

OKLAHOMA CONSERVATION COMMISSION

WATER QUALITY STANDARDS

IMPLEMENTATION PLAN

December 22, 2008

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SECTION I: INTRODUCTION

A. Statutory Authority

Subsection B of Section 1-1-202 of Title 27A of the Oklahoma Statutes specifies that each state environmental agency shall promulgate, by July 1, 2001, a Water Quality Standards Implementation Plan for its jurisdictional areas of environmental responsibility. The Implementation Plan must be promulgated in compliance with the Administrative Procedures Act and pursuant to Section 1-1-202. After initial promulgation, each state environmental agency must then review its plan at least every three years thereafter to determine whether revisions to the plan are necessary.

To the extent the required elements or items listed above will not result in a “rule” as defined by the Administrative Procedures Act, that information will be listed in the Plan but not necessarily in a rule promulgated by the agency.

B. Pertinent Definitions, Abbreviations and Acronyms

- **40 CFR** means *Title 40 of the Code of Federal Regulations*.
- **104** means *Section 104 of the CWA*, which provides federal grants for water quality management activities and special projects.
- **106** means *Section 106 of the CWA*, which provides annual grants for water quality management activities (especially for groundwater) and special projects. Currently administered by DEQ.
- **205** means *Section 205 of the CWA*, which provides federal grants for water quality management activities.
- **303** means *Section 303 of the CWA*, which requires states to review and, as necessary, revise their water quality standards at least every three years.
- **303(d)** means *Section 303(d) of the CWA*, which requires states to identify waters that do not or are not expected to meet applicable water quality standards with technology-based controls alone (sometimes referred to as the 303(d) List).

- **303(e)** means *Section 303(e) of the CWA*, which requires each state to prepare a CPP document. See also *CPP*.
- **305(b)** means *Section 305(b) of the CWA*, which provides the process for and requires the preparation and submittal of a Water Quality Assessment Report (sometimes referred to as the 305(b) Report) by each state.
- **314** means *Section 314 of the CWA*, which established the Clean Lakes Program for states.
- **319** means *Section 319 of the CWA*, which requires development of a State Assessment Report and a Management Program for Nonpoint Source (NPS) pollution problems. The Assessment Report describes the nature, extent, and effects of NPS pollution in each state, as well as the causes and sources of such pollution. The Management Program describes what a state intends to accomplish in the next four-year period to address NPS pollution problems.
- **319h** means the Grant program under section 319h of the CWA, the funds from which are currently administered by the Oklahoma Conservation Commission.
- **402** means *Section 402 of the CWA*, which establishes the National Pollutant Discharge Elimination System (NPDES).
- **Aquifer** means a geological formation or part of a formation or sedimentary zone that is capable of yielding a significant amount of water to a well or a spring (generally, sufficient water year round for daily domestic use or sufficient water seasonally for agricultural use).
- **Background** means the ambient level of a pollutant relative to a potential source of pollution, and which is characterized by upstream (to the source being investigated) concentrations of a pollutant for surface waters or hydraulically upgradient concentrations for groundwater.

- **BMP** means *Best Management Practice(s)*, a technique determined to be the most effective, practical means of preventing or reducing pollutant discharges at a site or across a watershed to achieve water quality goals. The term is generally applied in the context of nonpoint sources of pollution.
- **CFR** means *Code of Federal Regulations*.
- **CPP** means the *Continuing Planning Process* document, submitted by the state to the EPA, which describes present and planned water quality management programs and the strategy used by the State in conducting these programs. Information on how the state utilizes the WQS and WQS Implementation Criteria are contained in this document.
- **CSW** means *Culturally Significant Waters*, identified by recognized Tribal authorities as critical to maintaining the waters' utility for cultural, historic, recreational or ceremonial uses.
- **CWA** means the federal *Clean Water Act* and amendments thereto.
- **CWAC** as defined in OAC 785:45, means *Cool Water Aquatic Community*, a subcategory of the beneficial use category "Fish and Wildlife Propagation" where the water quality, water temperature and habitat are adequate to support warm water-intolerant climax fish communities and includes an environment suitable for the full range of cool water benthos.
- **DEQ** means the Oklahoma *Department of Environmental Quality*.
- **EQIP** means the NRCS *Environmental Quality Incentives Program* (see below).
- **Environmental Quality Incentives Program** A NRCS program to provide cost-share assistance to farmers and ranchers who face threats to soil, water, and related natural resources. The Environmental Quality Incentives Program (EQIP) was established in the 1996 Farm Bill to provide a voluntary conservation program.

- **Fish and Wildlife Propagation** means the WQS beneficial use designation for promoting fish and wildlife propagation for the fishery classifications of HLAC, WWAC, CWAC and Trout Fishery (Put and Take).
- **Fish Consumption** means the WQS beneficial use designation for the protection of human health for the consumption of fish flesh.
- **Heavy Metals** Specific metals listed with the 126 pollutants defined as toxic pollutants pursuant to Section 307 of the CWA, specifically those listed at 40 CFR 122, Appendix D, Tables II and III. Those heavy metals associated with activities regulated by Corp Comm. include Arsenic, Barium, Cadmium, Chromium, Lead, and Mercury.
- **HLAC** as defined in OAC 785:45, means *Habitat-Limited Aquatic Community*, a subcategory of the beneficial use category "Fish and Wildlife Propagation" where the water chemistry and/or habitat are not adequate to support a warm water aquatic community (WWAC).
- **HQW** means *High Quality Water*, defined as those waters of the state which possess existing water quality which exceeds that necessary to support the propagation of fishes, shellfishes, wildlife, and recreation in and on the water. HQWs must receive special protection against degradation.
- **HUC** means Hydrologic Unit Code. The USGS divided the US into successively smaller hydrological units that were classified into four levels, regions, sub-regions, accounting units, and cataloging units. The hydrologic units are arranged within each other from the smallest (cataloging units) to the largest (regions).
- **Nonpoint Source** refers to diffuse pollutants that may seem minor in themselves, but when combined from an entire watershed, become significant. In general, nonpoint source (NPS) pollution does not result from a discharge at a specific location (such as a pipe) but results from dispersive sources such as runoff,

percolation, precipitation, and atmospheric deposition.

NPS Management Program

The Nonpoint Source Management Program (NPSMP) document outlines the measures by which NPS pollution will be assessed, evaluated, and remediated in the State of Oklahoma. This document describes the framework for controlling NPS pollution, given existing and potential water quality problems defined in the NPS Assessment Report.

Section 319 (h) authorizes funding support, as part of a State's overall financial support package, to implement the programs outlined in this plan. States must have an EPA approved Nonpoint Source Management Program document in order to receive 319 funding, and the methods, practices and other activities to be employed in the NPS program must also be described in the NPS Management Program. This document describes the processes by which the State addresses NPS pollution in its waters.

- **Nonpoint Source Pollutants** Pollutants conveyed from diffuse sources including excess sediment, nutrients, pesticides, heavy metals, fecal bacteria, organic matter, petroleum products, brines and other salts, and other substances.

- **NPS Working Group** A group currently made up of 39 members who review and guide the NPS program. Membership is open to one representative of every group or agency that is a stakeholder in the NPS Program. Current membership includes representatives from:
 - State and Federal agencies whose activities affect NPS pollution in the State,
 - Tribes,
 - Power authorities - Oklahoma Gas and Electric,
 - Producer Groups such as the Broiler Control Council and the Cattlemen's Association
 - Agricultural groups such as the Farmer's Union and the Farm Bureau
 - Environmental groups such as the Sierra Club and the Nature Conservancy, and

- Municipal Groups

- **NPDES** means the *National Pollutant Discharge Elimination System*, as authorized by Section 402 of the CWA. The DEQ has received delegation of the NPDES program in Oklahoma for most point sources; the EPA has retained permitting authority for jurisdictional areas related to agriculture and the oil and gas industry.

- **NPSMP** means Nonpoint Source Management Program – see above.

- **OAC** means *Oklahoma Administrative Code*.

- **OPDES** means *Oklahoma Pollutant Discharge Elimination System*, which the ODEQ's Water Quality Division administers under Oklahoma statutes (the Oklahoma Pollutant Discharge Elimination System Act, 27A O.S. Supp 1998, Section 2-6-201 et seq) and by NPDES delegation from EPA (see also NPDES).

- **ORW** means *Outstanding Resource Water*, defined as a water of the state that constitutes an outstanding resource or is of exceptional recreational and/or ecological significance. ORWs must receive special protection against degradation.

- **OSE** means the *Office of the Secretary of Environment*.

- **OWQMC** means the *Oklahoma Water Quality Monitoring Council*, consisting of 25 representatives from state agencies, tribes, federal agencies, academia, and other state water quality stakeholder groups.

- **OWQS** means the *Oklahoma Water Quality Standards*, established pursuant to Section 303 of the CWA, and which serve as goals for water quality management planning and benchmark criteria for the NPDES/OPDES permitting process. Water Quality Standards consist of beneficial use classifications, water quality criteria to support those uses, and an antidegradation policy statement.

