, EPA QA/R - 5 of May 2006. All Project Plans developed for FY 97 onward reference this QMP document. QAPPs are distributed according to the distribution list and the appropriate project personnel. A specific distribution list for each project plan is maintained. QAPPs are filed when submitted in the project files

chronologically with subsequent revisions, correspondence, and approval. Quality Assurance Project Plans are prepared by or under the direction of the WQD QA Officer. All versions of OCC QAPPs are appropriately labeled and archived as a regular feature of the OCC Computer Backup Program. The WQ Division Secretary files Quality Assurance documents and maintains project files.

Water Quality Division document control systems

OCC-WQD Standard Operating Procedures (SOPs) are compiled in a master working document. OCC SOPs are updated on an as needed basis with the acquisition of new equipment, as new procedures are identified and as required to meet DQOs. SOPs are written and revised by either the WQD QA Officer or the Environmental Monitoring Coordinator. The SOPs are reviewed annually to ensure that the procedures are appropriate and up to date. Copies of this dynamic document are maintained by each of the OCC field personal, EPA Region VI Watershed Monitoring section, Oklahoma Office of the Secretary of Environment, Oklahoma §319 Project Officer, and in the OCC library. SOP revisions are distributed to all manual holders. All versions of OCC SOPs are appropriately labeled and archived as a regular feature of the OCC Computer Backup Program.

Field observations and water quality data are recorded in a standardized data format in field record books or field sheets as shown in the OCC SOP document. Habitat assessment and flow are recorded on standardized field sheets. All field sheets used in streams are printed on waterproof paper.

Data acquired with each project are in the following formats according to the type of data and intended use:

Table 5.1 Data Formatting and Storage.

Data type	Primary reporting format	Computer format	Final reporting format	Final data archive
Water quality field parameters	Field sheets, field book	Access Database	Tables, graphs, etc -	STORET, Access Database, OCC office library, hard copy data files
Field parameters QA, calibration	Field sheets, field book	Access Database	QA summary report & tables	STORET, Access Database, OCC office library, hard copy data files
Water quality laboratory analysis	Laboratory report sheets, computer	Access Database	Tables, graphs, etc.	STORET, Access Database, OCC office library, hard

Data type	Primary reporting format	Computer format	Final reporting format	Final data archive
	diskette			copy data files
Water quality laboratory analysis - Field blanks, duplicates, and spike samples	Laboratory report sheets, computer diskette	Access Database	QA summary report & tables	STORET, Access Database, OCC office library, hard copy data files
Field notes	Field book		Final report as appropriate	Field book, OCC WQ Library
Habitat assessment	Field sheets	Access Database	Table, graphs	STORET, Access Database, OCC office library, hard copy data files
Fish collections	Field Sheets and Laboratory data sheets	Access Database	Table, graphs, tolerance, diversity indices, IBI, final report	STORET, Access Database, OCC office library, hard copy data files, collections: OCC until museum space becomes available
Benthic invertebrate collections	Field Sheets and Laboratory data sheets	Access Database	Table, graphs, tolerance, diversity, IBI, and other indices	STORET, Access Database, OCC office library, hard copy data files, collections: OCC until museum space becomes available

Detailed instructions for recording field data in field books, field sheets, completion of chain of custody forms, and the recording of quality assurance data in field books as well as the actual data sheets are found in the following OCC SOP document sections:

SOP No.: IIA-2.01 Chain of Custody and Sample Labeling;

SOP No.: IIA-03.01 Procedure for Completing Field Data Sheets (Field Notebooks, Sampling Episode Sheets, & Site Collection Sheets)

SOP No.: IIA-4.01 Spike, Duplicate, Replicate, and Blank Samples/Measurements for Routine QA

Appendix: Data Sheets

The dispensation of all water quality, biological, and miscellaneous data as received from the laboratory is outlined in the following sections. In general, data acquired from a project follows formats according to the type of data and intended use.

Data Flow Upon Receipt From Contract Laboratory:

Original laboratory data sheets are assigned a volume and page number and then photocopied for distribution upon receipt to insure against loss of data.

The original data sheets are filed according to volume and page number. The page and volume of each data sheet are entered into a master data index along with the sampling date, chain of custody sheet number, site description, data parameters reported, and the grant or project name. This data index is kept on an Excel spreadsheet and as a hard copy file updated weekly.

The working copies are distributed to the Data Manager, the OCC-WQD QA Officer, and the Environmental Monitoring Coordinator.

The OCC-WQD QA Officer reviews the data for completeness, problems, gross errors, and violation of holding times. Data are flagged as unacceptable according to criteria outlined in corresponding QA Project Plans and the OCC QA Program Plan. QA flags are entered in the database by the data manager or designee. Problems with incomplete data and obvious reporting errors are resolved by the Data Manager upon consultation with the Environmental Monitoring Coordinator and the Laboratory Officer. The OCC-WQD QA Officer, in concert with the Task Manager, takes action to resolve any problems leading to violations of holding times.

