# WATER YEAR 2000

**MAY 1, 1999 THROUGH APRIL 30, 2000**
**6TH ANNUAL REPORT**

# EVERGLADES
# BEST MANAGEMENT PRACTICES
# PROGRAM

**SOUTH FLORIDA WATER MANAGEMENT DISTRICT**

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SOUTH FLORIDA WATER MANAGEMENT DISTRICT
EVERGLADES REGULATION DEPARTMENT


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November 27, 2000

## FOREWORD

Restoration of the Everglades involves several individual programs with various objectives. The Everglades Forever Act (373.4592, Florida Statutes) recognizes that one of the cornerstones to improvement in the long-term ecological health of the Everglades is dependent on a strong and effective best management practices implementation program.

The purpose of this report is to provide a status report and verification of the on-going implementation of the Everglades Best Management Practices Program for the Everglades Agricultural Area as defined by Chapter 40E-63, Florida Administrative Code.

This report provides a status update covering the period of May 1, 1999 through April 30, 2000 or Water Year 2000.

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The Everglades Best Management Practices (BMP) Program, mandated by State of Florida legislation, is one aspect of the South Florida Water Management District's (SFWMD) Everglades Restoration Program. The goal of the BMP program is to achieve a 25% reduction in phosphorus load from the Everglades Agricultural Area (EAA). This reduction is determined by comparing phosphorus discharges from SFWMD structures at the end of each 12-month water year (May 1 through April 30) to the pre-BMP base period of October 1, 1978 through September 30, 1988. The Base Period phosphorus discharges are adjusted for the differences in the amount and distribution of rainfall for the current period. The rule requires the SFWMD to evaluate the data collected to assess the general trend in phosphorus load reduction, determine whether the EAA Basin is in compliance with the phosphorus load reduction requirement and to publish the results annually. The EAA has been in compliance since the first full year of BMP implementation (Water Year 1996).

The phosphorus load discharged from the EAA Basin for Water Year 2000 (WY00) is:

| | |
|---|---|
| WY00 (measured with BMPs in place) | 193 tons |
| Base Period (predicted with WY00 adjusted rainfall) | 425 tons |

The relative difference between the WY00 measured phosphorus tonnage and the predicted Base Period phosphorus tonnage (adjusted for rainfall) indicates a 55% reduction in total phosphorus load. The 3-year cumulative phosphorus load reduction from the EAA is 48% (with a 3-year cumulative concentration of 114 ppb). In analyzing data trends, it is important to note that the 3-year trend equates to a 48% reduction of the phosphorus loads from the EAA, some of which enters the EPA. It does not account for the phosphorus loads entering the EPA from other sources including Lake Okeechobee releases (environmental, urban water supply, and regulatory), C-139, C11-W, L-28 and Feeder Canal Basin runoff, and stormwater treatment area discharges.

For WY00, the total phosphorus load to the EPA from various sources was 275 tons with a combined average concentration of 111 ppb. Of the 275 tons going to the EPA, 154 tons (a portion of the 193 tons from the EAA) can be directly attributable to discharges from the EAA farms, cities and industry, while the remaining 121 tons is from other sources (see page 13). The methodology for calculations is discussed in Section 3 of this report.

This report also includes, in the appendices, a summary of the data from individual permittee-operated discharge structures within the EAA. This data is used to determine credits toward the Everglades Agricultural Privilege Tax mandated by the Everglades Forever Act and to determine compliance with Chapter 40E-63, F.A.C., should the EAA Basin not meet the 25% phosphorus load reduction requirement.

Water Year 2000 represents the fifth complete water year of required BMP implementation in the EAA. As the number of data records increases, there is increased confidence in the ability to quantify the specific level of long-term phosphorus reduction in the runoff attributable to BMPs in the EAA.

**Forward…… i**

**Executive Summary…….…….. iii**

**Table of Contents…….…... v**

**List of Tables and Figures…….…….…… vi**

● ● ● ● ●

**Section 1 – Introduction…… 1**

**1.0 Water Year 2000 Report…… 1**

**Section 2 – Permitting and Post-Permit Activities…… 3**

**2.0 Description of BMP and Water Quality Monitoring Plans……..…… 3**

**2.1 Permittee Best Management Practices……..... 4**

**2.1.1 BMP Equivalent Points……..…… 4**

**2.1.2 Verification of BMP Implementation……..…… 4**

**2.2 Permittee Water Quality Monitoring……..……... 6**

**2.2.1 Flow Calibration……...…… 6**

**2.2.2 Water Quality Data Submittals……..…….. 7**

**2.2.3 Water Quality Annual Reports……..…….. 8**

**2.2.4 Water Quality Monitoring Quality Assurance Field Audits……..... 9**

**Section 3 – EAA Basin-Level Water Quality Monitoring by SFWMD..…….. 11**

**3.0 EAA Basin-Level Results……... 11**

**3.1 EAA Basin Annual Phosphorus Measurements and Calculations…….. 11**

**3.2 Status of Phosphorus Inflows from Tributaries to the ECP…….. 19**

**Section 4 – Conclusions…… 21**

● ● ● ● ●

**Appendix A – Water Year 2000 Permittee Phosphorus Monitoring…….. A-1**

**Appendix B – Press Release……..…..…… B-1**

## *List of Tables and Figures*


Table 1 Best Management Practices Summary and “BMP Equivalent” Points…….. 5

Table 2 Summary of WY00 Water Quality Monitoring at Permittee Water Control Structures…….…….…….…….…… 8

Table 3 Summary of EAA Basin Total Phosphorus Calculations Conducted in Accordance with Procedures Specified in Rule 40E-63, F.A.C. and the Everglades Forever Act, 373.4592, F.S.…….…..... 14

Table 4 WY80 through WY00 EAA Basin Total Phosphorus Measurements and Calculations……..…….....16

● ● ● ● ●

Tributary Basins to the Everglades..…….…….…… Back Cover

SFWMD Water Control Structures within the 40E-63 Boundaries……. Inside Front Cover

Figure 1 Schematic of Total Phosphorus Inflows to the Water Conservation Areas From the Various SFWMD Controlled Structures……..……13

Figure 2 EAA Basin Total Phosphorus Percent Reduction…… 15

Figure 3 EAA Basin Total Phosphorus Load Calculated as per Criteria in Rule 40E-63, F.A.C……..……..……..……17

Figure 4 EAA Basin Total Phosphorus Percent Reduction Calculated as per Criteria in Rule 40E-63, F.A.C……18

Figure 5 Normalized View of EAA Basin Phosphorus Loads Calculated as per Criteria in Rule 40E-63. F.A.C..……..…..……..……18

Figure 6 Measure of Progress Towards Phosphorus Reduction to the Everglades Protection Area through BMPs and STAs……..……..……. 20

## 1.0 Water Year 2000 Report

This ***Everglades Best Management Practices Program Annual Report*** is the sixth in a series of annual reports as follows:

- Water Year 1995: May 1, 1994 through April 30, 1995
- Water Year 1996 and 1997: May 1, 1995 through April 30, 1997
- Water Year 1997 (revised): May 1, 1996 through April 30, 1997
- Water Year 1998: May 1, 1997 through April 30, 1998
- Water Year 1999: May 1, 1998 through April 30, 1999
- Water Year 2000: May 1, 1999 through April 30, 2000

Chapter 40E-63, F.A.C. requires the SFWMD to evaluate the data collected to assess the general trend in phosphorus load reduction, to determine whether the EAA Basin is in compliance with the phosphorus load reduction requirements, and to publish the results annually. The goal of the BMP program is to achieve a 25% reduction in phosphorus load from the Everglades Agricultural Area (EAA). This reduction is determined by comparing phosphorus discharges from SFWMD structures at the end of each 12-month water year (May 1 through April 30) to the pre-BMP base period of October 1, 1978 through September 30, 1988. The Base Period phosphorus discharges are adjusted for the differences in the amount and distribution of rainfall for the current period. The data indicates the EAA has been in compliance since the first full year of BMP implementation (Water Year 1996).

This report summarizes the program results for Water Year 2000. Numerous modifications and simplifications have been incorporated into the current report as a result of suggestions received from District staff and the public on previous reports. One such change was to minimize the amount of repetitious information included each year. This report only includes information on the current water year. Any background or historical information is provided in previous reports.

This document provides the results of the current phosphorus reduction calculation as required by the Everglades Forever Act while attempting to explain in a clear and concise manner how the percent phosphorus reduction is calculated. It also provides the phosphorus levels (tons and concentration) currently being discharged from the Everglades Agricultural Area (EAA).

The total phosphorus results contained herein are the basis for the Everglades Agricultural Privilege Tax credits certified by the District Governing Board in September 2001. It should be noted, however, that results may be subject to revisions and corrections.

## 2.0 Description of BMP and Water Quality Monitoring Plans

Chapter 40E-63, Florida Administrative Code ("Rule 40E-63"), states that lands in the Everglades Agricultural Area that release water ultimately making use of, connecting to, releasing to or discharging to the Works of the District within the Everglades require a permit. The Rule 40E-63 permits approve a Best Management Practices (BMP) Plan and a Water Quality Monitoring Plan for each farm/basin.

Currently, there are a total of thirty-five Everglades Works of the District permits including 211 sub-basins over an area covering approximately 494,000 acres. The regulated area is described by rule and remains somewhat static. Annual differences in total permitted acreage are typically the result of acreage being removed from permits as acreage is converted from agricultural production to stormwater treatment areas. The number of EAA permits may vary over time primarily because of administrative procedures associated with permit processing or because of permit mergers.

Each permit requires a proposed implementation plan for on-site BMPs – operational programs or physical enhancements designed to reduce phosphorus levels in discharges from their property to Works of the District (WOD).

The SFWMD was responsible for ensuring that a base level of BMPs was established for each permit area and BMP plans between different permittees were consistent and comparable. To accomplish both of these tasks a system of BMP "equivalents" was developed. The intent was to assign "points" to BMPs within three basic categories: water management, nutrient management, and sediment (particulate matter) control. BMP research has been conducted within the EAA region with positive results on relative effectiveness of BMPs, however no specific phosphorus reduction levels are quantified for individual BMPs. The BMP list and points assigned to each BMP, shown in **Table 1** (page 5), were based upon best professional judgment and cooperative workshops conducted between affected landowners, consultants, District staff, and the general public.

Twenty-five BMP equivalents or points were set as the minimum target BMP plan. Utilizing the BMP equivalents approach allowed flexibility for each permittee to develop a BMP plan which was best suited for site specific geographic and crop conditions. Although each basin has different land uses, soil types and drainage capacities, point-equivalent BMP plans were developed.

In addition to the Best Management Practice Plan, each Rule 40E-63 permit is required to propose a Water Quality Monitoring Plan for individual drainage basins within the permit. Within the EAA Basin, water quality and quantity data is being collected at two levels:

(1) EAA basin-level monitoring by the SFWMD and

(2) Individual basin-level monitoring by the owner/operator of private water control structures within the EAA.

The primary means to determine the Rule 40E-63 program success is through SFWMD data collection and analysis of water quality monitoring conducted at the EAA Basin-level. Total phosphorus and flow measurements are recorded at SFWMD pump stations and water control complexes: S-2 Complex, S-3 Complex, S-352 Complex, S-5A Complex, S-6, S-7, S-150, S-8, G-88, G-136, G-200, G-250, G-328, G-344A, G-344B, G-344C, G-344D, G-349B, G-350B, G-600, G-605, and G-606 (**inside cover**). The phosphorus levels measured at these SFWMD structures collectively determine primary compliance for all WOD permits. The results of the EAA Basin-level monitoring is presented and discussed in Section 3.

A secondary method of program compliance measurement is through individual basin-level water quality monitoring conducted by the permittee. Permits are required to have approved individual water quality monitoring plans. However, the permit-level monitoring will only be used if the EAA Basin does not meet the 25% load reduction requirement. The permittee water quality monitoring results are not used to calculate the phosphorus reduction at the EAA Basin-level. The EAA Basin-level monitoring is conducted by the SFWMD at SFWMD structures.

The permit-level monitoring plans consist of flow measurements, collection and compositing of discharge water samples, and analysis for total phosphorus. The permittee has options for flow measurement determination as discussed further under Sections 2.1 and 2.2 of this report. Water quality samples are generally composited and collected by automatic samplers.

## 2.1 Permittee Best Management Practices

### 2.1.1 BMP Equivalent Points

The following page (**Table 1**) describes the Best Management Practices (BMPs) commonly used throughout the EAA as well as the equivalent points assigned to each BMP.

### 2.1.2 Verification of BMP Implementation

Section 2.0 described the BMP plans developed for permit approval. After the permits are approved, Rule 40E-63 requires post-permit verification of the approved BMP plans by two methods: (1) BMP implementation reports and (2) BMP field verification.

BMP implementation reports are required by Rule 40E-63 to be submitted to the SFWMD summarizing not only the initial implementation of BMPs, but ongoing BMP maintenance and documentation. The first report was due November 1, 1993; subsequent reports were due July 1, 1994 and January 1, 1995. Reports are required to be submitted annually thereafter.