- **PBCR** means *Primary Body Contact Recreation*, a WQS beneficial use designation.
- **Plan** means *Water Quality Standards Implementation Plan*.
- **Point Source** means any discernible, confined and discrete conveyance from which pollutants are or may be discharged such as a discharge pipe (see also definition in OAC 785:45).
- **PPWS** means *Public and Private Water Supply*, a WQS beneficial use designation for the protection of human health for the consumption of water and consumption of fish flesh and water. Not synonymous with primary and secondary drinking water standards.
- **Remediation** means the removal of pollutants from soil and/or water by absorption, excavation, pumping, natural attenuation, biological, chemical, or other means or combination of methods.
- **Rotating Basin Monitoring Program** The OCC's ambient monitoring program to assess NPS pollution impacts to streams in the State by monitoring at the base of each HUC 11 Watershed. Sites are monitored approximately every 36 days for a period of two years. Sampling at each site includes physical, chemical, biological and habitat monitoring. For purposes of the program, the State's 11 planning basins have been divided up into 5 units (consisting of 2 – 3 planning basins each). The monitoring program rotates through each of the 5 units so that each of the units is monitored for two consecutive years every five years.
- **Scenic River** means a river or stream so designated pursuant to the Wild and Scenic Rivers Act. A scenic river is automatically considered an ORW.
- **SDWA** means the *Safe Drinking Water Act* and amendments thereto.
- **SOP** means *Standard Operating Procedure*.

- **STORET** (short for STOrage and RETrieval) is a repository for water quality, biological, and physical data and is used by state environmental agencies, EPA and other federal agencies, universities, private citizens, and many others. STORET is EPA's environmental database.
- **SWPPP** means *stormwater pollution prevention plan* as drafted prior to construction activities to document a program to reduce pollutants from construction.
- **SWS** means *Sensitive Water Supply*, defined as a water body that constitutes a sensitive public and private water supply.
- **TDS** means *Total Dissolved Solids*, measured dried at 180 °C in a laboratory analytical test or measured in the field with a conductivity meter calibrated to read as TDS.
- **TMDL** means *Total Maximum Daily Load*, a written, pollutant-specific and water body-specific plan establishing pollutant loads for point and nonpoint sources, incorporating safety margins, to ensure that a specific water body will attain and maintain the water quality necessary to support existing and designated beneficial uses.
- **UAA** means *Use Attainability Analysis*, an investigation by OWRB of whether a WWAC or CWAC subcategorization (for the Fish and Wildlife Propagation beneficial use) is reasonably attainable. HLAC subcategorization of a water body requires a UAA prior to adoption.
- **USAP** means *Use Support Assessment Protocols*, defining how sampling and other data shall be used to determine whether or not a water body is meeting its beneficial uses, as defined at OAC 785:46, Subchapter 15.
- **WQMP** means *Water Quality Management Plan*, a statewide plan incorporating the various water quality management program elements under the CWA. Sometimes referred to as the "208 Plan." Water

quality management plans are also developed by designated area-wide planning agencies.

- **WQS Implementation Criteria** means *Water Quality Standards Implementation Criteria*, procedures used to implement the WQS, including mixing zones, regulatory effluent and receiving water flows, determination of effluent wasteload allocations and criteria long term average concentrations, and antidegradation policy implementation. WQS Implementation Criteria including USAP are found at OAC 785:46.

- **WQSIP** means *Water Quality Standards Implementation Plan*.

- **WWAC** as defined in OAC 785:45, means *Warm Water Aquatic Community*, a subcategory of the beneficial use category “Fish and Wildlife Propagation” where the water quality and habitat are adequate to support climax fish communities and includes an environment suitable for the full range of warm water benthos.

- **Watershed Advisory Group** The *Watershed Advisory Group (WAG)* is a group formed by the local conservation districts, made up of local watershed stakeholders. WAGs are established in the watersheds of OCC Watershed Implementation Projects to insure local leadership in the projects. The WAG serves as an advisor to OCC activities to insure that program activities meet the needs of the local stakeholders by determining what types of areas will be targeted for the program, which types of best management practices will be supported by the program, and at what rate cost share will be offered to those participating in the program.

C. Oklahoma’s Water Quality Standards and Their Implementation

1. Surface Water

Pursuant to Section 303 of the CWA, Oklahoma’s surface water quality standards are promulgated by the OWRB at OAC 785:45, Subchapter 5. Surface water quality standards are comprised of three elements:

- a. **Beneficial uses**, designated to apply to specific waterbodies or defined waterbody segments, as listed in Appendix A to OAC 785:45, and which generally address the goals of the CWA. Certain default beneficial uses are assumed for waters not listed in Appendix A until a UAA may indicate otherwise. The subset of beneficial uses which address water quality (as opposed to quantity) are:
- Public and Private Water Supply (OAC 785:45-5-10);
 - Fish and Wildlife Propagation (OAC 785:45-5-12), according to one of four fishery subcategories:
 - Habitat-Limited Aquatic Community (HLAC)
 - Warm Water Aquatic Community (WWAC)
 - Cool Water Aquatic Community (CWAC)
 - Trout Fishery (Put and Take)
 - Agriculture (OAC 785:45-5-13);
 - Primary Body Contact Recreation (OAC 785:45-5-16);
 - Secondary Body Contact Recreation (OAC 785:45-5-17);
 - Aesthetics (OAC 785:45-5-19); and
 - Fish Consumption (OAC 785:45-5-20)
- b. **Numerical and narrative criteria**, which apply statewide. Numerical criteria (also found at Subchapter 5 of OAC 785:45) are pollutant-specific and apply to a waterbody according to its designated beneficial uses, as outlined above, and in accordance with implementation criteria promulgated at OAC 785:46.
- c. A **water quality antidegradation policy**, which applies statewide. Consistent with the goals of the CWA, Oklahoma's antidegradation policy is found at OAC 785:45, Subchapter 3. Antidegradation policy implementation is found at OAC 785:45-5-25 and OAC 785:46, Subchapter 13. It includes three levels of protection:
- (1) Attainment or maintenance of existing or designated beneficial uses (Tier 1).
 - (2) Maintenance of beneficial uses and water quality in higher quality waters and sensitive water supplies of the state, as well as in waters of ecological and/or recreational significance (Tier 2).
 - (3) Prohibition of any water quality degradation from new point source discharges or increased loading from existing discharges into waters designated as outstanding resource waters (Tier 3).

2. Groundwater

Although not required by any provision of the CWA, the OWRB has promulgated groundwater quality standards for the state at OAC 785:45, Subchapter 7. The

purposes of the rules in this Subchapter are to protect beneficial uses and classifications of groundwater, to assure that degradation of the existing quality of groundwater does not occur, and to provide minimum standards for remediation when groundwater becomes polluted by humans.

a. Class designations, beneficial uses, and vulnerability levels.

1. Classifications, found at OAC 785:45-7-3(a) are as follows:

- (1) **Class I (Special Source Groundwater):** Groundwaters where exceptional water quality exists, where there is an irreplaceable source of water, where it is necessary to maintain an outstanding groundwater resource or where the groundwater is ecologically important. This class of groundwater is considered to be very vulnerable to contamination and includes:
 - (a) All groundwater located beneath the watersheds of surface waters designated as Scenic Rivers in Appendix A to OAC 785:45.
 - (b) Groundwater located underneath lands located within the boundaries of areas with waters of ecological and/or recreational significance listed in Tables 1 and 2 of Appendix B to OAC 785:45.
 - (c) Groundwater located underneath lands located within the boundaries of a state-approved wellhead protection area for public water supply.
- (2) **Class II (General Use Groundwater):** Groundwaters capable of being used as a drinking water supply either with no treatment or with conventional treatment methods, which have the potential for multiple beneficial uses, and which have mean TDS levels of less than 3000 mg/l.
- (3) **Class III (Limited Use Groundwater):** Groundwaters of poor quality due to naturally occurring contaminants, which may require extensive treatment for use as a drinking water source, and which have mean TDS levels of greater than or equal to 3000 mg/l but less than 5000 mg/L.
- (4) **Class IV (Highly Mineralized Treatable Groundwater):** Groundwaters which have very poor quality due to natural conditions, which would require extensive treatment for use as a source of drinking water, and which have a mean concentration of Total Dissolved Solids of greater than or equal to 5000 milligrams per liter but less than 10,000 milligrams per liter.

2. Beneficial uses, designated by the classes described above, which are delineated by TDS level. Such beneficial uses are defined at OAC 785:45-7-3(b) and may include, but are not limited to:

- Public and Private Water Supply

- Agriculture
- Industrial

3. **Vulnerability level.** Groundwater in certain hydrogeologic basins is further classified according to its vulnerability to contamination as determined by DRASTIC. Such vulnerability levels of hydrogeologic basins shall be identified as Very Low, Low, Moderate, High, and Very High as prescribed in Table 1 of Appendix D of Chapter 45. The vulnerability level may vary within each hydrogeologic basin, depending on site-specific hydrogeologic factors.

4. **Nutrient-vulnerable groundwater.** Certain specified groundwaters shall be further subject to designation in Table 2 of Appendix D of Chapter 45 as nutrient-vulnerable groundwater.

b. **Protective measures and corrective actions** are composed of:

- (1) Narrative criteria stating that the groundwaters of the state shall be maintained to prevent alteration of their chemical properties by harmful substances not naturally found in groundwater.
- (2) Narrative criteria requiring that protective measures be at all times maintained which are adequate to preserve and protect existing and designated groundwater basin classifications and which are sufficient to minimize the impact of pollutants on groundwater quality.
- (3) Narrative criteria stating that the concentration of any synthetic substance or any substance not naturally occurring in that location shall not exceed the PQL in an unpolluted groundwater sample using laboratory technology. If the concentration in the test sample exceeds the PQL or if other substances in the groundwater are found in concentrations greater than those found in background conditions, that groundwater shall be deemed to be polluted and corrective action may be required.
- (4) Development of prescriptive measures by each state environmental agency in their WQSIP, and subsequent use of such measures, to prevent, control or abate groundwater pollution caused by any person or entity within their jurisdictional area of environmental responsibility.
- (5) Consideration by each state environmental agency of a hydrogeologic basin's vulnerability level, as developed in OWRB Technical Report 99-1, Statewide Groundwater Vulnerability Map of Oklahoma, Noël I. Osborn and Ray H. Hardy, in regulation of activities with the potential to contaminate groundwater from the surface, particularly in regard to prescriptive measures developed and implemented via the agency's

WQSIP to prevent and control groundwater pollution by persons or entities within their jurisdictional area of environmental responsibility.