Upon verification of data completeness, etceteras, the data manager supervises the entry or importation of the data to the appropriate database as described in Table 5.1. Flagged data are entered with an appropriate data quality code in the QA field. Quality assurance supplemental data (spike volume and concentration) are taken from the field notes and entered at this time.

All OCC Chain of Custody forms are discretely numbered. Chain of Custody (COC) forms are signed out by field investigators. Signed original copies of the COC are filed consecutively in a three-ring binder as samples are submitted to contract laboratories. As a routine procedure, incoming laboratory data sheets are checked off against the samples listed in the COC. Missing data prompts an inquiry to the laboratory.

Because much of the OCC-WQD program is dependent on the integrity of the documents and data maintained on the computer, a rigorous backup policy is maintained. Each user is encouraged to store files and data in their home directory on a Windows' NT network file server. Files stored on individual PCs can be backed up to the Windows' NT server by the principal user. All files on the NT server are backed up to tape on high capacity tape storage on a weekly (Thursdays) and monthly basis. Weekly backups are incremental backups (new and changed files) and tapes are stored on-site. Monthly backups are complete backups and are stored off-site at the OCC main office. Complete backups are done prior to any repairs, moves, or procedures that may threaten data integrity.

5.2 OCC File Management System.

The OCC maintains hard copy files of all project correspondence, workplans, QAPPs, and reports in dedicated project files. Project files are kept according to the grant and grant year. For office use, each project is assigned a specific project number to facilitate filing. Filing of documents and maintenance of project files is done by the WQ Division Secretary.

6.0 Computer Management System.

Computer Management System.

6.1 Computer Hardware Management.

Except for GIS applications and TMDL modeling, the computer hardware required for data management for OCC Water Quality projects does not exceed commonly used IBM compatible personal computers. All OCC grant proposals are developed with budgets to allow for computer hardware upgrades to meet the requirements of all users.

GIS support utilizes a Pentium Pro based computer with Windows NT operating system. All geo-spatial database development is documented using FGDC compliant metadata standards.

6.2 Software Management.

For general purposes, the OCC uses commercially available software in common use. Software is and continues to be selected on the basis of versatility and compatibility. Because of rapidly evolving software, the most up to date and appropriate software for advanced data analysis for each project is selected when data collection is completed. EPA Region VI Environmental Analysis Section is consulted when selecting specialized software for environmental analysis and modeling. Microsoft Access database software was selected upon consultation with several agencies including EPA Region VI. This commonly used database is reported to be compatible with the EPA STORET system. Data is easily exported from Access to spreadsheet programs such as Lotus and Excel. Data manipulation statistics are generally done on these types of spreadsheets or on statistics software such as WQ Stat. Software packages used in GIS development are ARC/INFO and ARC/View. Data sharing is through anonymous FTP. GIS hardware requirements and purchases are determined by the OCC and State GIS working groups.

The OCC programs do not require extensive software development outside of working spreadsheets and queries for the databases. Where complex models are used and modified as part of a project, modifications and results are scrutinized by a technical working group. The technical working group review is usually written as a task within such a project. Such models also receive intensive review by EPA Region VI when used as part of a grant commitment or output.

7.0 OCC Project Planning{tc \l1 "7.0 OCC Project Planning.}

7.1 Project Workplan Development and Revision Procedures

Project Workplans are developed using Total Quality Management Principles with the goal of incorporating input from field personnel and Task Managers with first hand experience with the environmental problems being addressed. An ad hoc committee of OCC field, technical, and technical writing staff develops project objectives and tasks to meet the objectives. OCC technical writing staff refines committee discussion into a final workplan.

Much of the OCC programs are dictated by requirements of the Clean Water Act, EPA Guidance, and Region VI EPA Guidance. Available funds, cost and schedule restraints, and eligible activities are dictated by specific grant programs. The grant programs for which the OCC is eligible by state law are non-point source and wetlands. The guidance for these programs leaves little room for an exercise to identify the “customer”. However, for the purposes required for this Quality Management Program, the customer is generally identified by the funding source. The OCC interprets this to be the EPA, Congress of the United States, and the general public for whose benefit the OCC projects are directed. The goals or needs of the “customer” are documented in the Clean Water Act as the attainment of fishable and swimmable uses for the waters of the Nation. For practical purposes, when planning projects, the principal decision-makers are identified as representative of the aforementioned. The principal decision-makers for OCC projects are usually senior OCC staff, local Conservation Districts, Conservation Commissioners, the Oklahoma Secretary of Environment, and EPA Region VI. Where it is practical and appropriate, the OCC identifies a local advisory group as one of a project’s decision makers and “customers”.

The Nonpoint Source program projects under §319(h) of the Clean Water Act must be part of the States Nonpoint Source Management Program. Furthermore, the projects must take into account various assorted guidance documents available and pertinent during the starting years of projects. Obviously, any new guidance supersedes previous guidance as written.