**Table 1 – Best Management Practices Summary and "BMP Equivalent" Points**

| BMP | PTS | DESCRIPTION |
|---|---|---|
| **WATER MANAGEMENT PRACTICES** | | MINIMIZES THE VOLUME OF OFF-SITE DISCHARGES |
| ½ Inch Water Detention<br>1 Inch Water Detention | 5<br>10 | Delay pumping based on rain gage measurements. Detention (in farm canals and soil profile) measured on a per event basis – rainfall vs. runoff. |
| Improved Infrastructure | 5 | Water table management plan; controlling levels in canals and field ditches using internal water control structures, fallow fields, aquatic cover crop fields, prolonged crop flood; effective irrigation and discharge plans. |
| Other | tbd | Properly constructed and maintained storage system; greater detention with water management plan having target water table levels and structure operating procedures; monitored water table. |
| **NUTRIENT CONTROL PRACTICES** | | MINIMIZES THE MOVEMENT OF NUTRIENTS OFF-SITE<br>* Limited Applicability |
| Fertilizer Application Control | 2 ½ | Uniform and controlled boundary fertilizer application (e.g. banding at the root zone; pneumatic controlled-edge application such as AIRMAX); calibrated application equipment; setbacks from canals. |
| Fertilizer Spill Prevention | 2 ½ | Formal spill prevention protocols (handling, transfer, education). |
| Soil Testing | 5 | Avoid excess application by determining P requirements of soil. |
| Plant Tissue Analysis | 2 ½ | Avoid excess application by determining P requirements of plant. |
| Split P Application* | 5 | Applying P proportionately at various times during the growing season. Total application not exceeding recommendation. |
| Slow Release P Fertilizer* | 5 | Applying specially treated fertilizer that breaks down slowly thus releasing P to the plant over time. |
| **PARTICULATE MATTER AND SEDIMENT CONTROLS** | | MINIMIZES THE MOVEMENT OF PARTICULATE MATTER AND SEDIMENTS OFF-SITE<br>(Each consistently implemented across the entire basin acreage.) |
| Any 2<br>Any 4<br>Any 6 | 2 ½<br>5<br>10 | • leveling fields • cover crops<br>• ditch bank berm • raised culvert bottoms<br>• sediment sumps in canals • stabilized ditch banks<br>• sediment sumps in field ditches • aquatic plant management<br>• canal/ditch cleaning program • debris barriers at outfall<br>• slow drainage velocity near pumps<br>• sediment sump upstream of drainage structure |
| **PASTURE MANAGEMENT** | | PLAN FOR ON FARM OPERATION AND MANAGEMENT PRACTICES |
| Pasture Management | 5 | • reduce cattle waste nutrients in discharges by "hot spot" management, i.e. plans for placement of drinking water, feed and supplements, cowpens and shade.<br>• low cattle density |
| **OTHER BMPs** | | OTHER PRACTICES PROPOSED |
| Urban Xeriscape | 5 | Use of plants that require less water and fertilizer. |
| Det. Pond Littoral Zone | 5 | Vegetative filtering area for on-site stormwater runoff. |
| Other BMP Proposed | tbd | BMP proposed by permittee and accepted by SFWMD. |

BMPs are field verified through on-site visits. BMP site verifications are typically conducted by SFWMD staff on an 18-month rotation to allow examination of BMPs implemented in both wet and dry seasons. Field verification procedures begin with a checklist that consists of all BMPs approved in the permit to be implemented for the individual basin. The checklist is provided to the permittee prior to the scheduled site verification to assist the permittee in preparing documentation. The verifications involve a combination of visual field observations and a review of records. When reviewing records the SFWMD staff focuses on documents that verify soil test results, fertilizer recommendations and application rates, BMP training of farm personnel, pump logs and any other material that supports BMP implementation. While in the field, SFWMD staff note any visual evidence that the selected BMPs have been implemented. This evidence may range from spoil on canal banks indicating canal cleaning was performed, fertilizer banding or land leveling equipment, and maintenance of vegetation on ditch banks to reduce sediment in discharge, to any other observable evidence that supports BMP implementation.

Site verifications allow District staff to work with the permittees by discussing BMP strategies and communicating areas of concern (as applicable). The BMP site verifications conducted thus far indicate that the permittees have implemented their respective BMP plans and are taking a proactive approach to reviewing and improving their plans where possible.

## 2.2 Permittee Water Quality Monitoring

### 2.2.1 Flow Calibration

Rule 40E-63.136(2), F.A.C., requires all permittees to provide reasonable assurance that the water control structures discharging from the individual permit drainage basins are calibrated to accurately measure flow. Each calibration report contains, at a minimum, methodology, instrumentation, procedures, field data, structure operational information, and final calculations and certification by a Florida-registered Professional Engineer. The calibration report also describes a temporary backup methodology to be utilized if the primary flow measurement equipment becomes inoperable for any reason.

Although calibrated flow measurements require certification by a Florida-registered Professional Engineer and review and acceptance by the SFWMD, the permittee has options for flow measurement determination. Water discharge structures include gravity connections (culverts, weirs, bleeders, and channels) and pump stations. Structure calibrations involve two primary components, (1) field data collection methodology and (2) data evaluation methodology for deriving a discharge equation. A variety of data collection methods have been demonstrated in the EAA, such as pitot tube, doppler, stream gauging and dye fluorometry. The method selected is based on site specific conditions such as canal configuration, structure capacity, structure layout/design, etc. Data points collected are required to cover the full operating range of the structure. Examples of the types of discharge equations developed for flow calculations in the EAA

are linear, parabolic and cubic. These discharge equations typically utilize static head differentials and pump speed (where appropriate) as variables. Re-calibration of existing structures is necessary if a structure modification affecting the quantity of water being discharged has occurred. Exceptions to the requirement for a certified structure calibration include permittees with less than 320 acres using small capacity discharge structures. These permittees are allowed to use the pump manufacturer's maximum rated capacity and an operation time log to calculate flow.

### 2.2.2 Water Quality Data Submittals

Rule 40E-63 permits require permittees to submit daily total phosphorus and flow data for structures discharging (directly or indirectly) into SFWMD canals. There are two exceptions:

(1) If a single permit drainage basin (the internal drainage system is hydrologically interconnected throughout the basin) has multiple discharge structures and the landuse is homogeneous throughout the basin, a minimum of one discharge structure (representative site) may monitor both flow and total phosphorus concentrations while the remaining structures are allowed to monitor flow only. The structure with the greatest historical discharge is generally selected as the monitored site. The total phosphorus values from the representative site are applied to the "flow only" structures. (**Table 2**, page 8)

(2) Structures located upstream of a monitoring site are not directly monitored for water quality. Instead, agreements are in place to allow the downstream monitored structure to represent them. (**Table 2**)

Water quality samples are generally collected by automatic samplers and are composited for a sampling period of up to 21 days prior to being transported to a laboratory for analysis. Daily total phosphorus load is calculated by multiplying the phosphorus concentration for the sampling period by each daily flow. Exceptions to automatic samplers are allowed for small individual drainage basins with less than 320 acres. These permittees are allowed to take daily grab samples during discharge events over a three-week composite period. All field water quality monitoring is required to be collected under a Comprehensive Quality Assurance Plan approved by the Florida Department of Environmental Protection (FDEP). In addition, any laboratory which analyzes total phosphorus for the Rule 40E-63 permit monitoring program is required to be certified by the Florida Department of Public Health for the analysis of total phosphorus in surface water.

Rule 40E-63 requires data to be submitted in an electronic format. A stand-alone software package was developed by the SFWMD to assist the permittees in submitting the data in a standardized format. The electronic submittals are required on a monthly basis, with more frequent submittals at the permittee's discretion. Permittees are notified when data is past due.

**Table 2 – Summary of WY00 Water Quality Monitoring at Permittee Water Control Structures**

| Type of Monitoring | Number of Structures |
|---|---|
| Water Quality and Flow Monitoring | 222 |
| Flow Monitoring Only<br>(paired with a phosphorus monitored structure in the same basin) | 72 |
| Non-Monitored Structures (Upstream) | 7 |
| **TOTAL** | 301 |

Upon receipt, the electronic data is uploaded to the SFWMD database using a process that includes quality control checks. The data is screened to ensure the total phosphorus (TP) sample has not exceeded the USEPA 28-day holding time limit, permit number and structure ID are correct, and the information is complete (TP, lab name and/or certification number, etc.). "Data flags" are automatically assigned to sampling periods with missing or incorrect information. Sometimes data is returned to the permittee for modification and resubmittal. Additional quality control screening after the data has been successfully uploaded includes analyzing the data for anomalies based on previous submittals. If necessary, additional "data flags" are assigned to the sampling period. Once the screening is complete, a report is generated to identify permit numbers, structure IDs and sampling periods where "data flags" have been assigned. The affected permittees are notified of the "data flags" and necessary action to be taken (if any).

### 2.2.3 Water Quality Annual Reports

Rule 40E-63 requires permittees to submit water quality monitoring summary reports to the District annually. However, as the program evolved, this requirement was evaluated and it was determined that since the permittees were submitting daily water quality data to the SFWMD throughout the year, it was more appropriate for the SFWMD to send a summary of the year's data back to the permittee for review. These annual reports summarize the daily flows, phosphorus loads and rainfall, where applicable, as well as provide a summary of the "data flags" which were assigned to data throughout the reporting year. The water quality annual reports are used as a method of communication between the permittee and the District to ensure accuracy of the database and to make improvements to the monitoring program.

### 2.2.4 Water Quality Monitoring Quality Assurance Field Audits

Rule 40E-63 requires each permittee to conduct field sampling for total phosphorus under an approved Comprehensive Quality Assurance Plan (CompQAP). CompQAPs are subject to approval by the Department of Environmental Protection and are to ensure that correct field sampling procedures and techniques are followed. Currently eight CompQAPs are in use under this program. Laboratories performing analyses for total phosphorus are subject to certification by the Florida Department of Public Health. The SFWMD conducts field Quality Assurance (QA) audits to verify adherence to approved QA field sampling procedures.

Quality Assurance Field Audits consist of two parts, a procedural audit and a split sample analysis. The QA procedural audits are based on a standardized checklist developed through a review of the various QA plans in use under this program. The procedural audit checklist was developed specifically for the Rule 40E-63 sampling program and considers that total phosphorus is the only parameter being sampled. The audit reviews sample collection methods, sample preservation, field record keeping, sample handling and transport, and chain-of-custody documentation.

In order to provide a consistent evaluation of total phosphorus concentrations submitted for permits, a split sample is collected as part of the QA Audit. The split sample is analyzed at the South Florida Water Management District laboratory. A percent relative difference is computed between the permit-reported phosphorus concentration and the corresponding District-reported concentration. This computed percent relative difference value is plotted against the mean and $\pm$1st, $\pm$2nd, & $\pm$3rd standard deviations of the percent relative differences calculated for all split samples collected from all permit QA audits. The District is presently using the third standard deviation as the maximum boundary of an acceptable percent relative difference. If a split sample percent relative difference is greater than $\pm$3 standard deviations, a series of follow-up steps are taken in an attempt to identify the cause.

If problems are identified during either the examination of field collection procedures (procedural audit) or the resulting split sample analysis portion of the QA Audit, follow-up actions are taken to correct the problems.

## 3.0 EAA Basin-Level Results

Since the implementation of BMPs, as required by the Everglades BMP Regulatory Program (Chapter 40E-63, Florida Administrative Code), phosphorus load from the surface water runoff attributable to the lands from within the Everglades Agricultural Area (EAA) has shown a trend of reduction.

To interpret phosphorus measurements taken at SFWMD pump stations and water control structures discharging from the EAA (**inside cover**), it is important to recognize that water leaving the EAA Basin through District structures is a combination of EAA farm and urban-generated runoff and water passing through the EAA canals from basins external to the EAA. One must carefully account for the phosphorus loads from various sources so that accurate conclusions may be made about phosphorus loads originating from the EAA.

The reported phosphorus loads attributed to the farms, cities, and industries within the EAA should not be confused with the total phosphorus load being delivered to the Everglades Protection Area (EPA). The tributary sources and flow patterns are complex. The schematic on the adjoining page represents the sources and amounts of phosphorus discharged from or through the EAA and other tributary sources to the Everglades Protection Area for Water Year 2000 (**Figure 1**, page 13). This data is summarized in the insert on page 12.

The Everglades Forever Act specifically mandates a method to measure and calculate the annual EAA export of phosphorus in surface water runoff from the EAA lands (farms, cities and industry). These calculations are adjusted for the hydrologic variability associated with rainfall and surface water discharges over time. These adjusted equations can then predict what the average annual phosphorus load would have been for the EAA during the Base Period using the current water year conditions. The calculations for the "percent reduction in phosphorus" are now determined simply as the relative difference between the measured annual loads and their corresponding predicted Base Period loads.

### 3.1 EAA Basin Annual Phosphorus Measurements and Calculations

The first year of the 25 percent reduction compliance measurement mandated by statute occurred during Water Year 1996 (May 1995 through April 1996). Total phosphorus load reduction measurements are conducted and reported annually. The EAA Basin phosphorus loads and concentrations are determined in strict accordance with procedures specified in the Everglades Regulatory Program (Rule 40E-63, F.A.C.) and the 1994 Everglades Forever Act. The data for all calculated years are summarized in **Table 3** (page 14) and in **Figure 2** (page 15). The data for Water Year 2000 are summarized in the following insert.

*Insert from Section 3.0 – Refer to Figure 1*

**Predicted Base Period Phosphorus Loads from the EAA**
425 tons of phosphorus (adjusted for WY00 rainfall)

**Water Year 2000 Phosphorus Loads from the EAA** (includes farms, cities, & industry)
193 tons of phosphorus with a combined average concentration of 119 ppb
NOTE: Only a portion of this load (154 tons) goes to the EPA.