- (6) Narrative criteria for corrective action stating that groundwater that has been polluted as a result of human activities shall be restored to a quality that will support the beneficial uses designated in OAC 785:45-7-3 for that groundwater, or as otherwise specified in a site-specific remediation plan approved by an agency of competent jurisdiction.

D. Required WQSIP Elements

Except as otherwise assigned by law, carry out the policies of this state in programs at the state level for the conservation of the renewable natural resources of this state and represent the state in matters affecting such resources

Pursuant to Subsection B, 27A O.S. Supp 1998, Section 1-1-202, each agency's WQSIP is to include eight elements for each of its jurisdictional areas of environmental responsibility.

1. **Program Compliance with Antidegradation and Protection of Beneficial Uses**

Generally describes the processes, procedures and methodologies utilized to ensure that programs within jurisdictional areas of environmental responsibility comply with antidegradation standards and lead to:

- a. **Maintenance of water quality where beneficial uses are supported.**
- b. **Removal of threats to water quality where beneficial uses are in danger of not being supported.**
- c. **Restoration of water quality where beneficial uses are not being supported.**

Program area processes, procedures and methods established to comply with the state's antidegradation policy and maintain supported beneficial uses, remove threats which endanger continued support of beneficial uses, and restore water quality where beneficial uses have been compromised, are described in sufficient detail to allow implementation in related administrative rules.

Nonpoint source pollution may affect many beneficial uses. Beneficial uses affected by NPS pollution which Oklahoma Conservation Commission Water Quality Division (OCCWQ) programs strive to protect and restore include:

- public and private water supplies- NPS pollution degrades water quality by adding substances such as nutrients, sediment, pesticides, bacteria, organic matter, heavy metals, or degrading the quality of a water supply

below a level which makes it safe or otherwise appropriate for human consumption.

- Emergency public and private water supplies- (same as above)
- Fish and Wildlife propagation- NPS pollution interferes with a waterbody's ability to support a healthy biological community either by degrading the available habitat, interfering with community structure (introducing exotic species or increasing the proportion of pollution tolerant species, etc.), or by degrading the water quality to a level below that which is necessary for the appropriate aquatic community.
- Agriculture- NPS pollution can contribute salts or other contaminants to water which make it unsuitable for irrigation or livestock watering.
- Hydroelectric power generation- NPS pollution can affect hydroelectric power generation in several ways. Primarily, sedimentation can reduce the capacity of the retention structure, thereby reducing the amount of water available for release and power generation. Secondly, NPS pollution can reduce the quality of the water pooled above the generating structure, which thereby affects the quality of the discharged water. This degradation often affects the power authorities abilities to generate power.
- Industrial and municipal process and cooling water- in perhaps rare cases, NPS pollution could contribute to the physical or chemical properties of water which would make it unsuitable for industrial or municipal processes. For example, the water could be too salty for use in some industrial processes.
- Primary and Secondary Body Contact Recreation- NPS pollution can contribute significant quantities of fecal bacteria which make the water unsafe for body contact or sediment and solid waste or detritus which make the waterbody less suitable for body contact.
- Navigation- NPS pollution could contribute to sedimentation of a waterbody which may limit its potential for navigation
- Aesthetics- NPS pollution can contribute significantly to factors affecting the aesthetics beneficial use of a water body. For instance, NPS pollution contributes to eutrophication, which leads to the formation of unsightly algal blooms. NPS pollution also contributes sediment, detritus, oil and grease, and other factors which cause a waterbody to be less aesthetically pleasing.

2. Application of Use Support Assessment Protocols (USAP)

Describes the procedures to be utilized in the application of USAP to make impairment determinations.

USAP implementation criteria are found at OAC 785:46, Subchapter 15. The procedure by which an OCC program area utilizes USAP in making waterbody beneficial use impairment determinations, or the manner in which USAP-derived support/impairment information is utilized in program area functions is described. USAP studies are spatial/temporal waterbody investigations utilizing established

numerical criteria to determine whether designated beneficial uses are being fully supported or not supported. Depending on the criterion involved, additional determinations of “partially supported” or “fully supported but threatened” are available.

3. **Description of Programs Affecting Water Quality**

Describes the various programs and subprograms within each jurisdictional area of environmental responsibility.

An OCC program area, and the functions thereof which together comprise its surface water and/or groundwater quality-related component(s), is described in section *F. Divisions and Functional Areas of the OCC* in sufficient detail to convey the manner and process by which water quality standards implementation is achieved.

4. **Technical Information and Procedures for Implementation**

Includes technical information and procedures to be utilized in implementing the WQSIP.

Technical information, databases, software programs and operational procedures, be they of federal, state, or OCC division/program area origin, that are utilized by a program area to implement the OCC WQSIP are described.

5. **Integration of WQSIP into OCC Water Quality Management Activities**

Describes method by which the WQSIP will be integrated into the water quality management activities within each jurisdictional area of environmental responsibility.

How administrative rules, program area policies and guidance, and/or standardized methods of conducting business either will be or have been promulgated, created or developed, as appropriate, in order to integrate elements of the WQSIP into OCC water quality management activities is described.

6. **Compliance with Statewide Water Quality Requirements**

Describes in detail the manner in which each state environmental agency will comply with mandated statewide requirements affecting water quality developed by other state environmental agencies including, but not limited to, total maximum daily load (TMDL) development, point source wastewater discharge permitting activities and nonpoint source (NPS) pollution prevention programs.

Generally speaking, there are five statewide water quality requirements applicable to OCC activities:

- Oklahoma Water Quality Standards (OWQS)
- OWQS implementation procedures
- Section 319 Nonpoint Source Management Program (NPSMP)
- Section 208 Water Quality Management Plan (WQMP)
- Continuing Planning Process (CPP) document (includes TMDL development)

Interagency cooperation among the OCC, other state environmental agencies, and the EPA is also required by OAC 252:610-7-3 in developing and implementing long-range plans for preventing and abating nonpoint source pollution in accordance with Section 208 of the CWA.

Pursuant to 27A O.S., Section 3-2-106, the OCC shall, except as otherwise provided by law, have jurisdiction over and responsibility for direction of nonpoint source pollution programs outside the jurisdiction of cities or towns of Oklahoma. The Commission shall be responsible for all identified NPS categories except silviculture, urban stormwater runoff, and industrial runoff. The OCC is also responsible for monitoring, evaluating, and assessing waters of the state to determine the condition of surface waters impacted by NPS pollution. In this capacity, the OCC serves as the technical lead agency for NPS pollution.

The manner in which a program area utilizes these statewide requirements affecting water quality which are developed by the OCC or other state environmental agencies, including TMDL development, point source discharge permitting and nonpoint source pollution prevention programs, is described in *Section II. WQSIP Elements by OCC Jurisdictional Area* in sufficient detail to demonstrate compliance with those requirements.

7. **Public and Interagency Participation**

Summary of written comments and testimony received pursuant to all public meetings held by each state environmental agency for the purpose of providing public participation relating to its WQSIP.

This requires the compilation and appendage hereto of all comments, and agency responses thereto, received from the public and interested federal, state and local government agencies in the process of providing public participation in the promulgation of the OCC WQSIP and future reviews and revisions thereto.

8. **Evaluation of Effectiveness of Agency Activities**

Description of objective methods and means to evaluate the effectiveness of activities conducted pursuant to the WQSIP to achieve water quality standards.

The OCC's Rotating Basin Monitoring Program (RBMP) and project associated monitoring is the primary means by which activities pursuant to restoration of beneficial use support and implementation of the OCC WQSIP are evaluated. Every OCC effort to protect and conserve the State's water resources either includes a specific monitoring effort, or can be evaluated using a more general monitoring program such as the RBMP or other state and federal monitoring programs. The OCC's monitoring program along with the OWRB's BUMP program are the only programs in the state that consistently monitors the physical, chemical, and biological integrity of the streams and rivers of Oklahoma. Every monitoring project, unless specifically limited by outside control, evaluates the entire aquatic ecosystem health, rather than just the water quality. In addition, all OCC water quality related monitoring is conducted under an EPA approved Quality Assurance Project Plan to assure the quality of the data.

To the extent that any of the required WQSIP elements listed above (including, but not necessarily limited to, public and interagency participation) cannot be implemented in an agency "rule," as defined by the Administrative Procedures Act, that information will be appended to the WQSIP Document rather than be included in an agency rule.