Within the context of the aforementioned constraints on the planning process, the OCC also coordinates the submission of §319(h) projects for other state agencies and universities. To facilitate this coordination, the OCC has established a Nonpoint Source Working Group made up of participants in §319(h) projects, Oklahoma environmental agencies, universities, Natural Resources Conservation Service, and sub-state planning units (Councils of Government). Non-Federal participants in this group are able to submit projects on a competitive basis for inclusion in the annual §319(h) workplan. This process begins with submission of a proposal to the working group. The proposed project is screened by a subcommittee of the working group and the OCC for eligibility under the grant requirements and guidance. The screened proposals are then fleshed out into workplans for presentation to the NPS Working Group. The working group then reviews and ranks the draft workplans for submission to EPA Region VI through the

Oklahoma Office of the Secretary of Environment.

The Wetlands Program Projects must work towards the implementation of Oklahoma's Comprehensive Wetlands Conservation Plan (OCWCP). The ultimate goal of the program is to provide landowners, students, local governments, and agency personnel with common sense approaches to wetland issues through education, demonstration/technical assistance, and restoration. The wetland program is based on a cooperative model involving other state agencies and local governments to ensure high quality products, services, and the ability to leverage funding sources.

The Clean Water Act 104(b)(3) under the guidance of US EPA establishes both regional and national federal guidelines to which potential grantees must adhere. These guidelines change on a yearly basis. At the state level proposals are submitted to the Office of the Secretary of Environment. The proposals are then assembled into a proposal packet and distributed to Oklahoma's Wetlands Working Group for state ranking. The Office of the Secretary of Environment then submits the state ranked proposals to the EPA Region VI for funding. Funding occurs on a competitive basis between the states within US EPA Region VI.

The planning process under both 319(h) and 104(b)(3) under the Clean Water Act then continues with review of the projects by numerous EPA personnel at EPA Region VI who judge the projects upon their merit, fundability, and scientific soundness. Project content receives additional input from the region through incorporation of comments as part of the approval process.

Guidance for the nonpoint source and wetlands programs requires measures of success to be included in each project workplan. Means by which success can be determined are as numerous as the types of projects developed and the guidance suggests numerous ways to measure success. The OCC follows the specific grant guidance in determining success.

7.2 Establishing Data Quality Objectives.

The process of establishing data quality objectives for each project follows the QA\G4 process. The DQO process is documented with the following minimum information included in the QAPP:

- 1) A record of all personnel participating in establishing DQOs
- 2) Identification of data users or "customers"
- 3) All decisions and data required within the scope of the project
- 4) The scope of the project
- 5) A "decision rule" logical statement
- 6) Acceptance limits for all required data
- 7) An environmental sampling design based on the preceding information.

Concurrence of the DQO process participants is recorded on the QAPP signature page.

The OCC is a small organization where most personnel fulfill multiple roles. Often the personnel making decisions based on the environmental data are also the principal personnel collecting the data. Generally the team establishing DQOs for OCC projects are the senior staff including:

Water Quality Division Director;
Water Quality Division Assistant Director;
QA/QC Officer and Sr. Technical Writer;
Environmental Monitoring Coordinator; and
Wetlands Program Coordinator

Input to the DQO process also comes from other OCC staff as needed.

All environmental data gathering activities contracted by outside agencies are established and documented through the same process as described above.

8.0 Implementation of Work Process. Implementation of Work Process.

8.1 Project Management and Implementation.

Upon approval of a project workplan and award of a grant, a project is assigned a Project or Task Manager. The Task Manager primarily oversees the implementation of the project as defined in the workplan (See Section 5.1 for workplan development), tracks the progress of the project, and assembles the appropriate personnel to complete the tasks as required by the workplan (for example, the task manager ensures the Environmental Monitoring Coordinator is aware a QAPP is approved and that sampling begins according to the QAPP). The Task Manager also tracks task milestones and output due dates. As required by the workplan, the Task Manager initiates the preparation of a QAPP by the QA Officer. The QAPP outlines specific methods, activities, SOPs, and personnel to accomplish the DQOs. Effective implementation of a project is ensured through the activities outlined in Sections 9.1, 9.2, 10.1, and 10.2 of this document. Because of its comprehensive nature, the QAPP serves as the main project document to direct the environmental monitoring activities. Through the review processes established in Section 9.1, the Quality Assurance Officer tracks the implementation of the monitoring as planned in the QAPP.

Assessment of each project occurs on a monthly basis through the process of drafting progress reports for the monthly meeting of the Conservation Commissioners by the Task Manager. The Task Manager also provides semi-annual progress reports for filing with the Grants Records and Tracking System (GRTS). In a Total Quality Management type process, each project is reviewed by OCC senior management, the QA Officer, and the Task Manager on a semi-annual basis. The semi-annual review assesses the results of all quality assurance activities, problems incurred, and actions taken to resolve quality problems.