**Water Year 2000 Phosphorus Loads from Other Tributary Sources to the EPA**
121 tons of phosphorus with a combined average concentration of 101 ppb

Of the 193 tons attributable to the EAA farms, cities and industry, 154 tons went to the Water Conservation Areas (part of the EPA), 12 tons was backpumped to Lake Okeechobee by the District, 1 ton went to the Holey Land and 26 tons went to the active STAs (ultimately discharging to the EPA). A breakdown of the 121 tons of phosphorus discharged to the Everglades Protection Area from other sources as shown on the schematic is as follows:

- **39 TONS FROM C-139 BASIN (OF WHICH 5 TONS WERE PASSED THROUGH THE EAA)**
- **35 TONS FROM LAKE OKEECHOBEE, PASSED THROUGH THE EAA (ENVIRONMENTAL, URBAN WATER SUPPLY, AND REGULATORY RELEASES)**
- **15 TONS FROM L-28 BASIN (PUMP STATION S-140)**
- **13 TONS FROM FEEDER CANAL BASIN (STRUCTURE S-190)**
- **10 TONS FROM C-11 WEST BASIN (PUMP STATION S-9)**
- **9 TONS FROM STA OUTFLOWS**

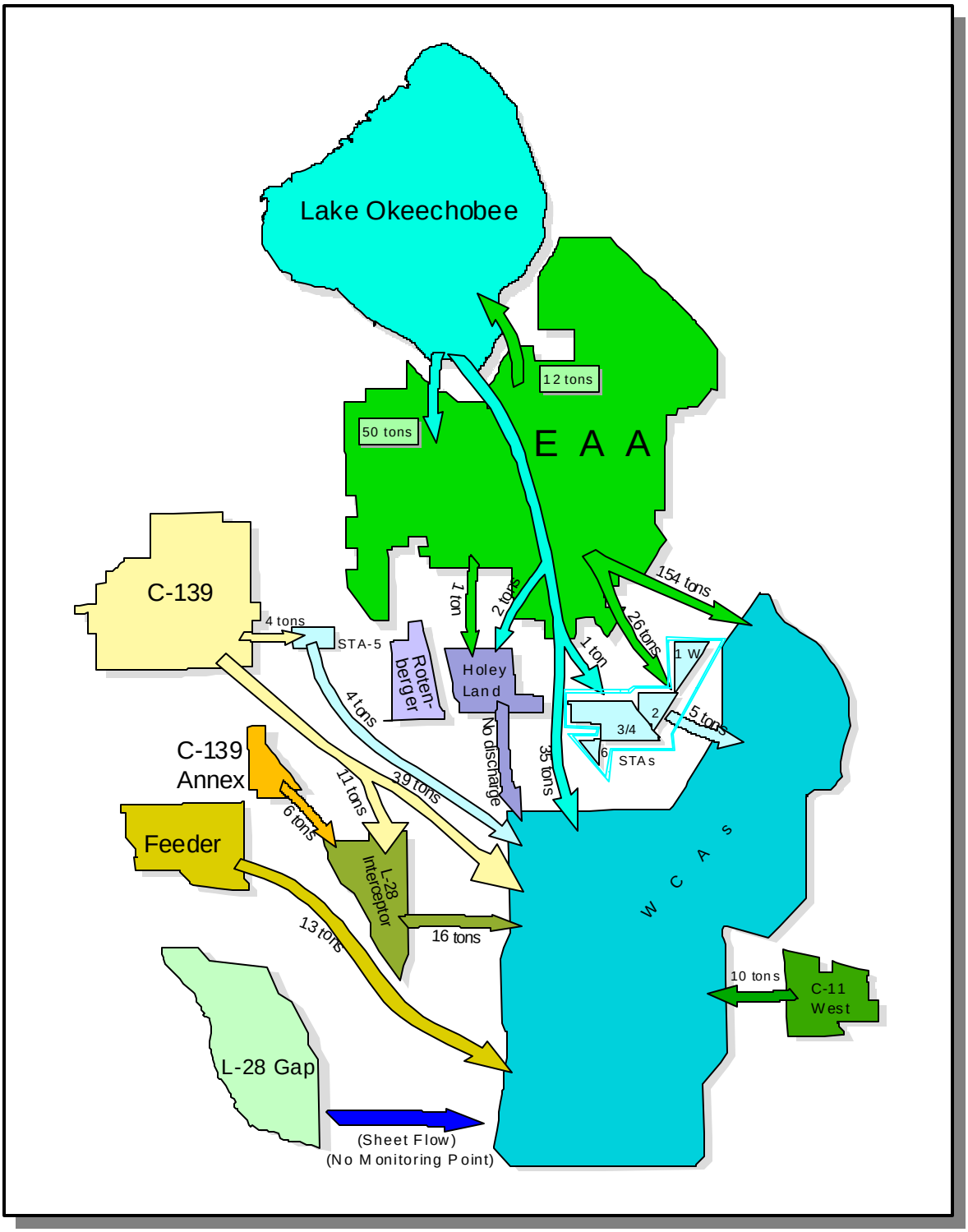
**121 TOTAL TONS**

**Water Year 2000, EAA Phosphorus Load Reduction (%)**

| | |
|---|---|
| Estimated Phosphorus Load from the EAA during the Base Period Years Adjusted for WY00 Rainfall Amount and Distribution (1979 – 1988) | 425 tons |
| Actual WY00 Phosphorus Load from the EAA with BMPs Implemented | 193 tons |
| WY00 Phosphorus Load Reduction (relative difference) | 55% |
| Three-Year Cummulative Phosphorus Load Reduction | 48% |

**Water Year 2000, EAA Phosphorus Concentration (parts per billion, ppb)**

| | |
|---|---|
| Actual Annual Average EAA Phosphorus Concentration Prior to BMP Implementation (1979 – 1991) | 173 ppb |
| Actual WY00 Phosphorus Concentration from the EAA with BMPs Implemented | 119 ppb |
| Three-Year Cumulative Phosphorus Concentration | 114 ppb |




*Tons presented are metric, 1000kg = 1 metric ton, 2205lbs = 1 metric ton*
*NOTE: Only STAs 5 and 6 were operational in Water Year 2000*

**Figure 1 – Schematic of Total Phosphorus Inflows to the Water Conservation Areas from the Various SFWMD Controlled Structures – WY00**

**Table 3 – Summary of EAA Basin Total Phosphorus Calculations Conducted in Accordance with Procedures Specified in Rule 40E-63, F.A.C. and the Everglades Forever Act, 373.4592, F.S.**

***TIME*** →

| | **WY80 – WY91** Pre-BMP Period | **WY92 – WY93** | **WY94** | **WY95** | **WY96** | **WY97** | **WY98** | **WY99** | **WY00** |
|---|---|---|---|---|---|---|---|---|---|
| | | **Partial BMP Implementation** | | | ← | **Full BMP Implementation** | | | → |
| **Three-Year Cumulative Phosphorus % Load Reduction** | **n/a** | **n/a** | **39%** | **36%** | **47%** | **51%** | **55%** | **44%** | **48%** |
| Phosphorus Concentration (ppb) | **173 ppb** 12-year average | **166 ppb** 2-year average | **121** | **130** | **109** | **106** | **100** | **107** | **114** |
| | | | ← 3-year cumulative each Water Year → | | | | | | |
| % Acres Implemented with BMPs as per the Everglades BMP Program (Rule 40E-63) | 0% | 0% * | 15% | 63% | 100% | 100% | 100% | 100% | 100% |
| WY Annual Phosphorus Concentration (ppb) | 173 ppb 12-year average | 166 ppb 2-year average | 112 | 116 | 98 | 100 | 102 | 124 | 119 |
| WY Annual Calculated Phosphorus Load % Reduction | n/a | n/a | 17% | 31% | 68% | 49% | 34% | 49% | 55% |
| 80% Confidence Interval | n/a | n/a | -26-46% | -4-54% | 54-78% | 32-62% | 6-54% | 29-64% | 38-68% |

*NOTE: Lake Okeechobee SWIM BMP Program, 1992-1993, gave BMP credit for:

- Initiation of deep-well injection of domestic wastewater from Belle Glade, South Bay, and Pahokee
- Pump BMPs in S2 and S3 Basins

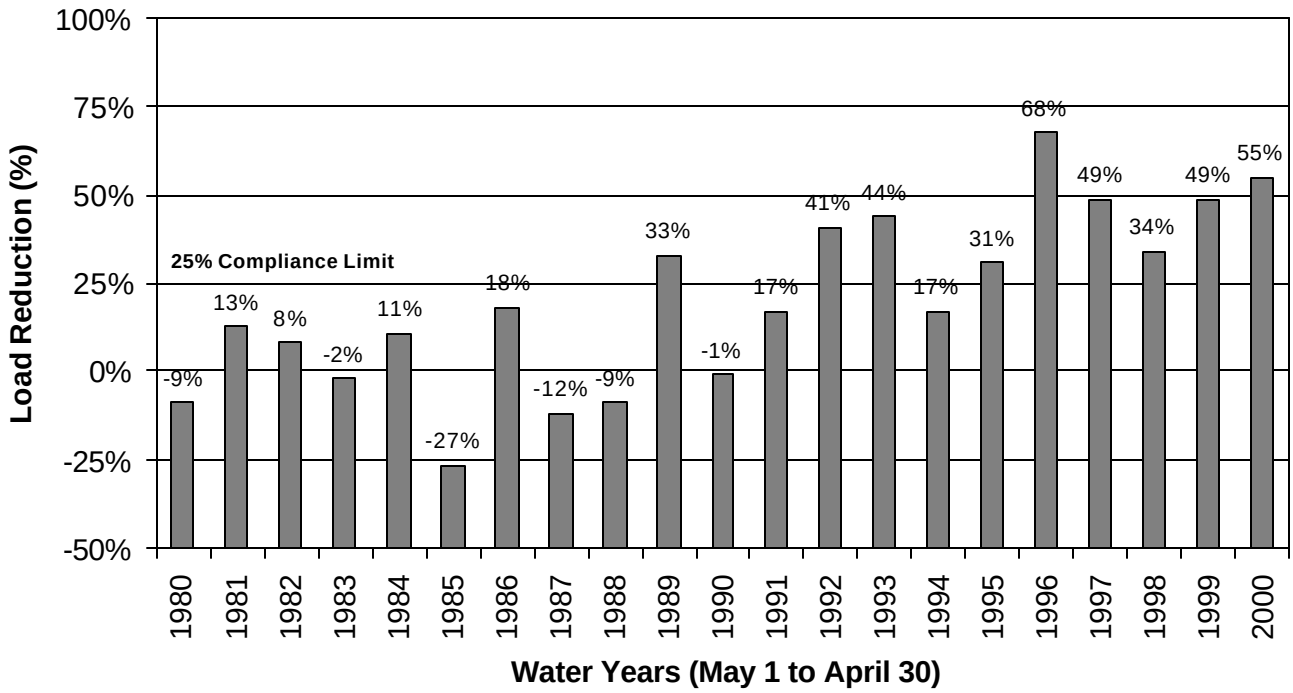



**Figure 2 – EAA Basin Total Phosphorus Percent Reduction**

The observed and predicted data measurements for the EAA phosphorus calculations and annual rainfall and flow measurements are presented in **Table 4** (page 16). The dashed vertical line indicates the period for which BMPs were not fully implemented.

The phosphorus values presented in the following figures **(3 through 6)** are attributable only to the EAA farms, cities, and industry and do not represent the cumulative phosphorus being discharged to the Everglades Protection Area from all sources passing through the EAA.

**Figure 3** (page 17) provides a graphical perspective of the EAA Basin calculations conducted in accordance with Rule 40E-63. Each data bar represents the actual measured annual phosphorus tonnage from the EAA each water year. The data line in **Figure 3** represents the annual phosphorus tonnage predicted by the methodology described earlier. The relative difference between the actual measured phosphorus tonnage (data bar) and the predicted (data line) is the percent phosphorus reduction.

**Table 4 – WY80 through WY00 EAA Basin Total Phosphorus Measurements and Calculations**

| Water Year | Observe TP (m. tons) | Predict TP (m. tons) | % TP Reduct. | Annual Rain (in) | Annual Flow (Kac-ft) | Base Period | Pre-BMP Period | LOK SWIM BMPs | Evrglds Rule BMPs |
|---|---|---|---|---|---|---|---|---|---|
| **80** | 167 | 154 | -9% | 53.50 | 1162 | | | | |
| **81** | 85 | 98 | 13% | 35.05 | 550 | | | | |
| **82** | 234 | 255 | 8% | 46.65 | 781 | | | | |
| **83** | 473 | 462 | -2% | 64.35 | 1965 | | | | |
| **84** | 188 | 212 | 11% | 49.83 | 980 | | | | |
| **85** | 229 | 180 | -27% | 39.70 | 824 | | | | |
| **86** | 197 | 240 | 18% | 51.15 | 1059 | | | | |
| **87** | 291 | 261 | -12% | 51.97 | 1286 | | | | |
| **88** | 140 | 128 | -9% | 43.43 | 701 | | | | |
| **89** | 183 | 274 | 33% | 39.68 | 750 | | | | |
| **90** | 121 | 120 | -1% | 40.14 | 552 | | | | |
| **91** | 180 | 219 | 17% | 50.37 | 707 | | | | |
| **92** | 106 | 179 | 41% | 47.61 | 908 | | | | |
| **93** | 318 | 572 | 44% | 61.69 | 1639 | | | | |
| **94** | 132 | 160 | 17% | 50.54 | 952 | | | | |
| **95** | 268 | 388 | 31% | 67.01 | 1878 | | | | |
| **96** | 162 | 503 | 68% | 56.86 | 1336 | | | | |
| **97** | 122 | 240 | 49% | 52.02 | 996 | | | | |
| **98** | 161 | 244 | 34% | 56.12 | 1276 | | | | |
| **99** | 128 | 249 | 49% | 43.42 | 833 | | | | |
| **00** | 193 | 425 | 55% | 57.51 | 1311 | | | | |

As described, the annual percent reduction of phosphorus is calculated as the relative difference between the actual measured EAA Basin phosphorus load and the predicted Base Period phosphorus load (adjusted for rainfall). The annual EAA Basin percent phosphorus reduction calculations are presented in **Figure 4** (page 18). The solid line shows the 3-year trend of percent reduction. The ♦ symbols represent the annual measurements. An upward trend in the solid line in **Figure 4** denotes a reduction in loads or an improvement.

It can be difficult at times to clearly recognize any trend of phosphorus reduction from the Rule 40E-63 calculation methodology particularly with annual Base Period phosphorus levels which vary, dependent on each year's timing and distribution of rainfall. **Figure 5** (page 18) provides an alternative view of the EAA Basin annual phosphorus loads. The approach used is to combine the phosphorus load data from **Figure 3** with the percent

reduction calculations **from Figure 4**. The result is a normalized view of the data to assist with the recognition of data trends. The arithmetic annual average phosphorus load during the Base Period is approximately 207 metric tons. Each annual EAA percent reduction of phosphorus load was multiplied by the 207 metric ton pre-BMP annual average and plotted on **Figure 5** (normalized annual load = 207 mtons x [1 - annual percent reduction]). It appears that there has been an overall trend of phosphorus reduction occurring since the initial implementation of BMPs within the EAA.