E. Jurisdictional Areas within the Conservation Commission

The jurisdictional areas of the Oklahoma Conservation Commission are defined in Subsection F, 27A O.S. Supp. 1998, Section 1-3-101:

1. **Soil conservation, erosion control and nonpoint source management**

except as otherwise provided in subsections B (Department of Environmental Quality), D (Department of Agriculture), E (Oklahoma Corporation Commission), of Section 1-3-101

2. **Monitoring, evaluation and assessment of waters to determine the condition of streams and rivers being impacted by nonpoint source pollution**

In carrying out this area of responsibility, the Conservation Commission shall serve as the technical lead agency for nonpoint source categories as defined in Section 319 of the Federal Clean Water Act or other subsequent federal or state nonpoint source programs, except for activities related to industrial and municipal stormwater or as otherwise provided by state law;

3. **Wetlands strategy**; as further defined in 27A O.S. Section 3-2-108, the OCC has exclusive jurisdiction to prepare a Wetlands Management Strategy for the State that performs the following functions:

- a) Define wetlands
- b) Enumerate their beneficial uses
- c) Identify and inventory wetlands within the state
- d) Recommend measures to protect wetlands, and
- e) Define standards for critical wetlands and measures to ensure protection of property rights of landowners

4. **Abandoned mine reclamation;**

a) The Commission is authorized to take all action necessary to insure Oklahoma's participation in the Abandoned Mine Reclamation Fund established by the Federal Surface Mining Control and Reclamation Act of 1977 (PL 95-87), and to function as the state's agency for participation. Pursuant to the federal act, the Commission shall establish priorities that meet the terms of the federal act for the expenditure of those funds, designate the land and water eligible for reclamation or abatement expenditures and submit reclamation plans, annual projects and applications to the appropriate authorities pursuant to the terms of the federal act. It shall administer all monies received for abandoned mine reclamation or related purposes, which expenditure constitutes a public benefit.

b) The Commission is authorized to spend monies from the State Abandoned Mine Reclamation Fund for the emergency restoration, reclamation, abatement, control or prevention of adverse effects of coal mining practices on eligible land if it finds that:

- i. An emergency exists constituting a danger to the public health, safety or general welfare; and
- ii. No other person or agency will act expeditiously to restore, reclaim, abate, control or prevent the adverse effects of coal mining practices.

c) The Commission may enter on any land where an emergency exists and any other necessary access land to restore, reclaim, abate, control or prevent the adverse effects of coal mining practices and to do all things necessary or expedient to protect the public health, safety or general welfare. This entry shall not be construed as an act of condemnation of property nor of trespass. The monies expended for this work and the benefits accruing to the premises entered on shall be chargeable against the land and shall mitigate or offset any claim in or any action brought by any owner of any interest in the premises for any damages by virtue of the entry; provided, however, that this provision is not intended to create new rights of action or eliminate existing immunities.

5. **Cost-share program for land use activities**

as further defined in 27A O.S. Section 3-3-114, the OCC is authorized to establish and administer a conservation cost-share program as funds become available. The program shall provide monies to eligible persons for the purpose of implementing conservation or best management practices according to rules promulgated by the Commission.

- a) The OCC shall promulgate rules governing the cost-share program.
- b) The OCC shall require conservation districts to enter into contracts for approved projects on eligible land detailing the landowner's responsibilities.
 - i. Eligible land includes privately owned land, state or other political subdivision of the state-owned land, land temporarily owned by the US Government or by a corporation which was not acquired or reserved for conservation purposes, government or corporation owned land which is cropped by a private person, and noncropland owned by the government where private persons implement BMPs that protect or benefit adjacent privately owned land.
 - ii. Eligible person means any individual, partnership, corporation, legally recognized Indian tribe, estate, or trust who as an owner, lessee, tenant, or operator participates in the care and/or management of land within a conservation district.
 - iii. Eligible projects means conservation practices determined to be needed by a conservation district to improve or protect water quality or to reduce soil erosion.
- c) As defined in 27A O.S., Section 3-3-115, the "Conservation Cost-Share Fund", created within the State Treasury, shall be a continuing fund, not subject to fiscal year limitations. The fund shall consist of all monies received by the OCC to implement and maintain the Conservation Cost-share Program. The fund shall consist of money received by the OCC in the form of grants, gifts, reimbursements, donations, industry contributions, state appropriations, federal agency cost-share funds, and other such monies specifically designated for the cost-share program.

6. **Assessment and conservation plan development and implementation in watersheds of clean lakes, as specified by law;**

As defined in 27A O.S., Section 3-2-106, the OCC shall plan watershed-based nonpoint source pollution control activities, including the development and implementation of conservation plans for the improvement and protection of the resources of the state.

7. **Complaint data management;**

8. Pursuant to 27A O.S., Section 3-2-107, the OCC shall establish and maintain an environmental and natural resources geographic database system. Such system shall include but not be limited to pollution complaints filed with State agencies, resolutions of complaints, and other data as funds become available and may be desirable and necessary to provide public access to site specific information.

9. **Coordination of environmental and natural resources education;**
 - a) In 1993, in response to legislation that directed OCC to coordinate environmental education activities, the Oklahoma Environmental Education Coordinating Committee (OKEECC) was formed. The OKEECC is comprised of government agencies and education institutions whose mission is to foster an awareness and appreciation of Oklahoma's natural resources by coordinating environmental education efforts. Two major goals of the committee are: (1) create a networking structure to eliminate duplication of effort and better utilize state resources; and (2) identify environmental education projects the committee could accomplish through cooperation, coordination, and networking.
 - b) Committee activities include water festivals, the Environmental Education Expo, the Seeds of Success Program, Initiating the CLEAR (Certified for Leadership in Environmental Awareness and Responsibility) Program, providing regularly scheduled environmental education events at OK State Parks, local natural resource days sponsored by conservation districts, cooperation with statewide Arbor week celebration, and Natural Resource exhibits at the annual Oklahoma Education Association meeting.
 - c) The OCC is also charged with administration of the Blue Thumb Education Program. Blue Thumb is a water quality education program that teaches private citizens about the principles of water quality and the importance of and methods for conserving aquatic ecosystems. The Blue Thumb Program works through Conservation Districts and trains and employs volunteers to monitor and assess water quality of surface and ground waters throughout the State. The program provides educational services to citizens of all ages including presentations and demonstrations to grade school children, volunteer programs in highschool science classes, and adult volunteer programs.

10. **Federal upstream flood control program;** the OCC is responsible for the construction, operation, and maintenance program for upstream flood control structures.

- a) 27A O.S., Section 3-3-405 created a revolving fund known as the Small Watersheds Flood Control Fund. Section 3-3-406 put the fund under control of the OCC.
 - b) 27A O.S., Section 3-3-407 stated that monies from the fund could be allocated to conservation districts for acquisition of property or easements needed to install upstream flood control structures or for rehabilitation of the structures including but not limited to land rights.
11. **Groundwater protection for activities subject to the jurisdictional areas of environmental responsibility of the Commission;** the OCC is responsible for protecting the groundwater resources of the State from the effects of nonpoint source pollution except as otherwise provided in subsections B (Department of Environmental Quality), D (Department of Agriculture), E (Oklahoma Corporation Commission), of Section 1-3-101.
 12. **Development and promulgation of a Water Quality Standards Implementation Plan pursuant to Section 1-1-202 of this title for its jurisdictional areas of environmental responsibility;** and
 13. **Utilization of Oklahoma Water Quality Standards and Implementation documents.**

F. Divisions and Functional Program Areas of the OCC

The primary functional program areas of the OCC related to water quality standards implementation are situated in the OCC Water Quality Division (OCCWQ), the Abandoned Mine Land Reclamation Division (AML), and the Conservation Programs Division (CPD). Ancillary services are provided by the Administrative Services Division (Admin.), the Information Technology Division (IT), and the District Services Division (DSD). The relationship between OCC divisions and jurisdictional areas of responsibility is shown in Table 1.

Table 1. Interrelationship of Division / Program Areas and OCC Jurisdictional Areas.

<u>Jurisdictional Area</u>	<u>Water Quality Division (OCCWQ)</u>	<u>Abandoned Mine Land Division (AML)</u>	<u>Conservation Programs Division (CPD)</u>
Soil Conservation, Erosion Control, and Nonpoint Source Management	All Program Areas*		
Monitoring, Evaluation, and Assessment of streams and rivers being impacted by NPS pollution	X		
Wetlands Strategy	X		
Abandoned Mine Reclamation		X	
Cost-share Program for Land Use Activities	X		X
Assessment of Conservation Plan Development and Implementation in Watersheds of Clean Lakes	X		
Complaint Data Management	X**		
Coordination of Environmental and Natural Resources Education	X		X
Federal Upstream Flood Control Program			X
Groundwater Protection	All Program Areas		
Development & Promulgation of the WQSIP	All Program Areas		
Utilization and Implementation of WQS	All Program Areas		

**jurisdictional areas of responsibility designated as being the responsibility of All program Areas includes OCCWQ, AML, and CPD as well as IT, DSD, and Admin.*

***also the responsibility of the IT Division*

SECTION II. WQSIP ELEMENTS BY JURISDICTIONAL AREA AND OCC PROGRAM

A. General

The eight required WQSIP elements are presented by OCC-assigned jurisdictional area, and by OCC program areas within jurisdictional areas, according to the applicability and interrelationship matrices in Table 1. A great deal of interdependence, cooperation, and information sharing is required among the OCC's program areas, as well as between the OCC and other state environmental agencies, to appropriately and effectively implement Oklahoma's water quality standards in the jurisdictional areas of environmental responsibility assigned to the OCC. The OCC's WQSIP will evolve to adapt to future changes in Oklahoma's Water Quality Standards and WQS implementation criteria, changes in jurisdictional areas of environmental responsibility, changes in the State's Nonpoint Source Management Program, changes in federal programs OCC participates in, and organizational changes within the OCC.