REQUIREMENTS OF A TASK MANAGER

- 1 The Task Manager must understand the objectives and tasks of the workplan and provide the leadership to accomplish the tasks of the workplan.
- 2 Technical and administrative problems are frequently identified during workplan execution. The Task Manager notifies in writing the technical writing staff of the problems and suggests changes.
- 3 The Task Manager may form an ad hoc technical advisory committee to assist in resolving project technical problems.
- 4 The Task Manager ensures output commitments and project milestones are up to date. If they are not, the Task Manager and technical writing staff revise the dates for subsequent approval by EPA.
- 5 The Task Manager coordinates task activities by memorandum with others in the agency (monitoring, QA/QC, data management, and technical writing).
- 6 The Task Manager prepares a brief monthly report of activities that have been accomplished prior to announced due dates for incorporation into the division report.
- 7 The Task Manager prepares semi-annual reports for incorporation into the GRTS. Semi-annual reports are due to the OSE GRTS Coordinator mid-April and mid-October. For external projects, the Task Manager coordinates and reviews semi-annual reports for submittal to the OSE GRTS Coordinator.
- 8 The Task managers prepares quarterly reports for the 104(b)(3) projects for incorporation into the GRTS. These reports are due to the OSE GRTS Coordinator mid-April, mid-July, mid-October and mid-January.
- 98 The Task Manager gives brief project status reports at division staff meetings.
- 109 The Task Manager is responsible for the coordination of and is required to attend any meeting associated with the task.
- 1110 The Task Manager ensures that all reports or other outputs required by the workplan undergo the OCCWQD internal review process prior to submittal to the Office of the Secretary of Environment.
- 1211 The Task Manager reports, in writing, any administrative or technical problem that may compromise the quality of data or the integrity of the project to the Quality Assurance Officer.
- 1312 The Task Manager immediately reports, verbally and in writing, any perceived, actual, or potential problem in safety of the staff or public associated with the project.

8.2 Duties, Responsibilities and Work Assignments.
{tc \12 "8.2 Duties, Responsibilities and Work Assignments.Revision No. 0
January 24, 1996}

Staff duties have been assigned to promote the most efficient use of resources and ensure the quality of the work performed. Duties and responsibilities of OCCWQD personnel are summarized in Table 1.1

The Wetland Program Coordinator is the task manager for projects under Section 104(b)(3) Wetland Grant Program under the Clean Water Act.

9.0 Assessment and Responses{tc \l1 "9.0

Assessment and Responses.}

9.1 Project Review System.

The Task Manager tracks task milestones and output due dates. Assessment of each project occurs on a monthly basis through the process of drafting progress reports for the monthly meeting of the Conservation Commissioners by the Task Manager. The Task Manager also provides a semi-annual progress report for filing with GRTS. In a Total Quality Management-type process each project is reviewed by OCC senior management, the QA Officer, and the Task Manager on a semi-annual basis. The semi-annual review assesses the results of all quality assurance activities, problems incurred, and actions taken to resolve quality problems.

9.2 Project Quality Assurance.

The OCC strives to maintain constant vigil on the quality of data acquisition, data management, and data reporting. Most of the activities to accomplish this are routine with each project and are appropriate to the stage of the progress of the project. For example, field systems audits are conducted early in a project sampling program to ensure the quality of the data before considerable resources have been expended. Where problems have been identified and remedial actions have been taken, follow up assessments are conducted. Planning of other than routine quality assessments is conducted by the QA Officer in concert with the Division Director, the Assistant Division Director, and the Environmental Monitoring Coordinator. This team also plans the response to identified problems.

Assessment and response actions for Oklahoma Conservation Commission projects use the following tools to assess project quality:

Assessment:	Response:
<p>Field Systems Audit:</p> <p>Early in the sampling program and once each year, each field procedure is compared with the written SOP for compliance. Field audits include inspection of all equipment used and system performance up to sample delivery to the laboratory. Implementation of field assessments is the responsibility of the Quality Assurance Officer</p>	<p>Any inconsistency/deficiency affecting data quality between the SOP and the procedures observed is reported to the Task Manager, the Environmental Monitoring Coordinator, the Division Director, and the appropriate field personnel. Response to any inconsistency or deficiency is the responsibility of the QA Officer and may include additional training, purchase of additional equipment, changes in personnel, and revision of the SOP. Depending on the problem, additional assessments may be recommended.</p>
<p>Laboratory Performance Audit:</p> <p>Duplicate, spiked, and blank samples are delivered to the lab each sampling event or with every ten samples. Lab performance spiked and duplicate samples are tracked in the normal data handling process. Data chronically not meeting the acceptance criteria and contractual obligations of the laboratory results in remedial action.</p>	<p>Unsatisfactory laboratory performance is reported to the Project Officer, QA Officer, and the Laboratory Manager. Irreconcilable problems may result in review of the laboratory contracts and possibly change in laboratory. The Water Quality Programs Director has final authority for all laboratory contracts.</p>
<p>Data Management Review:</p> <p>The data management protocol requires</p>	<p>Data management and resolution of data entry</p>