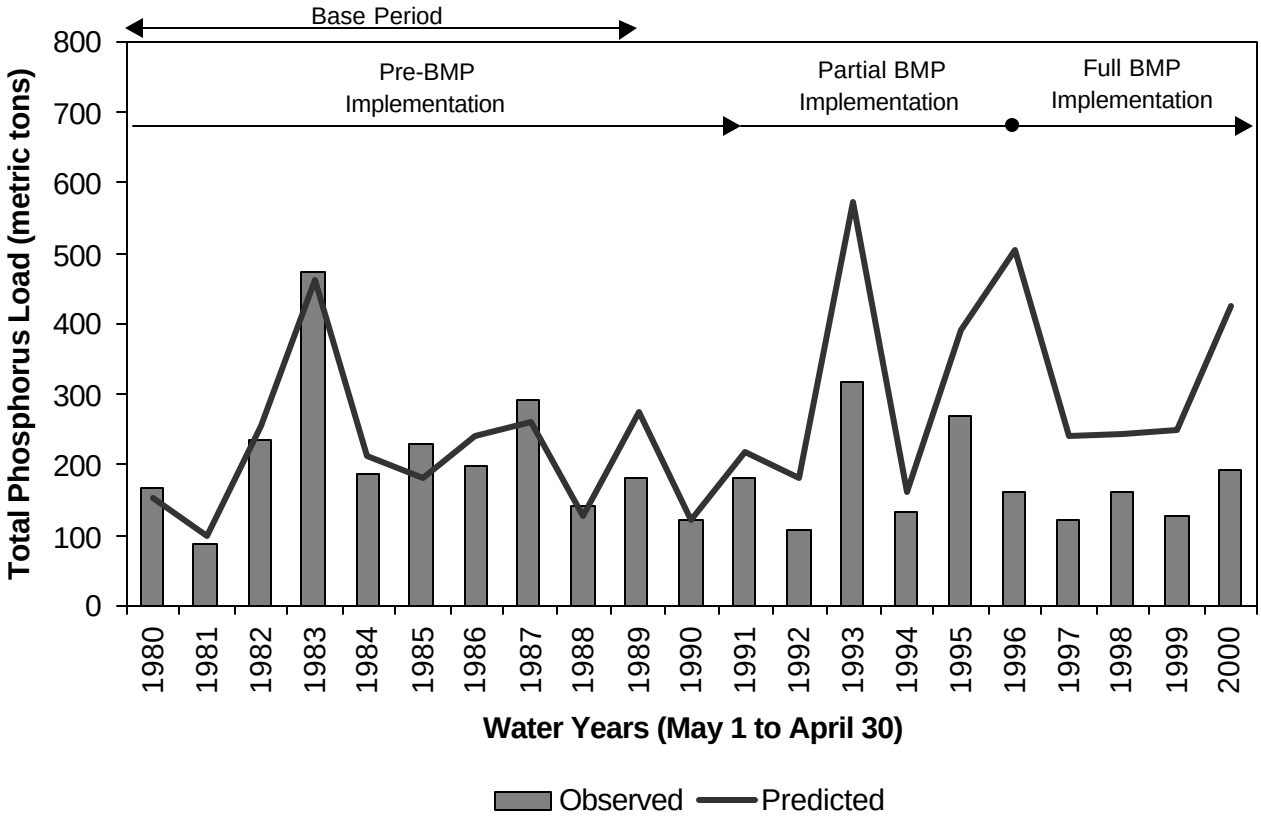



**Figure 3 – EAA Basin Total Phosphorus Load Calculated as per Criteria in Rule 40E-63, F.A.C.**

In addition to total phosphorus load, phosphorus concentrations are also calculated, although concentration levels are not directly considered in determining EAA Basin compliance. Flow-weighted concentrations allow year-to-year comparisons. Annual concentrations and 3-year trends presented in this report are true "annual flow-weighted" values calculated by dividing the total annual cumulative phosphorus load by the total annual cumulative flow.

$$\frac{\Sigma \text{ daily total phosphorus load, } m\text{grams}}{\Sigma \text{ daily flow, liters}} = \text{Annual Total Phosphorus, ppb}$$

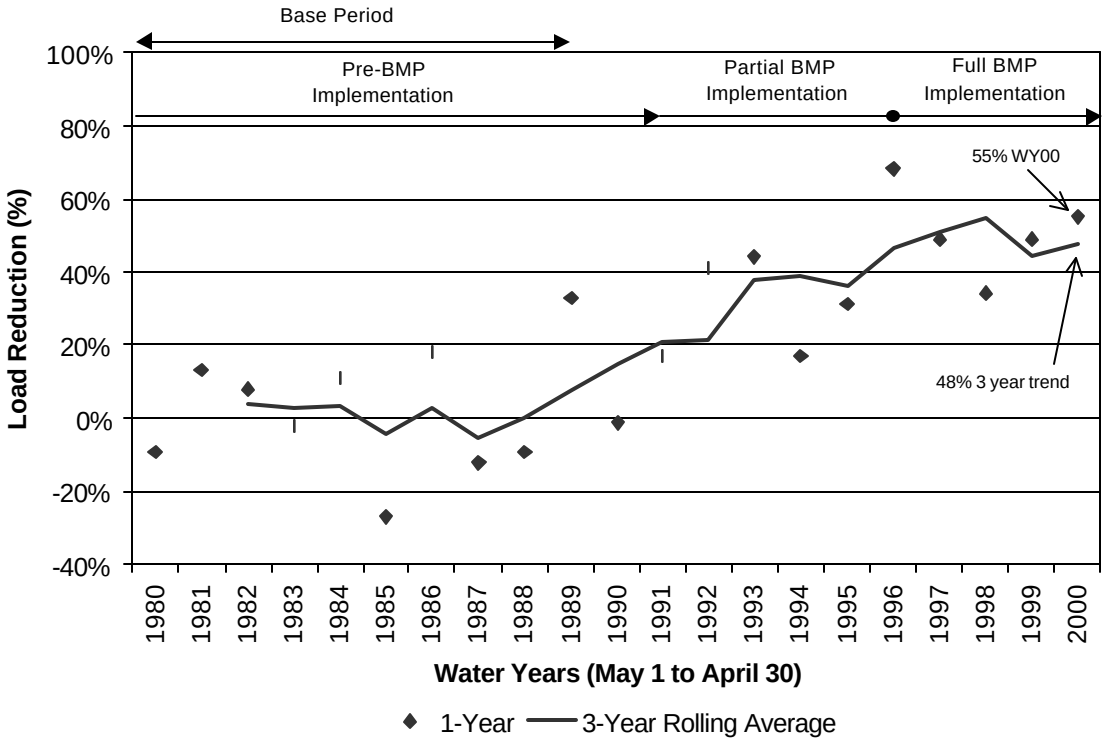



**Figure 4 – EAA Basin Total Phosphorus Percent Reduction Calculated as per Criteria in Rule 40E-63, F.A.C.**

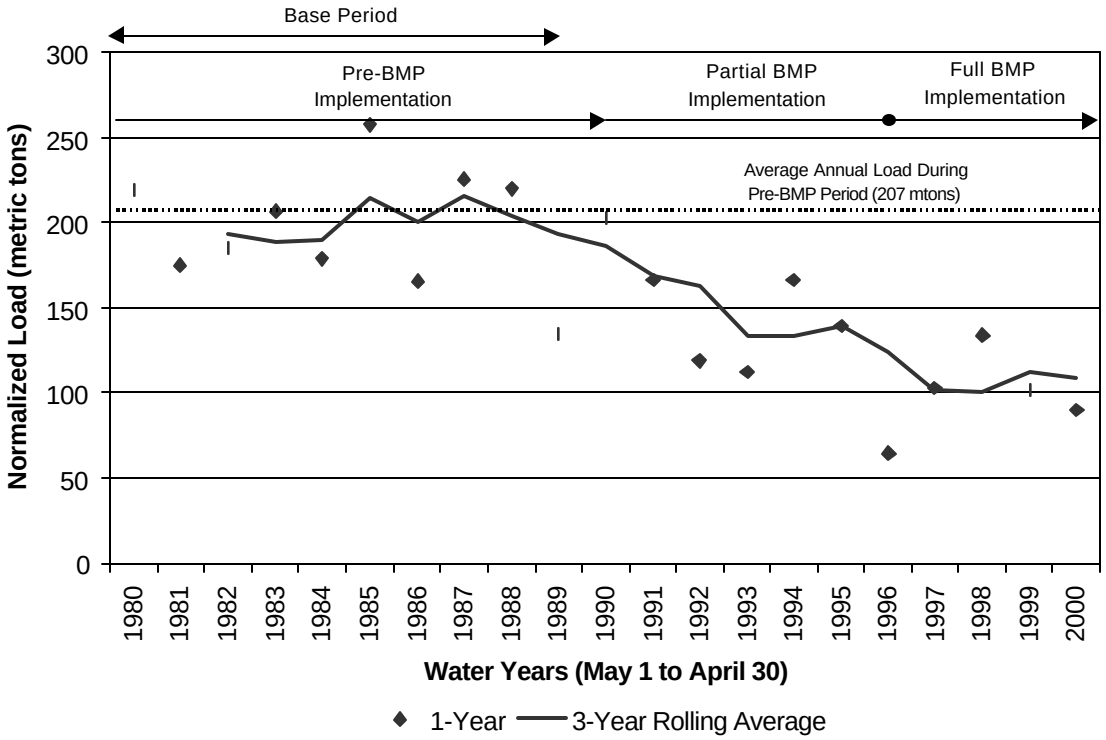



**Figure 5 – Normalized View of EAA Basin Phosphorus Loads Calculated as per Criteria in Rule 40E-63, F.A.C.**

## 3.2 Status of Phosphorus Inflows from Tributaries to the Everglades Construction Project

The EAA is only one tributary basin to the proposed stormwater treatment areas identified in the Everglades Forever Act as the Everglades Construction Project (ECP). Other surface water tributary sources to the ECP include:

- ✓ C-139 Basin
- ✓ Lake Okeechobee normal releases (environmental, water supply, regulatory)

The design of the stormwater treatment areas is based upon basin discharges (STA inflows) having a 25% reduction in phosphorus load from the EAA, and the C-139 Basin not exceeding the historic load as compared to the Base Period. The interim design goal for the final discharges from the Everglades Construction Project (STA outflows) to the Everglades Protection Area is to achieve an average annual phosphorus discharge concentration of 50 ppb. As mandated by the EFA, the long-term phosphorus concentration will be set by the State of Florida Environmental Regulatory Commission based upon available research or will default to 10 ppb.

Using the WY00 measured flow volumes for the tributaries identified above as a basis for comparison, one can extrapolate what the phosphorus loads would be from the stormwater treatment areas to meet the EFA future interim phosphorus concentration (50 ppb) and the EFA long-term phosphorus concentration (10 ppb).

**1979 – 1991 Pre-BMP and Pre-STA Period**
® *165 ppb, 212 average annual tons to Everglades Protection Area*

**WY00, Partial STA and Full BMP Implementation in the EAA**
® *135 ppb, 228 total tons* to Everglades Protection Area*
*(*EAA: 154 tons; C-139: 39 tons; Lake Okeechobee: 35 tons)*

**Interim Goal (through the combination of STAs and BMPs in the EAA)**
® *50 ppb, 84 tons to Everglades Protection Area*

**EFA 10 ppb default for comparison purposes only**
® *10 ppb, 17 tons to Everglades Protection Area*

An alternative method to examine the progress being made towards the reduction of phosphorus from the Everglades Construction Project tributary basins is provided in **Figure 6** (page 20). The data in **Figure 6** is presented in terms of percent of water delivered to the Water Conservation Areas. The shading in **Figure 6** represents four phosphorus concentration ranges (where 'C' represents Concentration).

In a consistent fashion with **Figures 3 through 5**, the data is presented as three-year rolling averages for analysis of data trends. **Figure 6** shows progress of increasing

levels of surface water runoff to the Everglades Protection Area with lower phosphorus concentration levels. The solid horizontal arrows across the top of the graph show the implementation period. A dashed line indicates partial implementation.

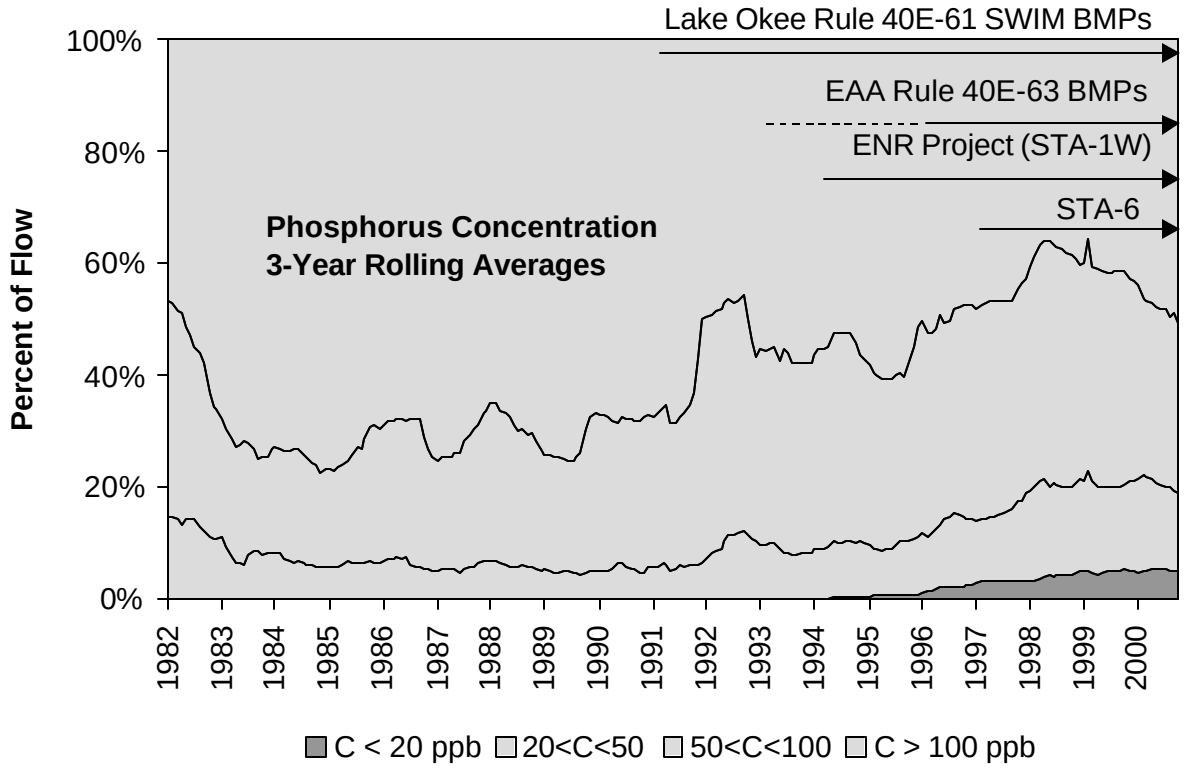



**Figure 6 – Measure of Progress Towards Phosphorus Reduction to the Everglades Protection Area Through BMPs and STAs**

## 4.0 Conclusions

Water Year 2000 represents the fifth complete water year of required BMP implementation in the EAA. The EAA has been in compliance with the Everglades Regulatory Program (Rule 40E-63) 25% phosphorus load reduction requirement since the first full year of BMP implementation.