B. Water Quality Division (OCCWQ)-

The following relate to the OCCWQ's WQSIP elements in their jurisdictional areas of responsibility including:

- Soil conservation, erosion control, and nonpoint source management,
- Monitoring, evaluation, and assessment of streams and rivers being impacted by NPS pollution,
- Cost-share program for landuse activities,
- Assessment of conservation plan development and implementation in watersheds of clean lakes,
- Complaint data management,
- Coordination of environmental and natural resources education- Blue Thumb Program,
- Wetlands Strategy
- Groundwater protection,
- Development and promulgation of the WQSIP, and
- Utilization and implementation of WQS.

1. Compliance with Antidegradation Requirements and Protection of Beneficial Uses

Compliance with antidegradation requirements and protection of beneficial uses is assured through the OCCWQ's programs as described throughout the State's Nonpoint Source Management Program. The NPS Management Program defines the goals and activities of the NPS Program for the next fifteen years. The Program states that OCC will implement NPS Management through a cycle of four processes. These four processes are:

- a) Assessment- monitoring physical, chemical, and biological water quality to determine where NPS related water quality problems exist. Includes methods of source evaluation to predict probable sources and to identify sources when possible. Assessment is also used to evaluate success of programs to reduce NPS pollution. Assessment as to whether or not streams are impacted by NPS pollution is based on comparison to Oklahoma Water Quality Standards (OWQS) and evaluated by applying Use Support Assessment Protocols (USAP).

Compliance with antidegradation standards is insured by repeated monitoring and by comparison to known reference streams of similar size and type from the same ecoregion as the stream in question. Repeated monitoring is a product of the OCC's Rotating Basin Monitoring Program (RBMP). The use of reference streams also contributes to beneficial use and antidegradation protection. Streams are considered to be affected by NPS pollution if their biological communities are not comparable to communities in appropriate reference streams and the cause of the disparity cannot be linked to natural or point sources. The reference stream represents what the aquatic community "should" be for that stream, as it pertains to its assigned beneficial uses.

For the purposes of ensuring compliance with antidegradation standards and beneficial use support, the quality of the data is as important as what the data says. For this reason, OCCWQ is very critical of the data it collects and uses. All data are collected under a peer reviewed and EPA approved Quality Assurance Program Plan. Data evaluation includes tests for precision and accuracy of both the field collector and the laboratory analyst. Data that is not deemed of sufficient quality is not used in making determinations of beneficial use support or compliance with antidegradation standards.

Monitoring is conducted by trained staff that complete an initial intensive training program where they mentor with seasoned field staff prior to sampling alone. All field staff participate in and are evaluated during quarterly quality assurance sessions and at least an annual field performance survey. Any monitoring data that was not collected by OCC staff, i.e. volunteer data or other sources of data, is given special consideration prior to uses equivalent to uses of OCC data. For instance, volunteer data is not considered beyond the level of qualitative data unless the volunteers are certified Blue Thumb volunteers, who have participated in the Blue Thumb training process and continue to participate in quarterly quality assurance certification sessions. Their data may be considered as cause to initiate further staff data collections, but not used quantitatively. Data is not used beyond the level of qualitative data unless it has been collected according to the guidelines established by the Use Support Assessment Protocols following approved Standard Operating Procedures and has passed rigorous quality assurance and quality control checks.

- b) Planning- the process by which the NPS program determines the “how and where” of its activities. Using the goals, priorities, and activities specified in the NPS Management Program, the OCC, along with the NPS Working Group determines which watersheds will be targeted intensively for NPS demonstration and implementation activities. The OCC then coordinates with local conservation districts to form a Watershed Advisory Group (WAG). The OCC works with the WAG to insure that the implementation occurs following a targeted approach to protect and restore beneficial use support. The targeted approach is necessary to insure that practices and areas of the watershed that can most significantly benefit water quality will be included in the program. This is necessary because program funds are not extensive enough to provide cost-share for every needed practice.

Another part of the planning process involves coordinating with other programs ongoing in the watershed such as the NRCS EQIP program. This coordination insures a more comprehensive coverage of water quality problems than a single program could accomplish. In addition, this coordination insures that the NRCS program more often prioritizes funds towards practices that are more protective of water quality, such as funding rotational grazing and pasture management rather than weed control. This coordination increases the capacity of a program to protect beneficial use support and restrict degradation of water resources.

Another planning exercise of the OCCWQ is the State Wetlands Strategy. The OCC is responsible for developing the State’s Wetlands Management Plan that defines the protocols the State will use to protect its wetland resources from antidegradation and to insure support of their beneficial uses. This plan was peer reviewed prior to its ultimate approval. The plan is slated for revision in the near future given the advances in development of the wetlands program and wetlands standards. The revision of the plan will be more specific with regard to compliance with antidegradation requirements and beneficial use support.

- c) Education- The only realistic long-term solution to nonpoint source-related water quality concerns is to affect a change in people’s behavior. Voluntary changes in the behavior of landowners and operators based on their understanding of the importance of protecting water resources and the long-term benefits to themselves and others will be farther-reaching and more successful than regulations could ever be. Therefore, a substantial portion of the OCC program is devoted to education. Blue Thumb is the core of the OCCWQ’s water quality education program.

The goal of Blue Thumb programs is to affect awareness, knowledge, attitudes, skills, and participation. The program provides landowners and operators with an understanding or awareness of the importance of water quality and water resources and the knowledge they need to protect water quality. As they learn

more about water quality, their attitudes toward some of their activities should change. The program teaches them to master skills necessary to understand what is going on with their own water resources and how to protect those resources. The program is successful when people participate and apply what they have learned to their every day behaviors. The most effective program is one that shows people how they can protect water quality and their own best interests concurrently. Classes, presentations, and demonstrations are offered to people of all ages.

Blue Thumb programs also incorporate volunteer monitoring as a method of education. Volunteers participate in a substantial training program, which usually meets once per week for eight weeks. This training insures that volunteer monitors know not only how to collect data and complete testing procedures, but also that they can troubleshoot and collect information in the most correct and safest manner. In order for them to continue in the program, and for their data to be used, they must also participate in quarterly quality assurance checks and continue with additional training sessions.

- d) Implementation- Implementation programs insure support of beneficial use protection and antidegradation of water quality by putting practices on the ground to restore beneficial use support and protect aquatic resources. Restoration of beneficial use support is a goal of implementation programs, a measure of success. Implementation programs are based on the results of the previously described activities. Monitoring defines the water quality problems and sources. Planning involves public participation and technical evaluation as to which practices and activities would most effectively (considering temporal, spatial, economic, and magnitude_variables) reduce the water quality problems and restore beneficial use support. Education helps insure that the ideas and practices presented in the implementation program will spread beyond the demonstration areas where they are implemented and that they will last beyond the period of time designated in the project contracts. Most contracts (consistent with NRCS protocol) continue for a five year period.

Through these four steps, the OCCWQ works toward protecting all beneficial uses that can be affected by NPS pollution (as previously listed). **The OCC has no regulatory authority to require entities responsible for violation of Water Quality Standards related to NPS pollution to correct the problem.** When activities of OCCWQ reveal violations of Water Quality Standards, OCC will report these violations to the agencies with regulatory authority as assigned by 27A. O.S., Section 1-3-101 or other pertinent Oklahoma Statute.

2. Application of Use Support Assessment Protocols (USAP)

As specified throughout the ***NPS Monitoring Program*** section of the NPS Management Program, evaluation of NPS impacts as they affect beneficial use support will be based on the application of USAP to interpret whether or not OWQS

are being violated. As specified in USAP, in the case of parameters for which no specific USAP has been developed, the OCCWQ will make determinations based on the guidance in OWQS and from other appropriate sources. These determinations and their methodology will then be peer reviewed for approval prior to finalization. All determinations of beneficial use support based on USAP are also subject to a period of public review.

OCCWQ will also continue to participate in USAP working groups, as invited by OWRB to provide data and technical expertise to improve the USAPs. The USAPs were created with the intention that they would evolve as the State amassed data that was timely enough and of consistent quality to help determine more appropriate procedures that were pertinent to Oklahoma. OCCWQ will devote considerable resources to assisting OWRB and the other agencies with the development of USAPs to interpret the many narrative criteria that pertain to NPS pollution.

3. Description of Programs Affecting Water Quality

Since 1981, the OCC has been designated “(to) act as the management agency having jurisdiction over and responsibility for directing NPS pollution prevention programs outside the jurisdiction or control of cities or towns in Oklahoma. The Commission, otherwise, shall be responsible for all identified non-point source categories except silviculture, urban storm water runoff and industrial runoff.”(Title 82 O. S. §§ 1501-205 (19)).

The OCCWQ is responsible for monitoring, evaluation and assessment of waters to determine the condition of streams and rivers being impacted by NPS pollution. In this capacity, the OCC shall serve as the technical lead agency for NPS categories as defined in § 319 of the Federal Clean Water Act or other subsequent federal or State NPS programs, except for activities related to industrial and municipal stormwater or as otherwise provided by State law. As the technical lead for the 319 program, the OCCWQ is also responsible for drafting the State’s Nonpoint Source Management Program and Nonpoint Source Assessment Report.

The OCCWQ, in cooperation with the OSE and the State’s NPS Working Group, directs the 319 program in Oklahoma. Through the 319 Program and associated programs, OCCWQ conducts assessment, planning, education, and implementation to reduce the impacts of NPS pollution to the State’s waters.

In May of 1990, the Oklahoma Legislature directed the OCC to develop a wetland management strategy for the state. A draft plan was set forth then reviewed and enhanced by private landowners; interest groups; and local, state, and federal entities. The strategy was completed in July 1996.