<p>frequent communication between the Data Manager and the QA Officer. The data management system is reviewed in detail semi-annually for backup status and completeness of data.</p>	<p>problems are the responsibility of the WQD Data Manager.</p>
<p>Data Reporting, and Interpretation Review:</p> <p>Each report, prior to release, undergoes an internal review process of the Technical Writers, Task Manager, and Division Director. As appropriate, draft reports are submitted for peer review by qualified individuals in at least one Oklahoma environmental agency prior to submittal to the OSE and EPA Region VI.</p>	<p>Comments and differences in data interpretation are resolved by the technical writing staff.</p>

Through the previously described data management process, data is reviewed several times. Data validation is an integral part of this process. The mechanism of this process is already described in Section 5.1. The OCC water quality databases are constructed to calculate the percent recovery of a known addition to a sample and the difference as the percentage of the mean for duplicate samples (Table 1020:I of Standard Methods (APHA, AWWA, WPCF. 1989.)).

Annual quality assurance reports are sent to the EPA Region VI Project Officer through the Office of the Oklahoma Secretary of Environment. The annual reports include results of performance and system audits, results of data quality assessments, a summary of data precision accuracy and completeness, and significant quality assurance problems and solutions.

10.0 Quality Improvement System.

Quality Improvement System.

10.1 Quality Improvement Management.

Responsibility for quality improvement of all quality impaired activities within the OCC projects is borne by all personnel of each division. It is the responsibility of each staff member to report any perceived, actual, or potential problem in safety, data acquisition, data processing, or in reporting. Corrective actions for problems identified by the staff or through the processes described in 9.2 are planned and implemented by the Quality Assurance Officer under consultation with senior OCC management, the Task Manager, members of the DQO group, and affected personnel. All quality assurance problems and corrective actions are documented and summarized in the annual quality assurance report. Significant problems affecting the ability of the OCC to carry out the tasks of a project are reported immediately to the Office of the Secretary of Environment and the appropriate EPA Project Officer.

10.2 Corrective Action Program.

Each problem encountered in a project is unique and each solution to correct the problem is unique. Each corrective action is determined by the personnel described in section 10.1. Corrective action may be as simple as the purchase of new reagents or a new probe or a change in the SOP. More serious problems may require reassessment of the DQOs and the analytical methods. Problems with personnel are corrected by additional training, reassignment of duties, or in more extreme cases, letters of reprimand and dismissal. All actions requiring reassignment of duties, letters of reprimand, and dismissal are the responsibility of the Division Director. In a continuing process, identified problems are reassessed after remedial action to determine if additional response is required.

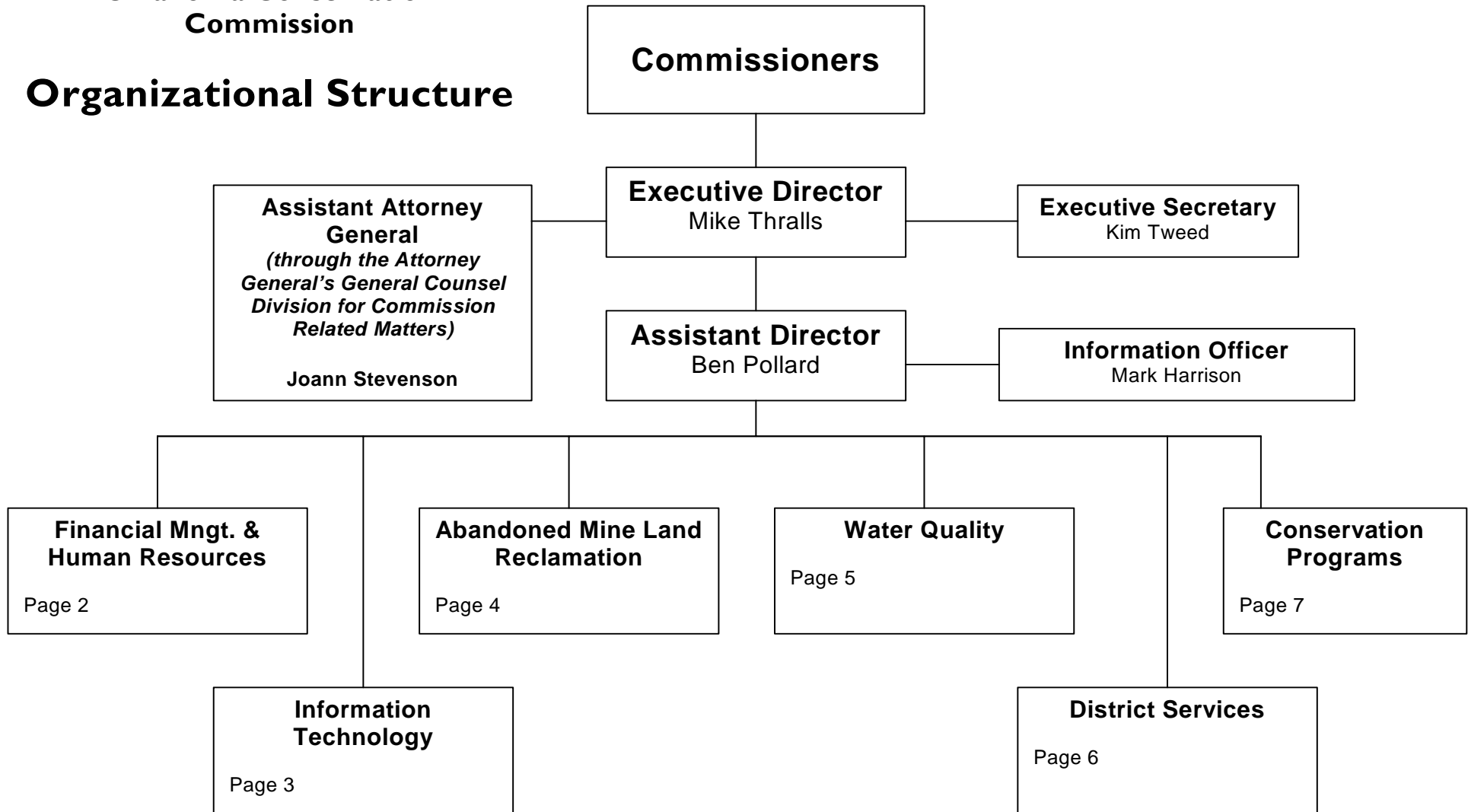
Corrective action for all problems resulting from contracted services is the responsibility of the Division Director.