For EAA Basin discharges, the relative difference between the WY00 measured phosphorus tonnage and the predicted Base Period phosphorus tonnage (adjusted for hydrologic variation) indicates a 55% reduction in phosphorus load. The 3-year trend of phosphorus load from the EAA is a 48% reduction. The overall trend since the initial implementation of BMPs indicates a reduction in phosphorus load from the EAA. The annual flow-weighted phosphorus concentrations attributable to the EAA show a similar trend. The recent 3-year cumulative phosphorus concentration of 114 ppb with BMPs implemented as compared to the 173 ppb prior to BMPs being implemented indicates a reduction in concentrations occurring.

It should be noted that other basins contribute to the phosphorus loads being discharged to the Everglades Protection Area. Phosphorus loads entering the Everglades Protection Area also include loads from Lake Okeechobee releases (environmental, urban water supply and regulatory), C-139, C-11W, L-28 and Feeder Canal Basin runoff, and Stormwater Treatment Area discharges. The total phosphorus load to the Everglades Protection Area from these sources for WY00 was 275 tons with a combined average concentration of 111 ppb. Of this total, 154 tons can be directly attributable to the discharges from EAA farms, cities and industry, while the remaining 121 tons is from other sources.

The measurements for Water Year 2000 represent the fifth full water year of required Best Management Practices (BMP) implementation throughout the EAA. As the number of annual calculations increase, the staff will be able to have increased confidence to quantify a specific long-term phosphorus reduction in the runoff from the EAA. However, given the encouraging preliminary BMP program measurements and the performance of the initial SFWMD stormwater treatment areas (ENR Project and STA-6), there is increased confidence that the Everglades Forever Act's interim goal of achieving 50 ppb phosphorus concentration through the combination of existing landowner BMPs and downstream stormwater treatment areas is achievable.

Annual average flow-weighted total phosphorus concentrations (ppb) and phosphorus load discharges (lbs/ac) have been calculated from the permittee daily water quality monitoring data reported during WY00. **Figures A.1 and A.2** present the spatial distributions of phosphorus concentrations and phosphorus load discharges by permit drainage basin. **Figures A.3 and A.4** present frequency distributions of the WY00 permittee drainage basin total phosphorus concentrations and loads.

**This on-farm or permittee-level water quality monitoring will only be used for compliance determination if the EAA Basin does not meet the 25% phosphorus load reduction requirement. The permittee water quality monitoring results are not used to calculate the phosphorus reduction at the EAA Basin-level. The EAA Basin-level monitoring is conducted by the SFWMD at SFWMD structures.** In fact, the permittee-level water quality monitoring cannot be used to determine the measure of phosphorus discharged to the Everglades. The surface water discharged from any one of the given 194 defined drainage basins may be withdrawn as irrigation or freeze protection water by another farm. On an annual basis, there exists a tremendous amount of recycling of water within the EAA prior to any discharge to the Everglades. This conclusion is based upon the fact that the average annual cumulative total volume of water discharged from the 300+ permittee or farm-level pump stations is approximately 1.3 times the volume released from the SFWMD water control structures surrounding the EAA. The permit-level water quality monitoring does have a utility of allowing relative comparison between permit basins.

The WY00 permit-level total phosphorus data is presented in **Tables A.1 through A.4**. In an effort to facilitate review of the information, the data is sorted and presented in four ways:

**Table A.1** WY00 Phosphorus data sorted by Permit Basin ID,

**Table A.2** WY00 Phosphorus data sorted by concentration,

**Table A.3** WY00 Phosphorus data sorted by load, and

**Table A.4** WY00 Phosphorus data sorted by percent reduction.

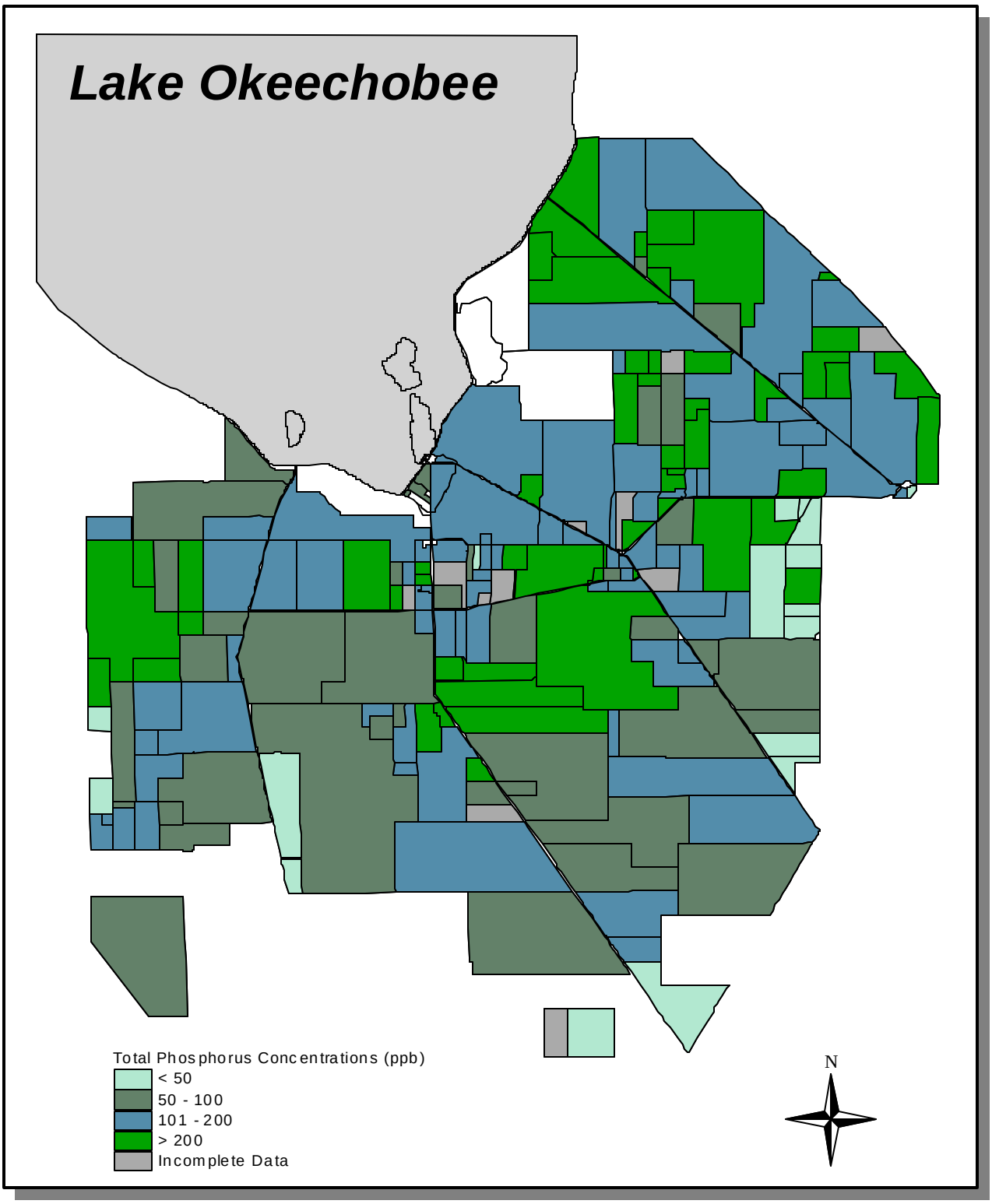



**Figure A.1 – WY00 Spatial Distribution of Permit Drainage Basin Phosphorus Concentrations**

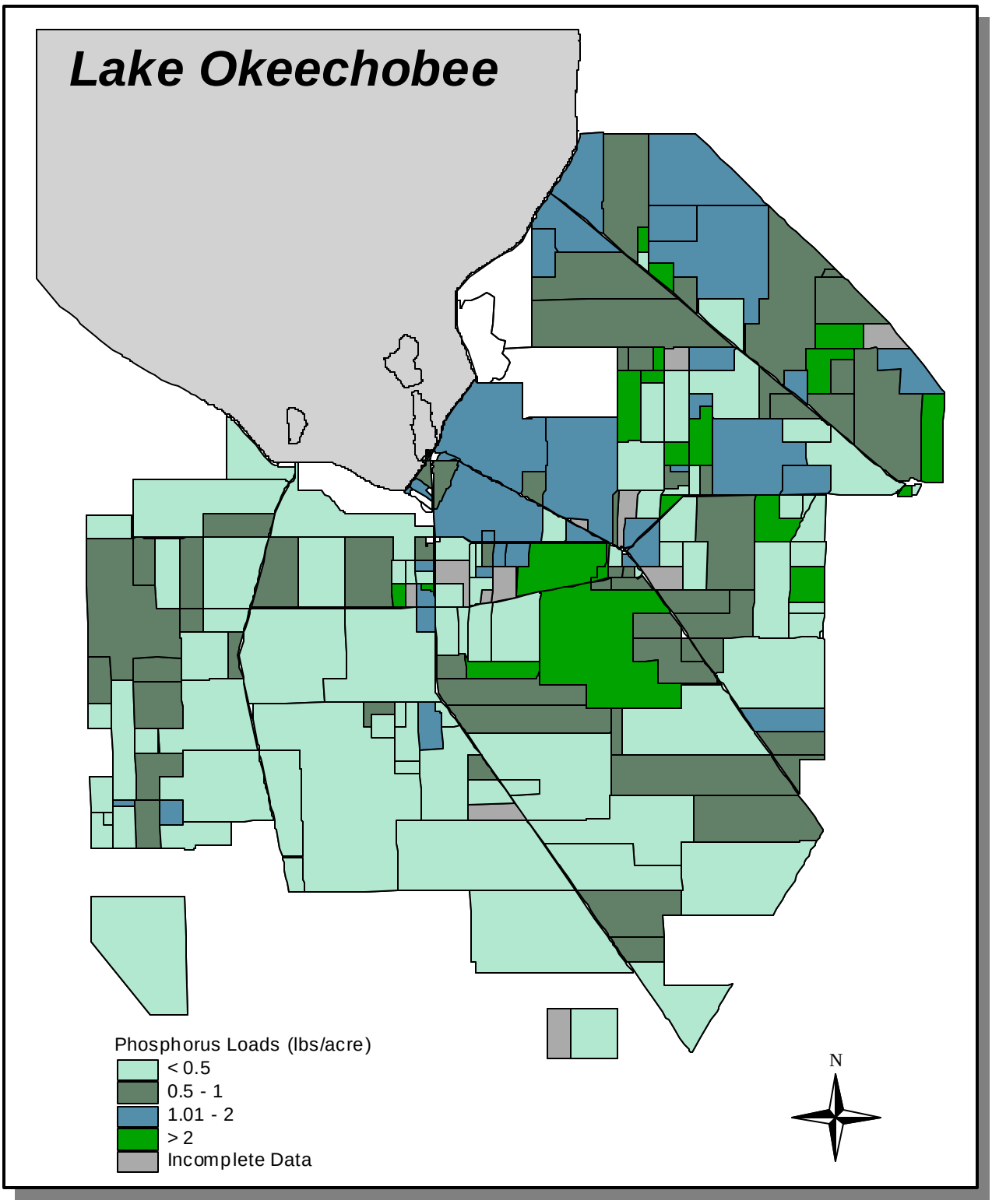



**Figure A.2 – WY00 Spatial Distribution of Permit Drainage Basin Total Phosphorus Loads**

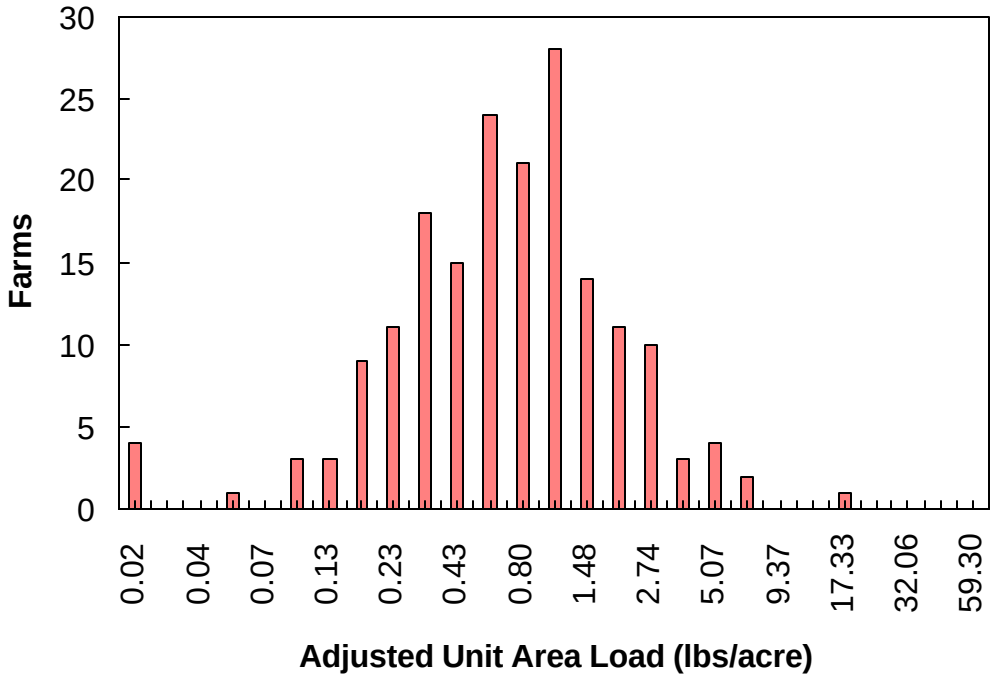



**Figure A.3 – Frequency Distribution of WY00 Permittee Drainage Basin Total Phosphorus Concentrations**

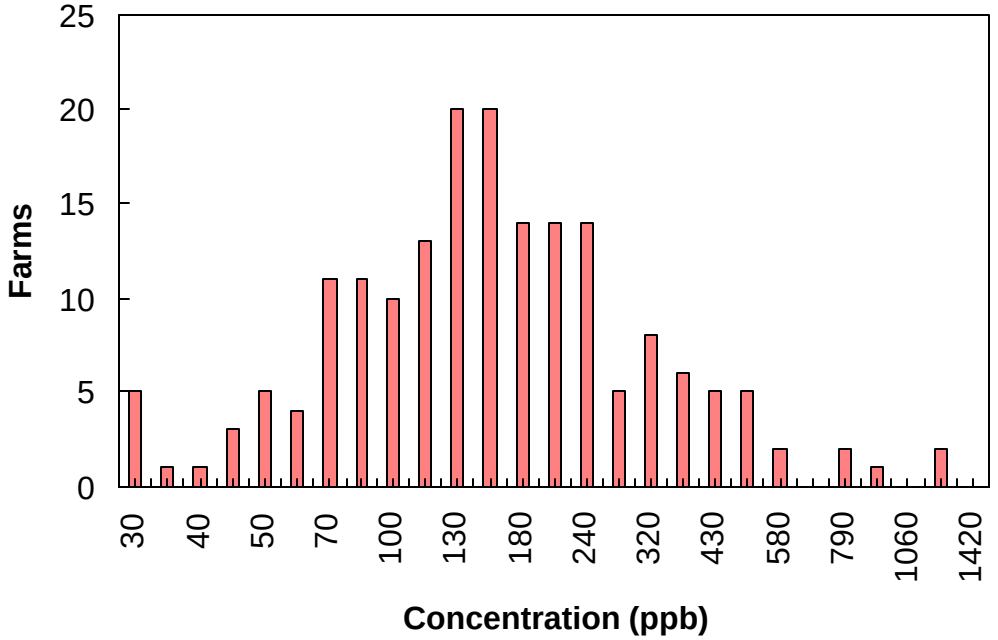



**Figure A.4 – Frequency Distribution of WY00 Permittee Drainage Basin Total Phosphorus Load Discharged**

## Table A.1 – Water Year 2000 Data Sorted by Permit Basin ID

| Unit Area ID | Basin ID | Early Baseline | Baseline Year | Rain Adjusted Unit Area Load (lbs/ac) | | WY00 % TP Reduction | WY00 TP Conc. (ppb) | Comments |
|---|---|---|---|---|---|---|---|---|
| | | | | Baseline | WY00 | | | |
| 005 | 26-001-01 | Y | 1994 | 2.12 | 0.30 | 86% | 115 | |
| 191 | 26-002-01 | N | TBD | TBD | 0.00 | N/A | N/A | No discharge |
| 200 | 26-003-01 | N | 1999 | 0.27 | 0.07 | 73% | 35 | |
| 201 | 26-004-01 | N | 1999 | 1.22 | 0.59 | 52% | 192 | |
| 190 | 26-006-01 | N | 1998 | 1.19 | 0.70 | 41% | 318 | |
| 196 | 26-007-01 | N | 1999 | 2.07 | 1.22 | 41% | 81 | |
| 005 | 26-008-01 | Y | 1994 | 2.12 | 0.30 | 86% | 115 | |
| 195 | 26-009-01 | N | 1999 | 0.74 | 1.21 | -63% | 95 | |
| 021 | 26-010-01 | N | 1995 | 1.81 | 0.32 | 83% | 150 | |
| 012 | 26-010-02 | N | 1995 | 6.21 | 0.85 | 86% | 273 | |
| 166 | 50-002-01 | Y | 1994 | 3.21 | 0.94 | 71% | 218 | |
| 165 | 50-002-02 | Y | 1994 | 2.90 | 0.57 | 80% | 150 | |
| 047 | 50-003-01 | Y | 1994 | 0.40 | 0.36 | 9% | 266 | |
| 040 | 50-003-02 | Y | 1994 | 0.62 | 0.94 | -52% | 146 | |
| 138 | 50-003-03 | N | 1995 | 0.22 | 1.85 | -729% | 302 | |
| 152 | 50-004-01 | Y | 1994 | 3.68 | 0.57 | 85% | 178 | |
| 039 | 50-005-01 | Y | 1994 | 0.91 | 0.29 | 67% | 63 | |
| 050 | 50-005-02 | Y | 1994 | 0.06 | 1.89 | -2942% | 1108 | |
| 048 | 50-005-03 | Y | 1994 | 0.26 | 0.18 | 29% | 122 | |
| 037 | 50-005-04 | Y | 1994 | 1.49 | 0.42 | 72% | 551 | |
| 011 | 50-005-05 | Y | 1994 | 1.95 | 0.68 | 65% | 205 | |
| 078 | 50-005-06 | Y | 1994 | 1.56 | 0.22 | 86% | 141 | |
| 134 | 50-006-01 | Y | 1994 | 4.53 | 0.90 | 80% | 128 | |
| 143 | 50-006-02 | Y | 1994 | 5.50 | 0.93 | 83% | 175 | |
| 141 | 50-006-03 | Y | 1994 | 3.55 | 1.31 | 63% | 240 | |
| 063 | 50-007-01 | Y | 1994 | 1.56 | 0.69 | 56% | 126 | |
| 116 | 50-007-02 | Y | 1994 | 15.11 | 1.00 | 93% | 222 | |
| 020 | 50-008-01 | Y | 1994 | 0.34 | 0.16 | 54% | 73 | |
| 024 | 50-009-01 | Y | 1994 | 1.13 | 0.29 | 74% | 115 | |
| 060 | 50-009-02 | Y | 1994 | 3.57 | 0.91 | 74% | 174 | |
| 030 | 50-009-03 | Y | 1994 | 4.15 | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (57% Sampled) |
| 194 | 50-009-04 | N | 1999 | 5.19 | 4.14 | 20% | 455 | |
| 211 | 50-009-05 | N | 1999 | 8.71 | 2.35 | 73% | 505 | |
| 104 | 50-010-01 | N | 1995 | 2.42 | 0.42 | 83% | 141 | |
| 102 | 50-010-02 | N | 1994 | 1.80 | 1.05 | 42% | 157 | |
| 055 | 50-010-03 | Y | 1994 | 1.31 | 0.50 | 62% | 123 | |
| 148 | 50-010-04 | Y | 1994 | 4.76 | 1.73 | 64% | 182 | |
| 193 | 50-010-05 | N | 2000 | Baseline Year | 0.26 | N/A | 74 | |
| 112 | 50-011-01 | Y | 1994 | 2.76 | 0.69 | 75% | 156 | |
| 075 | 50-011-03 | Y | 1994 | 5.79 | 4.42 | 24% | 721 | |
| 089 | 50-011-04 | Y | 1994 | 5.21 | 13.27 | -155% | 1217 | |
| 202 | 50-011-06 | N | 1999 | 0.02 | 0.44 | -2790% | 158 | |

*TBD = to be determined

## Table A.1 – Water Year 2000 Data Sorted by Permit Basin ID

| Unit Area ID | Basin ID | Early Baseline | Baseline Year | Rain Adjusted Unit Area Load (lbs/ac) | | WY00 % TP Reduction | WY00 TP Conc. (ppb) | Comments |
|---|---|---|---|---|---|---|---|---|
| | | | | Baseline | WY00 | | | |
| 120 | 50-012-01 | Y | 1994 | 4.06 | 1.86 | 54% | 123 | |
| 114 | 50-013-01 | Y | 1994 | 24.22 | 3.31 | 86% | 496 | |
| 077 | 50-014-01 | Y | 1994 | 1.37 | 0.15 | 89% | 113 | |
| 188 | 50-015-01 | Y | 1994 | 2.62 | 1.42 | 46% | 301 | |
| 168 | 50-015-02 | Y | 1994 | 5.28 | 1.36 | 74% | 334 | |
| 129 | 50-016-01 | Y | 1994 | 15.11 | 1.60 | 89% | 228 | |
| 091 | 50-017-01 | Y | 1994 | 3.22 | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (0% Sampled) |
| 187 | 50-018-01 | Y | 1994 | 2.82 | 0.64 | 77% | 135 | |
| 186 | 50-018-02 | Y | 1994 | 3.54 | 1.01 | 71% | 152 | |
| 179 | 50-018-03 | Y | 1994 | 1.98 | 0.93 | 53% | 127 | |
| 015 | 50-018-04 | Y | 1994 | 3.88 | 0.24 | 94% | 77 | |
| 016 | 50-018-05 | N | 1995 | 3.64 | 0.89 | 75% | 223 | |
| 014 | 50-018-06 | Y | 1994 | 1.46 | 0.58 | 60% | 236 | |
| 005 | 50-018-07 | Y | 1994 | 2.12 | 0.30 | 86% | 115 | |
| 006 | 50-018-08 | Y | 1994 | 2.28 | 0.19 | 92% | 66 | |
| 019 | 50-018-09 | Y | 1994 | 4.22 | 0.61 | 85% | 145 | |
| 145 | 50-018-10 | Y | 1994 | 3.05 | 1.49 | 51% | 194 | |
| 159 | 50-018-11 | Y | 1994 | 19.73 | 2.36 | 88% | 232 | |
| 172 | 50-018-12 | Y | 1994 | 1.78 | 0.62 | 65% | 103 | |
| 178 | 50-018-13 | Y | 1994 | 0.40 | 1.14 | -186% | 129 | |
| 056 | 50-018-14 | N | 1994 | 2.21 | 1.51 | 32% | 71 | |
| 079 | 50-018-15 | Y | 1994 | 1.12 | 0.52 | 54% | 204 | |
| 095 | 50-018-16 | Y | 1994 | 4.11 | 1.23 | 70% | 123 | |
| 043 | 50-018-17 | Y | 1994 | 3.10 | 1.26 | 59% | 184 | |
| 051 | 50-018-18 | Y | 1994 | 0.64 | 0.87 | -36% | 155 | |
| 046 | 50-018-19 | Y | 1994 | 35.32 | 2.38 | 93% | 202 | |
| 044 | 50-018-20 | Y | 1994 | 3.59 | 1.15 | 68% | 193 | |
| 001 | 50-018-21 | N | 1998 | 1.06 | 0.45 | 57% | 75 | |
| 017 | 50-018-22 | Y | 1994 | 8.18 | 0.47 | 94% | 114 | |
| 054 | 50-018-23 | Y | 1994 | 2.22 | 0.81 | 64% | 158 | |
| 053 | 50-018-24 | Y | 1994 | 1.96 | 0.38 | 80% | 102 | |
| 052 | 50-018-25 | Y | 1994 | 4.99 | 0.62 | 88% | 214 | |
| 067 | 50-019-01 | Y | 1994 | 1.54 | 0.28 | 81% | 56 | |
| 036 | 50-019-02 | Y | 1994 | 1.38 | 1.74 | -26% | 335 | |
| 031 | 50-019-03 | Y | 1994 | 0.58 | 0.09 | 85% | 87 | |
| 164 | 50-020-01 | Y | 1994 | 3.32 | 0.61 | 82% | 141 | |
| 111 | 50-021-01 | Y | 1994 | 8.92 | 0.97 | 89% | 182 | |
| 049 | 50-022-01 | Y | 1994 | 0.80 | 0.04 | 95% | 81 | |
| 139 | 50-023-01 | Y | 1994 | 11.83 | 4.51 | 62% | 400 | |
| 032 | 50-024-01 | N | 1995 | 6.43 | 0.56 | 91% | 389 | |
| 153 | 50-025-01 | Y | 1994 | 3.68 | 0.88 | 76% | 229 | |
| 072 | 50-027-01 | Y | 1994 | 2.40 | 0.75 | 69% | 186 | |