Plan development, coordinated by the Conservation Commission, led to a framework in which an interagency working group could work to conserve, enhance, and restore the quantity and biological diversity of Oklahoma’s wetland resources.

This interagency working group is comprised of tribal, state, and federal entities that have an interest and/or regulatory responsibility toward wetlands.

Oklahoma is the first state in U.S. EPA's Region 6 to have completed a comprehensive wetlands plan. As a result of the plan's completion, Governor Frank Keating named May 1997 as Wetland Month. The Governor's proclamation listed a few of the many benefits Oklahoma received from wetlands including natural flood control, wildlife habitat, water purification, and ground water recharge.

Oklahoma's Comprehensive Wetlands Conservation Plan promotes private and public cooperation in managing wetlands. This is a voluntary approach using education, technical assistance, and incentives to bring the private and public sectors into wetland management as willing partners. Project funding is a combination of federal and state dollars in conjunction with the commitment of private landowners.

Oklahoma's wetland registry functions as a "clearinghouse", connecting interested property owners with those who desire to restore wetlands. The registry works by providing a voluntary listing of public and private lands available for wetland restoration, queried by county and dominant wetland type. In this way landowners are able to advertise their land as restorable, and organizations can find a potential site to meet their restoration needs. This registry is one way in which the Oklahoma Conservation Commission meets the goals set forth in Oklahoma's Comprehensive Wetlands Conservation Plan which was developed to help identify, understand, and manage Oklahoma's wetland resources.

4. Technical Information and Procedures for Implementation

The OCCWQ's program follows CWA Section 319 guidance in the administration of its programs. Monitoring and assessment activities are conducted as described in the OCC's Standard Operating Procedures. Laboratory analysis is conducted by the ODAFF's Laboratory Services Division- Water Quality Group. The ODAFF lab follows procedures outlined in "Standard Methods for the Examination of Water and Wastewater" or other EPA- approved methods of analysis. Determinations of the extent of NPS impacts and beneficial use support are based on evaluation of Water Quality Standards using Use Support Assessment Protocols. These procedures are also outlined in the Continuing Planning Process (CPP) document that describes the State's water quality management programs. The OCC uses NRCS approved Best Management Practices to reduce the impacts of NPS pollution. Implementation of the OCC's program and a description of the State's overall NPS Program is detailed in the 2000 NPS Management Program.

The Wetlands Program follows procedures outlined in the State's Wetland Conservation Plan and guidance from EPA's Wetlands Program. Specific guidance includes Section 404, 401, and other pertinent sections of the Clean Water Act, Endangered Species Act, Farm Bill, and other acts.

The OCCWQ programs data is stored in a Microsoft Access® Database developed by OCC. This database will ultimately be available in limited form via the Internet and will be uploaded to STORET when appropriate. OCCWQ will also provide its data for inclusion in the State's Water Quality Database currently being developed by the ODEQ. Data from the State's Complaint Database (maintained by OCC Administrative Services) will also be considered in the planning process.

5. Integration of WQSIP into OCC Water Quality Management Activities

The NPS Management Program directs integration of WQSIP and WQSIP mandated procedures. The NPS Management Program sets the goals and activities for the NPS Program for the next fifteen years. The NPS Management Program dictates that OCCWQ will follow OWQS and USAP to make determinations of beneficial use support. The NPS Management Program also sets the goals and details the activities of the NPS Program towards protection and restoration of beneficial use support in waters of the state affected by NPS pollution for the next fifteen years. The goals of the program are to restore beneficial use support to NPS impaired waters and determination of that restoration will be based on application of USAP and OWQS.

The State's NPS Program, and therefore the activities of the OCC, find their basis in the federal Clean Water Act of 1972 that mandated States to restore and maintain fishable, swimmable waters. Section 319 of that Act related to NPS pollution and set two primary requirements of States receiving 319 funding; 1) Develop and follow a NPS Management Program which describes the goals and activities of the State's NPS Program and 2) Develop and maintain a NPS Assessment Report which lists waters of the State affected (impaired or threatened) by NPS pollution and specifies the sources of that nonsupport. Oklahoma's current NPS Management Program can be viewed online at: http://www.okcc.state.ok.us/Publications/WQ_NPS_Management_Plan.pdf under the Water Quality Programs section of the page. It can also be obtained by contacting the Water Quality Division office at (405)810-1002.

6. Compliance with Mandated Statewide Water Quality Requirements

The OCCWQ activities comply with procedures established in the CPP and the NPS Management Program. The OCCWQ's SOPs and other documents have been peer reviewed and EPA approved. The NPS Working Group's review of OCCWQ's annual workplans further insures compliance with mandated statewide water quality requirements.

7. Public and Interagency Participation

The OCCWQ program insures public and interagency participation through a variety of methods. The primary method is through the NPS Working Group. The NPS Working Group was reassigned by OCCWQ to act as a guiding entity for developing and directing the NPS programs. The Group acts in a peer-review manner by

providing input, opinions, and constructive criticism regarding the development and implementation of NPS policy and programs. The specific function of the group is divided into five purposes:

1. Assist in the revision of the NPS Management Plan;
2. Confirm the process of selecting priority watersheds;
3. Provide consensus in the planning of work in priority watersheds;
4. Develop in-state leadership regarding NPS issues; and
5. Promote consistency between State-State and Federal-State NPS policies.

The current NPS Working Group is made up of 39 members from a variety of backgrounds, collected to include a broad representation of State, federal, and local agencies as well as special interest entities, environmental groups, and Native American representatives in the process of directing NPS pollution management. A diverse and multifaceted group allows the numerous interests and perspectives involved with NPS pollution management to be instilled into the NPS program. This type of arrangement also staves off conflicts. When all interests are given an opportunity to participate, it is the responsibility of each organization to voice opinions and to assertively participate prior to any decision-making, rather than after the fact. Furthermore, the dedication of project funds and other key decisions are made based on the recommendations of the working group, rather than any one individual or agency. Thus, using the working group format has reduced the political pressure that has influenced the process in the past.

In addition, the NPS Working Group will help incorporate types of NPS pollution not under the jurisdiction of OCC (silviculture, runoff from confined animal feeding operations (CAFOs) and animal feeding operations (AFOs), oilfield or retail storage tank related, urban stormwater runoff, etc.) into the NPS program. The agencies responsible for other types of NPS pollution sit on the NPS Working Group and their participation will facilitate implementation and education efforts, where appropriate, in priority watersheds. For instance, when the 319 program addresses the Broken Bow Watershed, the ODAFF Department of Forestry Services will be integral in planning and executing the program through the NPS Working Group and the WAG because of the extensive silviculture in that watershed.

Another method by which OCCWQ insures public participation is through the use of Watershed Advisory Groups (WAGs). The WAG is a locally led steering group, made up of representatives of local industries and other watershed interests. The group size is kept to a minimum to insure adequate, yet workable representation of interests and needs. Typical size is ten to fifteen members, made up of local citizens. It is important to emphasize that members of the WAG are not State or federal agency employees specializing in a certain area, but private citizens, producers, and local authorities. For instance, a State Department of Agriculture Employee would not represent cattlemen's interests. Instead a local cattle producer, perhaps a member of the Cattlemen's Association, would represent cattlemen's

interests. The local Conservation District Boards recruit the members in a further effort to insure local interests are represented.

The main function of the WAG is to insure that the NPS pollution reduction implementation program is a successful, workable program with respect to local needs and other local issues, while at the same time, addressing the goals of the NPS Program. In fulfilling this role, the WAG is responsible for the following activities:

- Making recommendations to the OCCWQ staff and the conservation districts on which BMPs should be used in the demonstration project;
- Selecting the cost share rates to be used in the implementation of BMPs;
- Reviewing and concurring with the conservation animal waste plans and project agreements that have been developed for participants in the demonstration watershed.

As part of the 1990 Legislative directive to develop a wetland management strategy for Oklahoma, a wetland working group was established. This working group met until the strategy - *Oklahoma's Comprehensive Wetlands Conservation Plan* - was completed in July 1996 and acknowledged by Gov. Frank Keating in May 1997.

This interagency working group, comprised of tribal, state, local and federal entities, continues to meet on a quarterly basis to coordinate efforts to conserve, enhance, and restore the quantity and biological diversity of Oklahoma's wetland resources by implementing the state plan. The *Oklahoma's Comprehensive Wetlands Conservation Plan* promotes public and private cooperation in managing wetlands. The plan stresses the voluntary approach using education, technical assistance, and incentives to bring the private and public sectors in wetland management as willing partners.

Wetland Working Group meetings serve as a forum for information and technology sharing between groups within the wetlands arena. Coordination of wetland efforts in Oklahoma should further promote the protection and enhancement of Oklahoma's valuable wetland resources.

Further methods to insure public and interagency participation include cooperation with the OSE in distributing draft documents for peer review prior to publication or formal submission to EPA and public meetings. Many of OCCWQ's documents undergo a period of public review in addition to the period of peer review. This public review, complete with a public meeting held in the most appropriate local setting, allows for one-on-one contact and information exchange with the public.