References

American Public Health Association, American Water Works Association, Water Pollution Control Federation. 1989. *Standard Methods for the Examination of Water and Wastewater*. Seventeenth Edition. American Public Health Association, Washington, D.C.

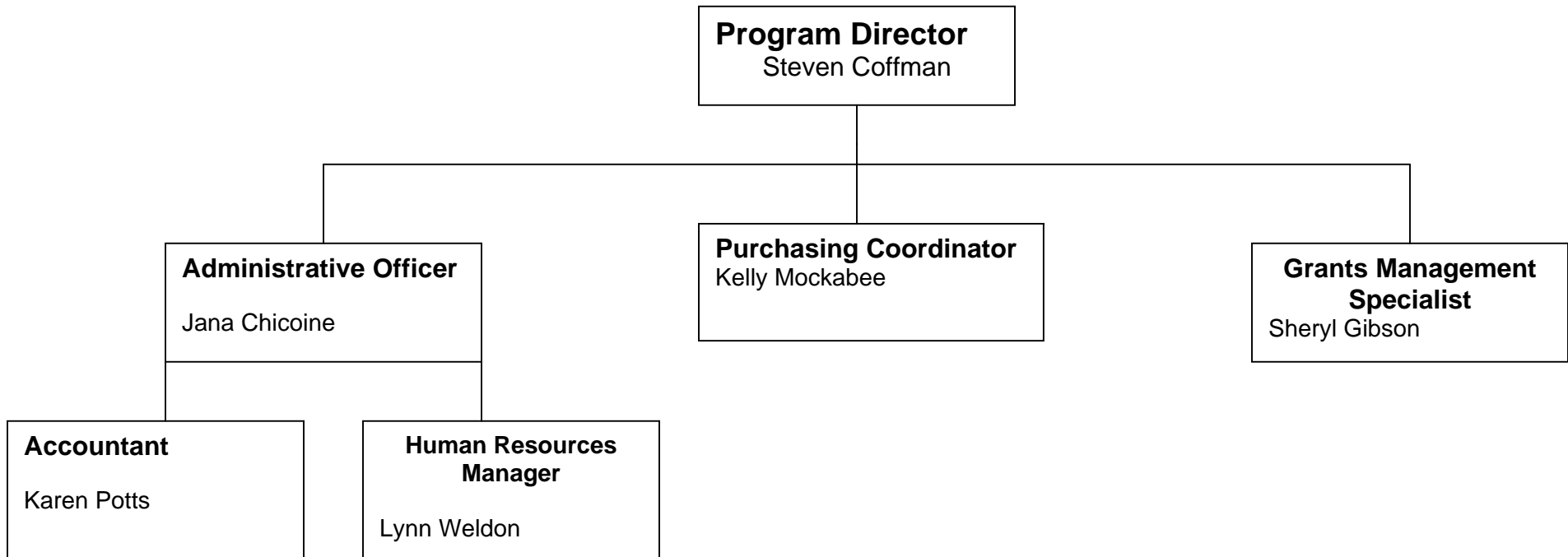
Appendix 1. OCC Organizational Chart{tc \11 "Appendix 1. OCC Organizational Chart}