*TBD = to be determined

## Table A.1 – Water Year 2000 Data Sorted by Permit Basin ID

| Unit Area ID | Basin ID | Early Baseline | Baseline Year | Rain Adjusted Unit Area Load (lbs/ac) | | WY00 % TP Reduction | WY00 TP Conc. (ppb) | Comments |
|---|---|---|---|---|---|---|---|---|
| | | | | Baseline | WY00 | | | |
| 140 | 50-027-02 | Y | 1994 | 1.22 | 0.49 | 60% | 108 | |
| 147 | 50-027-03 | Y | 1994 | 2.32 | 0.73 | 69% | 312 | |
| 144 | 50-027-04 | Y | 1994 | 2.10 | 0.39 | 81% | 158 | |
| 086 | 50-028-01 | Y | 1994 | 14.54 | 0.55 | 96% | 87 | |
| 094 | 50-029-01 | Y | 1994 | 2.48 | 0.43 | 83% | 108 | |
| 156 | 50-030-01 | Y | 1994 | 14.14 | 1.09 | 92% | 221 | |
| 107 | 50-031-01 | Y | 1994 | 2.56 | 0.82 | 68% | 50 | |
| 150 | 50-031-02 | Y | 1994 | 5.48 | 3.69 | 33% | 396 | |
| 151 | 50-031-03 | Y | 1994 | 8.57 | 2.55 | 70% | 286 | |
| 096 | 50-032-01 | Y | 1994 | 0.84 | 0.57 | 32% | 107 | |
| 167 | 50-033-01 | Y | 1994 | 12.52 | 1.71 | 86% | 309 | |
| 065 | 50-034-01 | Y | 1994 | 1.68 | 0.92 | 45% | 114 | |
| 069 | 50-034-02 | Y | 1994 | 3.37 | 0.61 | 82% | 135 | |
| 070 | 50-034-03 | Y | 1994 | 4.08 | 0.88 | 78% | 211 | |
| 071 | 50-034-04 | Y | 1994 | 1.54 | 0.66 | 57% | 234 | |
| 137 | 50-035-01 | Y | 1994 | 5.74 | 0.86 | 85% | 227 | |
| 115 | 50-035-02 | Y | 1994 | 5.40 | 2.40 | 56% | 357 | |
| 208 | 50-035-03 | N | 1999 | 8.71 | 6.48 | 26% | 160 | |
| 169 | 50-037-01 | Y | 1994 | 6.70 | 2.69 | 60% | 358 | |
| 160 | 50-038-01 | Y | 1994 | 3.71 | 1.33 | 64% | 417 | |
| 083 | 50-039-01 | N | 1995 | 4.01 | 0.08 | 98% | 206 | |
| 084 | 50-039-02 | N | 1995 | 4.25 | 1.19 | 72% | 148 | |
| 184 | 50-040-01 | N | 1995 | 1.40 | 0.32 | 77% | 67 | |
| 183 | 50-040-02 | N | 1995 | 3.61 | 2.14 | 41% | 250 | |
| 149 | 50-041-01 | N | 1998 | 2.69 | 1.89 | 30% | 132 | |
| 057 | 50-041-02 | N | 1998 | 2.44 | 0.91 | 63% | 64 | |
| 034 | 50-042-01 | N | 1995 | 0.14 | 0.11 | 23% | 109 | |
| 003 | 50-043-01 | N | 1995 | 1.86 | 0.30 | 84% | 448 | |
| 174 | 50-044-01 | N | 1997 | 6.13 | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (13% Sampled) |
| 087 | 50-045-01 | N | 1995 | 4.35 | 0.27 | 94% | 158 | |
| 085 | 50-045-02 | N | 1995 | 1.41 | 0.58 | 59% | 117 | |
| 056 | 50-046-01 | N | 1994 | 2.21 | 1.51 | 32% | 71 | |
| 161 | 50-047-01 | N | 1996 | 1.46 | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (73% Sampled) |
| 163 | 50-047-02 | N | 1995 | 0.84 | 0.91 | -8% | 263 | |
| 157 | 50-047-03 | N | 1997 | 0.44 | 0.21 | 51% | 72 | |
| 136 | 50-047-04 | N | 1996 | 0.68 | 0.28 | 59% | 144 | |
| 162 | 50-047-05 | N | 1997 | 0.55 | 2.39 | -334% | 290 | |
| 155 | 50-047-07 | N | 1996 | 0.67 | 0.45 | 33% | 151 | |
| 158 | 50-047-08 | N | 1996 | 0.96 | 0.46 | 52% | 96 | |
| 074 | 50-048-01 | N | 1995 | 1.25 | 0.66 | 47% | 79 | |
| 090 | 50-048-02 | N | 1995 | 0.36 | 1.17 | -223% | 377 | |
| 180 | 50-049-01 | N | 1996 | 2.35 | 1.23 | 48% | 238 | |

*TBD = to be determined

## Table A.1 – Water Year 2000 Data Sorted by Permit Basin ID

| Unit Area ID | Basin ID | Early Baseline | Baseline Year | Rain Adjusted Unit Area Load (lbs/ac) | | WY00 % TP Reduction | WY00 TP Conc. (ppb) | Comments |
|---|---|---|---|---|---|---|---|---|
| | | | | Baseline | WY00 | | | |
| 022 | 50-050-01 | N | 1996 | 0.36 | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (0% Sampled) |
| 110 | 50-051-01 | N | 1995 | 0.97 | 0.84 | 13% | 52 | |
| 146 | 50-053-01 | N | 1995 | 5.16 | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (71% Sampled) |
| 170 | 50-054-01 | N | 1996 | 0.84 | 0.54 | 35% | 132 | |
| 173 | 50-054-02 | N | 1996 | 0.50 | 0.71 | -43% | 230 | |
| 130 | 50-054-03 | N | 1996 | 0.35 | 0.38 | -7% | 172 | |
| 127 | 50-054-04 | N | 1996 | 0.82 | 0.46 | 44% | 108 | |
| 073 | 50-055-01 | N | 1997 | 0.86 | 0.74 | 14% | 113 | |
| 142 | 50-055-02 | N | 1999 | 0.45 | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (65% Sampled) |
| 121 | 50-055-03 | N | 1996 | 0.18 | 0.41 | -130% | 76 | |
| 117 | 50-055-04 | N | 1995 | 1.44 | 0.16 | 89% | 118 | |
| 105 | 50-056-01 | N | 1996 | 0.98 | 0.56 | 43% | 101 | |
| 097 | 50-058-01 | N | 1995 | 0.02 | 0.00 | 100% | 0 | |
| 180 | 50-059-01 | N | 1996 | 2.35 | 1.23 | 48% | 238 | |
| 181 | 50-059-02 | N | 1997 | 1.07 | 0.48 | 55% | 82 | |
| 182 | 50-059-03 | N | 1996 | 1.65 | 0.95 | 42% | 149 | |
| 185 | 50-059-04 | N | 1996 | 1.14 | 2.03 | -78% | 360 | |
| 068 | 50-060-01 | N | 1995 | 0.18 | 0.27 | -52% | 97 | |
| 109 | 50-060-02 | N | 1995 | 0.75 | 0.47 | 37% | 87 | |
| 117 | 50-061-01 | N | 1995 | 1.44 | 0.16 | 89% | 118 | |
| 076 | 50-061-03 | N | 1995 | 0.76 | 0.30 | 60% | 89 | |
| 093 | 50-061-04 | N | 1995 | 1.67 | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (70% Sampled) |
| 045 | 50-061-05 | N | 1995 | 1.89 | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (59% Sampled) |
| 098 | 50-061-06 | N | 1995 | 1.68 | 0.19 | 89% | 68 | |
| 092 | 50-061-07 | N | 1995 | 1.24 | 1.33 | -8% | 101 | |
| 135 | 50-061-08 | N | 1999 | 1.76 | 0.16 | 91% | 153 | |
| 013 | 50-061-09 | N | 1995 | 2.77 | 0.19 | 93% | 164 | |
| 027 | 50-061-10 | N | 1996 | 0.49 | 0.25 | 48% | 87 | |
| 026 | 50-061-11 | N | 1995 | 0.95 | 0.30 | 69% | 139 | |
| 099 | 50-061-12 | N | 1995 | 2.55 | 0.35 | 86% | 95 | |
| 100 | 50-061-13 | N | 1995 | 1.16 | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (30% Sampled) |
| 132 | 50-061-15 | N | 1995 | 1.91 | 1.08 | 43% | 182 | |
| 177 | 50-061-17 | N | 1995 | 12.22 | 5.59 | 54% | 446 | |
| 108 | 50-061-18 | N | 1995 | 9.82 | 1.90 | 81% | 56 | |
| 102 | 50-061-20 | N | 1994 | 1.80 | 1.05 | 42% | 157 | |
| 033 | 50-062-01 | N | 1996 | 0.20 | 0.13 | 31% | 138 | |
| 066 | 50-062-02 | N | 1996 | 0.46 | 0.12 | 74% | 52 | |
| 080 | 50-062-03 | N | 1996 | 0.54 | 0.24 | 56% | 149 | |
| 101 | 50-062-04 | N | 1996 | 0.26 | 0.12 | 54% | 123 | |
| 062 | 50-062-05 | N | 1996 | 0.41 | 0.14 | 67% | 66 | |

*TBD = to be determined

## Table A.1 – Water Year 2000 Data Sorted by Permit Basin ID

| Unit Area ID | Basin ID | Early Baseline | Baseline Year | Rain Adjusted Unit Area Load (lbs/ac) | | WY00 % TP Reduction | WY00 TP Conc. (ppb) | Comments |
|---|---|---|---|---|---|---|---|---|
| | | | | Baseline | WY00 | | | |
| 023 | 50-062-06 | N | 1996 | 0.62 | 0.18 | 70% | 22 | |
| 058 | 50-062-07 | N | 1996 | 1.41 | 0.26 | 81% | 46 | |
| 025 | 50-062-08 | N | 1996 | 0.51 | 0.31 | 39% | 61 | |
| 064 | 50-062-09 | N | 1997 | 0.22 | 0.17 | 21% | 100 | |
| 061 | 50-062-10 | N | 1997 | 0.72 | 0.41 | 44% | 65 | |
| 035 | 50-062-11 | N | 1996 | 0.44 | 0.15 | 67% | 119 | |
| 041 | 50-063-01 | N | 1996 | 0.45 | 0.14 | 70% | 80 | |
| 113 | 50-064-01 | N | 1997 | 2.98 | 0.16 | 95% | 34 | |
| 113 | 50-064-03 | N | 1997 | 2.98 | 0.16 | 95% | 34 | |
| 113 | 50-064-04 | N | 1997 | 2.98 | 0.16 | 95% | 34 | |
| 118 | 50-065-02 | N | 1995 | 3.64 | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (42% Sampled) |
| 113 | 50-065-03 | N | 1997 | 2.98 | 0.16 | 95% | 34 | |
| 113 | 50-065-05 | N | 1997 | 2.98 | 0.16 | 95% | 34 | |
| 113 | 50-065-06 | N | 1997 | 2.98 | 0.16 | 95% | 34 | |
| 081 | 50-065-07 | N | 1995 | 3.92 | 0.64 | 84% | 121 | |
| 113 | 50-065-08 | N | 1997 | 2.98 | 0.16 | 95% | 34 | |
| 106 | 50-065-10 | N | 1995 | 1.55 | 0.57 | 63% | 43 | |
| 059 | 50-066-01 | N | 1995 | 2.13 | 0.52 | 76% | 155 | |
| 010 | 50-067-01 | N | 1996 | 0.40 | 0.20 | 49% | 69 | |
| 042 | 50-067-02 | N | 1996 | 0.94 | 0.20 | 79% | 53 | |
| 028 | 50-067-03 | N | 1996 | 1.02 | 0.48 | 53% | 43 | |
| 029 | 50-067-04 | N | 1996 | 0.55 | 0.27 | 52% | 49 | |
| 007 | 50-067-05 | N | 1996 | 0.42 | 0.36 | 14% | 97 | |
| 197 | 50-067-06 | N | 1999 | 0.49 | 0.82 | -67% | 152 | |
| 198 | 50-067-07 | N | 1999 | 0.54 | 0.40 | 24% | 76 | |
| 002 | 50-067-08 | N | 1996 | 2.20 | 0.00 | 100% | 0 | |
| 203 | 50-067-09 | N | 1999 | 0.64 | 0.94 | -48% | 844 | |
| 204 | 50-067-10 | N | 1999 | 1.21 | 0.19 | 84% | 74 | |
| 205 | 50-067-11 | N | 1999 | 0.85 | 0.42 | 51% | 116 | |
| 189 | 50-067-13 | N | 1997 | 2.29 | 0.76 | 67% | 131 | |
| 175 | 50-068-01 | N | 1996 | 1.13 | 0.59 | 48% | 150 | |
| 171 | 50-068-02 | N | 1997 | 2.30 | 1.06 | 54% | 316 | |
| 038 | 50-069-01 | N | 1996 | 1.06 | 0.40 | 62% | 58 | |
| 088 | 50-070-01 | N | 1995 | 3.82 | 3.21 | 16% | 491 | |
| 082 | 50-070-02 | N | 1995 | 3.09 | 0.75 | 76% | 173 | |
| 176 | 50-071-01 | N | 1996 | 5.02 | 4.61 | 8% | 768 | |
| 126 | 50-073-01 | N | TBD | TBD | 0.00 | N/A | N/A | No discharge |
| 207 | 50-075-01 | N | TBD | TBD | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (25% Sampled) |
| 192 | 50-076-01 | N | 2000 | Baseline Year | 0.55 | N/A | 359 | |
| 209 | 50-078-01 | N | 1999 | 8.71 | 2.02 | 77% | 182 | |