8. Evaluation of Effectiveness of Agency Activities

The effectiveness of OCCWQ activities is evaluated through numerous mechanisms, as listed below:

- **Project measures of success-** every OCCWQ project includes measures of success that are drafted as part of the workplan. These measures of success are dictated prior to implementation of the project. Examples of such measures include water quality improvements (as measured through application of USAP and OWQS), follow-up surveys to show increased knowledge and attitude changes, increased numbers of cooperating landowners, and various other project specific measures such as streambank stability or increases in acreage of riparian areas.
- **NPS Working Group review of progress towards the NPS Management Plan Goals** – The NPS Working group formally reviews the Program’s progress towards NPS Management plan goals at least every five years, the maximum time period allowed between revisions of the Plan. The group will less formally assess progress towards goals every two years to determine whether more frequent revisions of the Management Program are necessary.
- **Rotating Basin Monitoring Program-** Successive cycles of the Rotating Basin Monitoring Program should provide insight as to whether the overall program is successful at reducing the impacts of NPS pollution.
- **NPS Assessment Report, 303(d) list, 305(b) Report-** successive revisions of these reports should also suggest whether or not statewide water quality improvements have been made.
- **Public and peer review of agency activities-** nearly every OCCWQ activity involves some form of public participation or peer agency review. Critical review of program success is frequently received, evaluated, and incorporated as appropriate.
- **Continuing training and personnel development-** OCCWQ staff continue to participate in training workshops, quarterly quality assurance training and check sessions, and to present projects at national conferences. These processes allow for transfer of information and checks on performance continually such that the program and its personnel continually receive critical review.
- **Wetland Working Group review and information exchange–** The Wetland Working Group provides a forum to promote review and information exchange related to wetlands in the State. For instance, the group discusses topics ranging from development of Wetlands Water Quality Standards to a formal inventory of Oklahoma’s wetlands.

C. Abandoned Mine Land (AML) Reclamation Division

The following relate to the OCC AML Division's WQSIP elements in their jurisdictional areas of responsibility including:

- Soil conservation, erosion control, and nonpoint source management,
- Abandoned mine reclamation,
- Groundwater protection,
- Development and promulgation of the WQSIP, and
- Utilization and implementation of WQS.

1. Program Compliance with Anti-Degradation Standards and Protection of Beneficial Uses

The Oklahoma Conservation Commission (OCC) AML Division is funded with 100% Federal funds under the oversight of the Office of Surface Mining (OSM), U. S. Department of the Interior. As a result, the OCC must adhere to assurances in OMB Circular A-102 (Standard Form 424D). The assurances related to construction programs, which may impact water quality, requires the OCC to comply with environmental standards which may be prescribed pursuant to the following:

- (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514;
- (b) notification of violating facilities pursuant to EO 11738;
- (c) protection of wetlands pursuant to EO 11990;
- (d) evaluation of flood hazards in floodplains in accordance with EO 11988;
- (e) conformity of Federal actions to State (Clean Air) Implementation Plans under Section 176© of the Clean Air Act of 1955, as amended, (42 U.S.C. § 7401 et seq.);
- (f) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended, (P.L. 93-523);
- (g) protection of endangered species under the Endangered Species Act of 1973, as amended, (P.L. 93-205);
- (h) comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§ 1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system;
- (i) comply with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470), EO 11593 (identification and preservation of historic properties), and the Archaeological Historic Preservation Act of 1974 (16 U.S.C. 469a-1 et seq.); and
- (j) any permits issued pursuant to Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act.

AML reclamation construction projects are not approved for funding by OSM unless the above environmental standards are met. The OCC will ensure, through construction project bid specifications and monitoring of construction activities by OCC AML project inspectors, that reclamation activities will not adversely impact

water quality. Decisions about adverse impacts to water quality will be based on USAP and OWQS.

Reclamation construction projects have the capacity to affect all previously listed NPS affected beneficial uses, either by improving water quality, aquatic habitat, reducing sedimentation, or restoring more natural hydrology.

The OCC has no regulatory authority to require entities responsible for violation of Water Quality Standards related to NPS pollution to correct the problem. When activities of OCCWQ reveal violations of Water Quality Standards, OCC will report these violations to the agencies with regulatory authority as assigned by 27A. O.S., Section 1-3-101 or other pertinent Oklahoma Statute.

2. Application of Use Support Assessment Protocols (USAP)

Every AML reclamation construction project that involves disturbing greater than five contiguous acres requires that a Storm Water Discharge (SWD) permit be issued by the Oklahoma Department of Environmental Quality (ODEQ). As part of the contract specifications, the contractor is required to implement and follow the Storm Water Pollution Prevention Plan (SWPPP) upon which the permit is based. Any complaint involving such projects will be investigated by the ODEQ. The OCC will require the contractor to perform the necessary activities to remedy any deficiencies in the implementation and management of the SWPPP. On reclamation projects not requiring a SWD permit, complaints involving activities which may have a detrimental impact on water quality will be investigated by either OCC staff, another state agency, or a commercial entity using scientifically acceptable protocols. Again, investigation regarding whether or not water quality has been impacted will be based on application of USAP and OWQS.

3. Description of Programs Affecting Water Quality

The OCC is responsible for reclaiming abandoned mine land in Oklahoma. Over 32,000 acres of surface coal mines and another 40,000 acres of underground coalmines exist in a 16-county area of eastern Oklahoma. The primary purpose of this program is to protect the public from mine-related hazards. Hazards range from dangerous highwalls and hazardous water bodies to open mine shafts, acid mine drainage, and dilapidated mine structures. Numerous deaths and injuries have been and continue to be associated with these problem areas.

Requirements for the AML Program are set forth in Title 45, Sections 740.1 through 740.7 of the Oklahoma Statutes. AML reclamation construction activities can impact surface water quality. Detrimental effects of this activity will be minimized through proper project engineering design, construction bid specifications and project inspection. Detrimental effects are generally associated with construction activities and include increased sediment transport during periods of sediment disturbance or

changes in hydrology of the site that may affect water quality. Many of these detrimental effects would be most intense during the construction phase and later decrease as the site becomes stabilized and “rehabilitated”.

4. Technical Information and Procedures for Implementation

During the reclamation process on all AML project sites, most of the trees and vegetation are removed in order to get to the on-site spoil material. The following steps are taken to control erosion at all AML reclamation project sites:

- - A Storm Water Pollution Prevention Plan is filed with the ODEQ for each project greater than five contiguous acres pursuant to the issuance of a Storm Water Discharge permit,
- Hay bales are placed on the perimeter of the work area to reduce sediment runoff,
- The rate of discharge is controlled when de-watering strip pits to negate impacts to receiving waters (to avoid violation of OWQS),
- Terraces and diversions are used to control surface water runoff,
- Erosion control “mats” and “rock-lined” gabions are used to control runoff water,
- In many cases after the dirt work is completed, a temporary vegetative cover is planted until permanent vegetation can be planted,
- Almost all sites are mulched after the permanent vegetation is planted, and
- A two-year grazing restriction is placed on all completed sites.

Any water to be discharged as part of the construction process must be collected and tested in a certified lab. If required, the water will be treated in order to meet the OWQS as established by OWRB before it is released.

Soil samples are taken following construction activities at the site and before any vegetation is planted. The samples are analyzed and the disturbed areas at the project site receive the recommended soil amendments and/or fertilizers.

Many AML sites contain on-site wastes (acid spoils and industrial and/or residential wastes). The following practices are utilized to prevent the leaching and runoff of these wastes:

- Use on-site spoil material or off-site clay if necessary to place “caps” over the waste areas,
- Entryways to underground mines have been sealed and/or capped,
- During the reclamation of strip pits, the pits are used as sediment trapping basins and “coffer-dams” are installed at least every 300 feet to trap mud while filling the pit with on-site spoil,
- Any previously existing industrial and/or residential waste is buried at the site, and

- When strip pits are dewatered, the water is discharged into existing drainage patterns or rock-lined channels are constructed to take water to plunge basins or existing streams.

On several AML sites, acid mine water is discharging into nearby streams and/or lakes. In most of these cases, the acid mine water is discharging from old underground coalmines. The following methods are used to ameliorate the acid mine discharge:

- If the water in a strip pit is acid, lime is incorporated into the water to raise the pH before the water is discharged from the strip pit,
- Anoxic limestone drains are used on low-flow acid water leaving an AML site,
- Wetlands are constructed to collect and treat acid mine water,
- All strip pits are tested for metals by a certified lab before discharging the water, and
- In some cases, acid mine water can be re-routed through another existing water-filled strip pit in order to dilute the discharge.

5 Integration of WQSIP into AML Water Quality Management Activities

There does not appear to be a need for additional rules to integrate the Plan into these activities. AML activities already incorporate water quality protection according to Oklahoma Water Quality Standards.

6. Compliance with Mandated Statewide Water Quality Requirements

This requirement will be met since all AML construction projects must comply with the National Environmental Policy Act of 1969 and Section 404 of the Clean Water Act, as well as other federal laws and executive orders.

7. Public and Interagency Participation

Public and Interagency participation occurs in several ways. Interagency involvement occurs through the State Reclamation Committee, made up of 16 state and federal government entities that comment on each project submitted for reclamation. Public involvement occurs through two main avenues; 1) the public is asked to submit AML sites for consideration of reclamation, and 2) notices are printed in the local newspapers seeking comments concerning specific AML projects that have been selected for reclamation.

8. Evaluation of Effectiveness of Agency Activities

In some cases, following the completion of construction activities at the project site, erosion problems may develop until the permanent vegetation is established. Extreme

weather conditions such as heavy rains, drought, or below normal temperatures can affect the success of the permanent vegetative cover. It is imperative to perform on-site monitoring for not only vegetation success, but for possible structure failures such as terraces, riprap, pipes, etc. The monitoring should continue for at least two to three years following construction.

Depending on the nature of the problem at the particular site, water quality monitoring for pollutants related to abandoned mines may be necessary to gauge the success of the reclamation activities. Evaluation of success would then be based on application of USAP and OWQS.