Oklahoma Conservation Commission Organizational Structure



Oklahoma Conservation Commission

Financial Management and Human Resources **Organizational Structure**



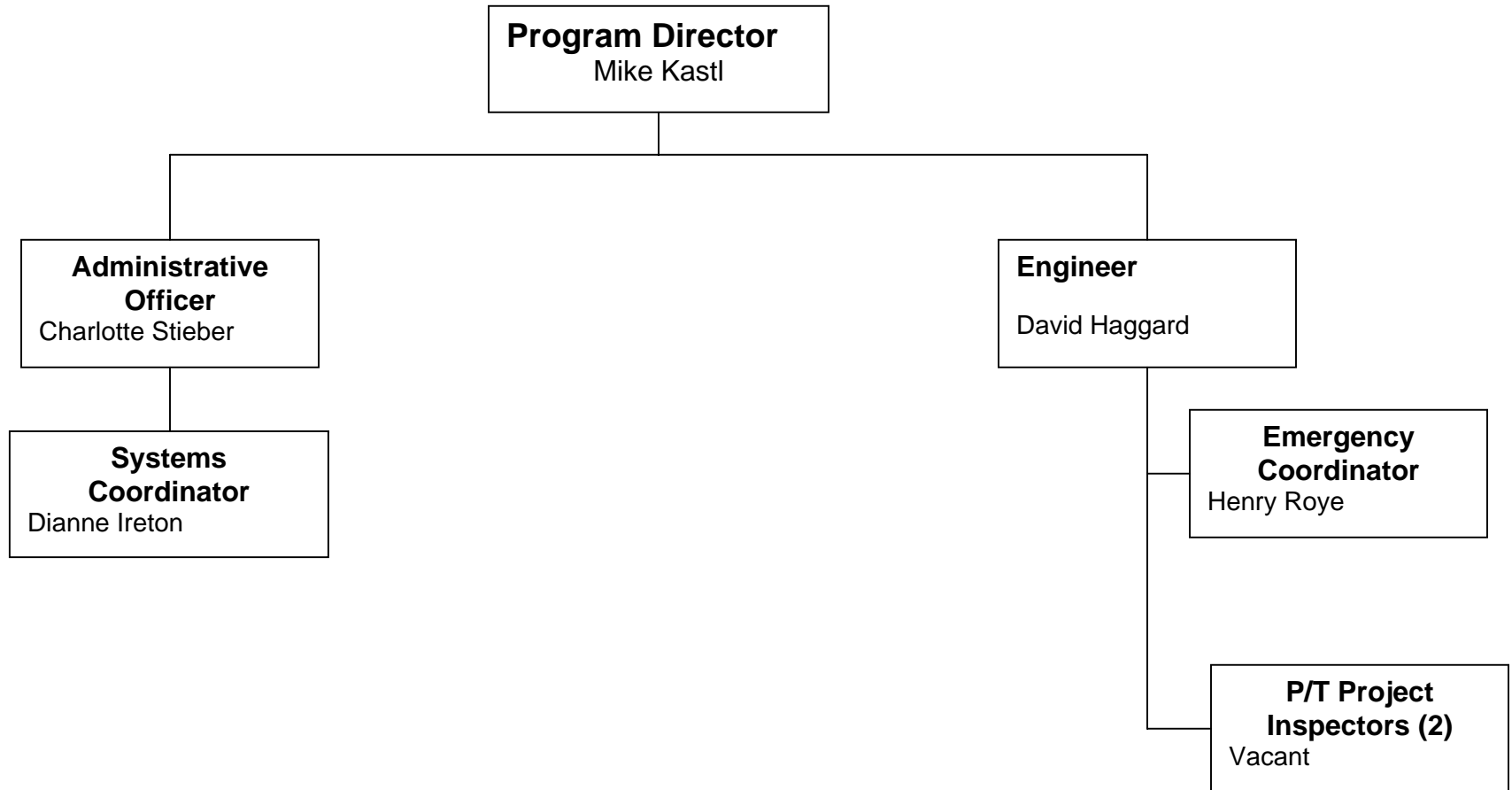
Oklahoma Conservation Commission

Information Technology **Organizational Structure**

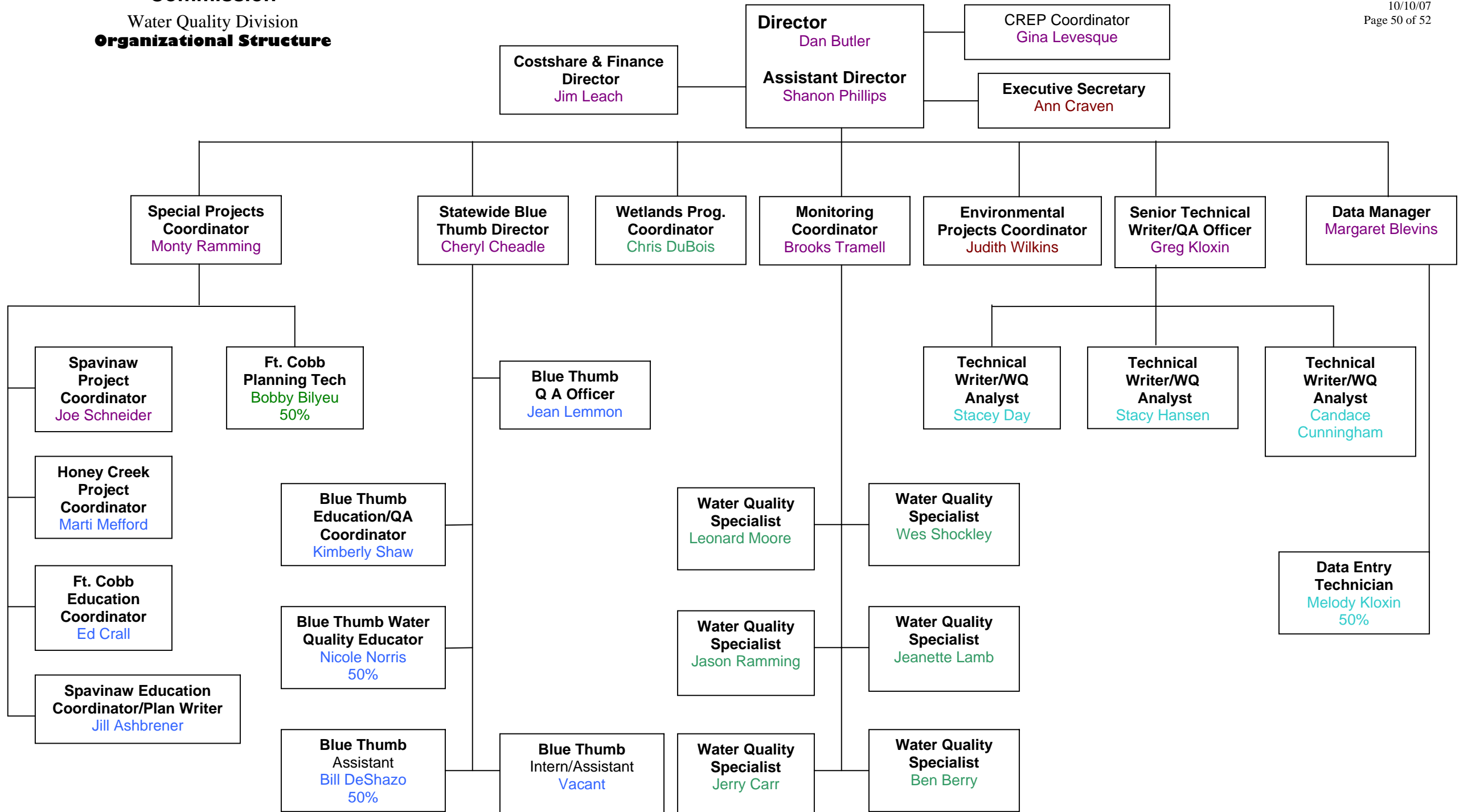


Oklahoma Conservation Commission

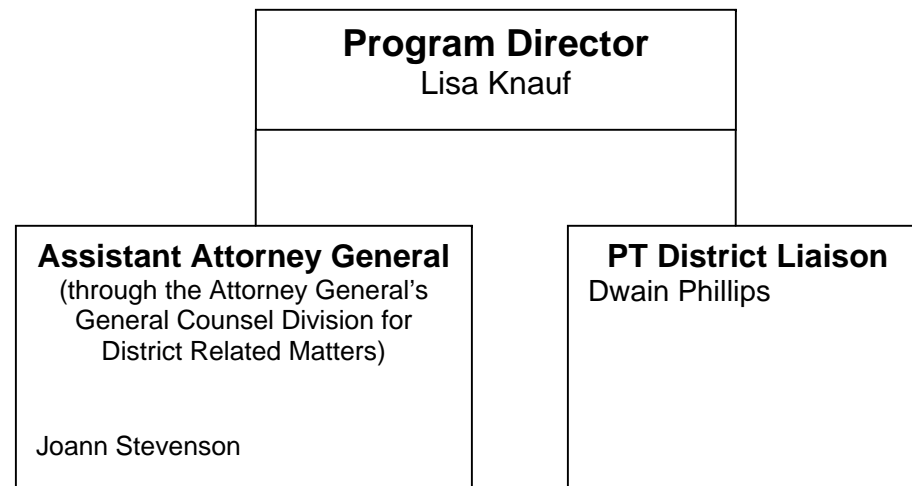
Abandoned Mine Land Reclamation **Organizational Structure**



**Oklahoma Conservation
Commission**
Water Quality Division
Organizational Structure



**Oklahoma Conservation
Commission**
District Services
Organizational Structure



**Oklahoma Conservation
Commission**
Conservation Programs
Organizational Structure