D. Conservation Programs Division (CPD)

The following relate to the OCC CPD's WQSIP elements in their jurisdictional areas of responsibility including:

- Soil conservation, erosion control, and nonpoint source management,
- Cost-share program for landuse activities,
- Coordination of environmental and natural resources education,
- Federal Upstream Flood Control Protection,
- Groundwater protection,
- Development and promulgation of the WQSIP, and
- Utilization and implementation of WQS.

1. Compliance with Antidegradation Requirements and Protection of Beneficial Uses

Although most of the CPD's responsibilities are not directly related to maintaining or monitoring beneficial use support, several areas of responsibility could affect beneficial use support. In addition, several program areas of responsibility affect antidegradation. These areas also have the potential to affect all of the previously listed beneficial uses that are affected by NPS pollution.

The Federal Upstream Flood Control Protection Program and groundwater protection may be the only areas of the CPD where maintenance of beneficial use support is directly an OCC CPD responsibility. Even then, maintenance of beneficial use support is primarily under jurisdiction of the conservation district. However, all of the other CPD responsibilities relate to beneficial use support and antidegradation requirements.

The CPD programs insure compliance with antidegradation requirements and protection of beneficial uses through education, planning, and implementation. The CPD devotes substantial effort to coordinating environmental education activities within the State. These education programs are geared towards natural resource protection and focus on antidegradation which is often more stringent than beneficial use support. Much of the focus of these programs revolves around water quality, although overall natural resource conservation is the program's focus.

Planning exercises in the CPD program allow for compliance with antidegradation requirements and protection of beneficial uses in several ways. Each District is required to submit to CPD two types of planning documents. The first is a long-range plan. The Long Range Plan, is required to be updated every five years, defines what the district sees as its major concerns and sets long-term goals to deal with those concerns. The second document is the Annual Plan, which defines how the district will spend its annual allotment of funds towards implementation of its goals. The CPD reviews and the Commission approves of these plans with consideration towards their efficiency at addressing the OCC's goal of conservation of natural resources as well as the more specific goals the districts have set for

themselves. Efficiency at addressing the goals is based on antidegradation and protection of beneficial uses, when appropriate.

The Division's maintenance program which provides assistance to watershed sponsors for flood control structures is a planning and implementation exercise that insures compliance with antidegradation and beneficial use support requirements. Maintenance and restoration of the flood control structures is based on the need to protect beneficial uses. Beneficial uses for flood control structures generally include one or more of the following: flood and erosion control, human health and safety, municipal water supply, recreation, and livestock watering. Protection of beneficial use support is done through installation of BMPs, reconstruction, conservation planning, and other methods of protecting the uses of the structures.

Finally, one of CPD's most significant mechanisms which insures compliance with antidegradation and beneficial use support requirements is through their maintenance of the State Cost-share Program. The cost-share program is funded with state money or other donations with the intent of providing assistance to landowners and operators to implement best management practices to protect and conserve natural resources. The program funds are split in two directions. The first includes an annual sum allotted to each district for conservation of natural resources in their district. The State Cost-share Program, like OCCWQ cost-share activities, uses NRCS BMPs to conserve and restore water quality. The practices funded under this portion of the program are intended to improve water quality, and enhance erosion control. The second portion of funds is directed towards State Priority Watersheds. Priority watershed funds provide support for the implementation of best management practices to protect against antidegradation and support beneficial uses in priority watersheds. In other words, State Cost-Share funds are tied to water quality.

The OCC has no regulatory authority to require entities responsible for violation of Water Quality Standards related to NPS pollution to correct the problem. When activities of OCCWQ reveal violations of Water Quality Standards, OCC will report these violations to the agencies with regulatory authority as assigned by 27A. O.S., Section 1-3-101 or other pertinent Oklahoma Statute.

2. Application of Use Support Assessment Protocols (USAP)

Determinations of whether or not beneficial uses are supported will be based upon application of Use Support Assessment Protocols in the interpretation of Oklahoma Water Quality Standards.

3. Description of Programs Affecting Water Quality

As previously described, much of the CPD program focus is on overall conservation of natural resources that includes, but does not entirely focus on water quality. However, many, if not all, of CPD programs ultimately affect water quality.

The Conservation Programs Division provides a wide range of program management and technical assistance to the conservation districts that ultimately affects water quality. This includes management of the roadside erosion control program; the construction, operation, and maintenance program for upstream flood control structures; the Conservation Cost-Share Program; and wetland management.

Oklahoma leads the nation in the number of small watershed structures with 2,087. The state has always been a leader in the program beginning with the first flood control dam completed (Cloud Chief Watershed, a tributary to the Washita River), in 1948. The dam was built under Public Law 78-534 (Flood Control Act), which was passed in 1944 and covered eleven watersheds in the nation. Oklahoma also had the first completed watershed in the nation (Sandstone Creek in Roger Mills County).

In 1954, Congress saw the benefits that the eleven watersheds were providing and passed Public Law 83-566, which expanded the program to other approved watersheds. Oklahoma now has 77 PL-566 projects.

Approximately eight percent of the most productive land in the state is located in flood plains of streams and rivers. Protection provided by watershed dams allows farmers to utilize this productive land for high yield crops. The dams also provide protection from flooding of roads, homes, and other structures. The constructed dams provide protection to over two million acres of agricultural land in flood plains.

<u>Program</u>	<u># of Structures</u>	<u>Sediment Storage (ac-ft)</u>	<u>Flood Storage (ac-ft)</u>	<u>Drainage Area (ac)</u>
PL-534	1,103	241,115	580,756	1,859,946
PL-566	968	255,433	786,147	1,961,699
Totals	2,071	496,548	1,366,903	3,821,645

Water storage has been added to 42 of the watershed lakes for water supplies to cities and rural water districts. Water storage has been added to other watershed lakes for irrigation, fish, wildlife, and recreational uses.

Through the CPD, the OCC also provides coordination of the state's environmental education through the state's Environmental Education Coordinating Committee (OKEECC). Environmental education programs such as teacher training, assistance

to district personnel, outdoor classroom development, and cooperative agreements with higher education, as well as, state and federal agencies, have been ongoing programs since the 1970s. The CPD also coordinates the Commission's role as cosponsor of Project WET, Project WILD, WOW! The Wonders of Wetlands, and Project Learning Tree.

Finally, a major component of Conservation Services involves service to conservation districts through training and professional development for both conservation district directors and employees.

4. Technical Information and Procedures for Implementation

The Conservation Programs Division works closely with the conservation districts, the NRCS, and the Farm Services Association to implement their programs. Therefore, they follow FSA and NRCS guidance where appropriate. For instance, best management practices that are eligible for cost-share assistance are approved and designed by the NRCS. In addition, farm plans are written under NRCS guidance and either approved by the NRCS or written by NRCS-certified plan writers. The Flood Control Structure Operations and Maintenance Program also follows NRCS guidance in construction, planning, and operation of these structures.

5. Integration of WQSIP into OCC Water Quality Management Activities

There does not appear to be a need for additional rules to integrate the Plan into these activities. Conservation Services activities already incorporate water quality protection according to Oklahoma Water Quality Standards, where appropriate.

6. Compliance with Mandated Statewide Water Quality Requirements

The OCC CPD activities already comply with procedures established in appropriate State and Federal guidance. Further assurance of compliance related to activities ranging from conservation plan writing to development of wetlands strategy will be guaranteed by water quality monitoring and source verification/identification, as appropriate, peer and public review, and timely revisions of plans and programs to meet changes in State and Federal policy.

7. Public and Interagency Participation

Public and interagency participation in CPD programs are insured through numerous mechanisms. These include programs with conservation districts, the wetland working group, the Oklahoma Environmental Education Coordinating Committee, and partnerships with NRCS, FSA, and other agencies.

The Oklahoma Environmental Education Coordinating Committee (OKEECC) is comprised of government agencies and education institutions whose mission is to

foster an awareness and appreciation of Oklahoma's natural resources by coordinating environmental education efforts. The OKEECC was formed in 1993 in response to legislation that directed the Oklahoma Conservation Commission to coordinate environmental education activities. Two (major) goals were identified: (1) create a networking structure to eliminate duplication of effort and better utilize state resources; and (2) identify environmental education projects the committee could accomplish through cooperation, coordination, and networking. Subcommittees were developed to formulate plans of action for the following activities: formal environmental education, legislative leadership and awareness, natural resources informational directory, environmental projects in common schools, community environmental education, and school recognition program.

In general, the nature of Conservation Programs Division's programs dictates that public participation must be a major part of the program, given that much of the activities center on voluntary participation by landowners and operators.

8. Evaluation of Effectiveness of Agency Activities

The effectiveness of Conservation Services activities is evaluated through numerous mechanisms, as listed below:

- **Project measures of success-** most CPD projects includes measures of success that are drafted as part of the workplan. Examples of such measures include water quality improvements (as measured through application of USAP and OWQS), increased numbers of cooperating landowners, and various other project specific measures such as increased acreage of wetlands or increased capacity and life of upstream flood control structures.
- **Rotating Basin Monitoring Program-** Successive cycles of the Rotating Basin Monitoring Program should provide insight as to whether the overall program is successful at reducing the impacts of NPS pollution.
- **NPS Assessment Report, 303(d) list, 305(b) Report-** successive revisions of these reports should also suggest whether or not statewide water quality improvements have been made.
- **Public and peer review of agency activities-** nearly every OCC activity involves some form of public participation or peer agency review. Critical review of program success is frequently received, evaluated, and incorporated as appropriate.