*TBD = to be determined

## Table A.2 – Water Year 2000 Data Sorted by Phosphorus Concentration

| Unit Area ID | Basin ID | Early Baseline | Baseline Year | Rain Adjusted Unit Area Load (lbs/ac) | | WY00 % TP Reduction | WY00 TP Conc. (ppb) | Comments |
|---|---|---|---|---|---|---|---|---|
| | | | | Baseline | WY00 | | | |
| 089 | 50-011-04 | Y | 1994 | 5.21 | 13.27 | -155% | 1217 | |
| 050 | 50-005-02 | Y | 1994 | 0.06 | 1.89 | -2942% | 1108 | |
| 203 | 50-067-09 | N | 1999 | 0.64 | 0.94 | -48% | 844 | |
| 176 | 50-071-01 | N | 1996 | 5.02 | 4.61 | 8% | 768 | |
| 075 | 50-011-03 | Y | 1994 | 5.79 | 4.42 | 24% | 721 | |
| 037 | 50-005-04 | Y | 1994 | 1.49 | 0.42 | 72% | 551 | |
| 211 | 50-009-05 | N | 1999 | 8.71 | 2.35 | 73% | 505 | |
| 114 | 50-013-01 | Y | 1994 | 24.22 | 3.31 | 86% | 496 | |
| 088 | 50-070-01 | N | 1995 | 3.82 | 3.21 | 16% | 491 | |
| 194 | 50-009-04 | N | 1999 | 5.19 | 4.14 | 20% | 455 | |
| 003 | 50-043-01 | N | 1995 | 1.86 | 0.30 | 84% | 448 | |
| 177 | 50-061-17 | N | 1995 | 12.22 | 5.59 | 54% | 446 | |
| 160 | 50-038-01 | Y | 1994 | 3.71 | 1.33 | 64% | 417 | |
| 139 | 50-023-01 | Y | 1994 | 11.83 | 4.51 | 62% | 400 | |
| 150 | 50-031-02 | Y | 1994 | 5.48 | 3.69 | 33% | 396 | |
| 032 | 50-024-01 | N | 1995 | 6.43 | 0.56 | 91% | 389 | |
| 090 | 50-048-02 | N | 1995 | 0.36 | 1.17 | -223% | 377 | |
| 185 | 50-059-04 | N | 1996 | 1.14 | 2.03 | -78% | 360 | |
| 192 | 50-076-01 | N | 2000 | Baseline Year | 0.55 | N/A | 359 | |
| 169 | 50-037-01 | Y | 1994 | 6.70 | 2.69 | 60% | 358 | |
| 115 | 50-035-02 | Y | 1994 | 5.40 | 2.40 | 56% | 357 | |
| 036 | 50-019-02 | Y | 1994 | 1.38 | 1.74 | -26% | 335 | |
| 168 | 50-015-02 | Y | 1994 | 5.28 | 1.36 | 74% | 334 | |
| 190 | 26-006-01 | N | 1998 | 1.19 | 0.70 | 41% | 318 | |
| 171 | 50-068-02 | N | 1997 | 2.30 | 1.06 | 54% | 316 | |
| 147 | 50-027-03 | Y | 1994 | 2.32 | 0.73 | 69% | 312 | |
| 167 | 50-033-01 | Y | 1994 | 12.52 | 1.71 | 86% | 309 | |
| 138 | 50-003-03 | N | 1995 | 0.22 | 1.85 | -729% | 302 | |
| 188 | 50-015-01 | Y | 1994 | 2.62 | 1.42 | 46% | 301 | |
| 162 | 50-047-05 | N | 1997 | 0.55 | 2.39 | -334% | 290 | |
| 151 | 50-031-03 | Y | 1994 | 8.57 | 2.55 | 70% | 286 | |
| 012 | 26-010-02 | N | 1995 | 6.21 | 0.85 | 86% | 273 | |
| 047 | 50-003-01 | Y | 1994 | 0.40 | 0.36 | 9% | 266 | |
| 163 | 50-047-02 | N | 1995 | 0.84 | 0.91 | -8% | 263 | |
| 183 | 50-040-02 | N | 1995 | 3.61 | 2.14 | 41% | 250 | |
| 141 | 50-006-03 | Y | 1994 | 3.55 | 1.31 | 63% | 240 | |
| 180 | 50-049-01 | N | 1996 | 2.35 | 1.23 | 48% | 238 | |
| 180 | 50-059-01 | N | 1996 | 2.35 | 1.23 | 48% | 238 | |
| 014 | 50-018-06 | Y | 1994 | 1.46 | 0.58 | 60% | 236 | |
| 071 | 50-034-04 | Y | 1994 | 1.54 | 0.66 | 57% | 234 | |
| 159 | 50-018-11 | Y | 1994 | 19.73 | 2.36 | 88% | 232 | |
| 173 | 50-054-02 | N | 1996 | 0.50 | 0.71 | -43% | 230 | |
| 153 | 50-025-01 | Y | 1994 | 3.68 | 0.88 | 76% | 229 | |

*TBD = to be determined

## Table A.2 – Water Year 2000 Data Sorted by Phosphorus Concentration

| Unit Area ID | Basin ID | Early Baseline | Baseline Year | Rain Adjusted Unit Area Load (lbs/ac) | | WY00 % TP Reduction | WY00 TP Conc. (ppb) | Comments |
|---|---|---|---|---|---|---|---|---|
| | | | | Baseline | WY00 | | | |
| 129 | 50-016-01 | Y | 1994 | 15.11 | 1.60 | 89% | 228 | |
| 137 | 50-035-01 | Y | 1994 | 5.74 | 0.86 | 85% | 227 | |
| 016 | 50-018-05 | N | 1995 | 3.64 | 0.89 | 75% | 223 | |
| 116 | 50-007-02 | Y | 1994 | 15.11 | 1.00 | 93% | 222 | |
| 156 | 50-030-01 | Y | 1994 | 14.14 | 1.09 | 92% | 221 | |
| 166 | 50-002-01 | Y | 1994 | 3.21 | 0.94 | 71% | 218 | |
| 052 | 50-018-25 | Y | 1994 | 4.99 | 0.62 | 88% | 214 | |
| 070 | 50-034-03 | Y | 1994 | 4.08 | 0.88 | 78% | 211 | |
| 083 | 50-039-01 | N | 1995 | 4.01 | 0.08 | 98% | 206 | |
| 011 | 50-005-05 | Y | 1994 | 1.95 | 0.68 | 65% | 205 | |
| 079 | 50-018-15 | Y | 1994 | 1.12 | 0.52 | 54% | 204 | |
| 046 | 50-018-19 | Y | 1994 | 35.32 | 2.38 | 93% | 202 | |
| 145 | 50-018-10 | Y | 1994 | 3.05 | 1.49 | 51% | 194 | |
| 044 | 50-018-20 | Y | 1994 | 3.59 | 1.15 | 68% | 193 | |
| 201 | 26-004-01 | N | 1999 | 1.22 | 0.59 | 52% | 192 | |
| 072 | 50-027-01 | Y | 1994 | 2.40 | 0.75 | 69% | 186 | |
| 043 | 50-018-17 | Y | 1994 | 3.10 | 1.26 | 59% | 184 | |
| 148 | 50-010-04 | Y | 1994 | 4.76 | 1.73 | 64% | 182 | |
| 111 | 50-021-01 | Y | 1994 | 8.92 | 0.97 | 89% | 182 | |
| 132 | 50-061-15 | N | 1995 | 1.91 | 1.08 | 43% | 182 | |
| 209 | 50-078-01 | N | 1999 | 8.71 | 2.02 | 77% | 182 | |
| 152 | 50-004-01 | Y | 1994 | 3.68 | 0.57 | 85% | 178 | |
| 143 | 50-006-02 | Y | 1994 | 5.50 | 0.93 | 83% | 175 | |
| 060 | 50-009-02 | Y | 1994 | 3.57 | 0.91 | 74% | 174 | |
| 082 | 50-070-02 | N | 1995 | 3.09 | 0.75 | 76% | 173 | |
| 130 | 50-054-03 | N | 1996 | 0.35 | 0.38 | -7% | 172 | |
| 013 | 50-061-09 | N | 1995 | 2.77 | 0.19 | 93% | 164 | |
| 208 | 50-035-03 | N | 1999 | 8.71 | 6.48 | 26% | 160 | |
| 202 | 50-011-06 | N | 1999 | 0.02 | 0.44 | -2790% | 158 | |
| 054 | 50-018-23 | Y | 1994 | 2.22 | 0.81 | 64% | 158 | |
| 144 | 50-027-04 | Y | 1994 | 2.10 | 0.39 | 81% | 158 | |
| 087 | 50-045-01 | N | 1995 | 4.35 | 0.27 | 94% | 158 | |
| 102 | 50-010-02 | N | 1994 | 1.80 | 1.05 | 42% | 157 | |
| 102 | 50-061-20 | N | 1994 | 1.80 | 1.05 | 42% | 157 | |
| 112 | 50-011-01 | Y | 1994 | 2.76 | 0.69 | 75% | 156 | |
| 051 | 50-018-18 | Y | 1994 | 0.64 | 0.87 | -36% | 155 | |
| 059 | 50-066-01 | N | 1995 | 2.13 | 0.52 | 76% | 155 | |
| 135 | 50-061-08 | N | 1999 | 1.76 | 0.16 | 91% | 153 | |
| 186 | 50-018-02 | Y | 1994 | 3.54 | 1.01 | 71% | 152 | |
| 197 | 50-067-06 | N | 1999 | 0.49 | 0.82 | -67% | 152 | |
| 155 | 50-047-07 | N | 1996 | 0.67 | 0.45 | 33% | 151 | |
| 021 | 26-010-01 | N | 1995 | 1.81 | 0.32 | 83% | 150 | |
| 165 | 50-002-02 | Y | 1994 | 2.90 | 0.57 | 80% | 150 | |

*TBD = to be determined

## Table A.2 – Water Year 2000 Data Sorted by Phosphorus Concentration

| Unit Area ID | Basin ID | Early Baseline | Baseline Year | Rain Adjusted Unit Area Load (lbs/ac) | | WY00 % TP Reduction | WY00 TP Conc. (ppb) | Comments |
|---|---|---|---|---|---|---|---|---|
| | | | | Baseline | WY00 | | | |
| 175 | 50-068-01 | N | 1996 | 1.13 | 0.59 | 48% | 150 | |
| 182 | 50-059-03 | N | 1996 | 1.65 | 0.95 | 42% | 149 | |
| 080 | 50-062-03 | N | 1996 | 0.54 | 0.24 | 56% | 149 | |
| 084 | 50-039-02 | N | 1995 | 4.25 | 1.19 | 72% | 148 | |
| 040 | 50-003-02 | Y | 1994 | 0.62 | 0.94 | -52% | 146 | |
| 019 | 50-018-09 | Y | 1994 | 4.22 | 0.61 | 85% | 145 | |
| 136 | 50-047-04 | N | 1996 | 0.68 | 0.28 | 59% | 144 | |
| 078 | 50-005-06 | Y | 1994 | 1.56 | 0.22 | 86% | 141 | |
| 104 | 50-010-01 | N | 1995 | 2.42 | 0.42 | 83% | 141 | |
| 164 | 50-020-01 | Y | 1994 | 3.32 | 0.61 | 82% | 141 | |
| 026 | 50-061-11 | N | 1995 | 0.95 | 0.30 | 69% | 139 | |
| 033 | 50-062-01 | N | 1996 | 0.20 | 0.13 | 31% | 138 | |
| 187 | 50-018-01 | Y | 1994 | 2.82 | 0.64 | 77% | 135 | |
| 069 | 50-034-02 | Y | 1994 | 3.37 | 0.61 | 82% | 135 | |
| 149 | 50-041-01 | N | 1998 | 2.69 | 1.89 | 30% | 132 | |
| 170 | 50-054-01 | N | 1996 | 0.84 | 0.54 | 35% | 132 | |
| 189 | 50-067-13 | N | 1997 | 2.29 | 0.76 | 67% | 131 | |
| 178 | 50-018-13 | Y | 1994 | 0.40 | 1.14 | -186% | 129 | |
| 134 | 50-006-01 | Y | 1994 | 4.53 | 0.90 | 80% | 128 | |
| 179 | 50-018-03 | Y | 1994 | 1.98 | 0.93 | 53% | 127 | |
| 063 | 50-007-01 | Y | 1994 | 1.56 | 0.69 | 56% | 126 | |
| 055 | 50-010-03 | Y | 1994 | 1.31 | 0.50 | 62% | 123 | |
| 120 | 50-012-01 | Y | 1994 | 4.06 | 1.86 | 54% | 123 | |
| 095 | 50-018-16 | Y | 1994 | 4.11 | 1.23 | 70% | 123 | |
| 101 | 50-062-04 | N | 1996 | 0.26 | 0.12 | 54% | 123 | |
| 048 | 50-005-03 | Y | 1994 | 0.26 | 0.18 | 29% | 122 | |
| 081 | 50-065-07 | N | 1995 | 3.92 | 0.64 | 84% | 121 | |
| 035 | 50-062-11 | N | 1996 | 0.44 | 0.15 | 67% | 119 | |
| 117 | 50-055-04 | N | 1995 | 1.44 | 0.16 | 89% | 118 | |
| 117 | 50-061-01 | N | 1995 | 1.44 | 0.16 | 89% | 118 | |
| 085 | 50-045-02 | N | 1995 | 1.41 | 0.58 | 59% | 117 | |
| 205 | 50-067-11 | N | 1999 | 0.85 | 0.42 | 51% | 116 | |
| 005 | 26-001-01 | Y | 1994 | 2.12 | 0.30 | 86% | 115 | |
| 005 | 26-008-01 | Y | 1994 | 2.12 | 0.30 | 86% | 115 | |
| 024 | 50-009-01 | Y | 1994 | 1.13 | 0.29 | 74% | 115 | |
| 005 | 50-018-07 | Y | 1994 | 2.12 | 0.30 | 86% | 115 | |
| 017 | 50-018-22 | Y | 1994 | 8.18 | 0.47 | 94% | 114 | |
| 065 | 50-034-01 | Y | 1994 | 1.68 | 0.92 | 45% | 114 | |
| 077 | 50-014-01 | Y | 1994 | 1.37 | 0.15 | 89% | 113 | |
| 073 | 50-055-01 | N | 1997 | 0.86 | 0.74 | 14% | 113 | |
| 034 | 50-042-01 | N | 1995 | 0.14 | 0.11 | 23% | 109 | |
| 140 | 50-027-02 | Y | 1994 | 1.22 | 0.49 | 60% | 108 | |
| 094 | 50-029-01 | Y | 1994 | 2.48 | 0.43 | 83% | 108 | |

*TBD = to be determined

## Table A.2 – Water Year 2000 Data Sorted by Phosphorus Concentration

| Unit Area ID | Basin ID | Early Baseline | Baseline Year | Rain Adjusted Unit Area Load (lbs/ac) | | WY00 % TP Reduction | WY00 TP Conc. (ppb) | Comments |
|---|---|---|---|---|---|---|---|---|
| | | | | Baseline | WY00 | | | |
| 127 | 50-054-04 | N | 1996 | 0.82 | 0.46 | 44% | 108 | |
| 096 | 50-032-01 | Y | 1994 | 0.84 | 0.57 | 32% | 107 | |
| 172 | 50-018-12 | Y | 1994 | 1.78 | 0.62 | 65% | 103 | |
| 053 | 50-018-24 | Y | 1994 | 1.96 | 0.38 | 80% | 102 | |
| 105 | 50-056-01 | N | 1996 | 0.98 | 0.56 | 43% | 101 | |
| 092 | 50-061-07 | N | 1995 | 1.24 | 1.33 | -8% | 101 | |
| 064 | 50-062-09 | N | 1997 | 0.22 | 0.17 | 21% | 100 | |
| 068 | 50-060-01 | N | 1995 | 0.18 | 0.27 | -52% | 97 | |
| 007 | 50-067-05 | N | 1996 | 0.42 | 0.36 | 14% | 97 | |
| 158 | 50-047-08 | N | 1996 | 0.96 | 0.46 | 52% | 96 | |
| 195 | 26-009-01 | N | 1999 | 0.74 | 1.21 | -63% | 95 | |
| 099 | 50-061-12 | N | 1995 | 2.55 | 0.35 | 86% | 95 | |
| 076 | 50-061-03 | N | 1995 | 0.76 | 0.30 | 60% | 89 | |
| 031 | 50-019-03 | Y | 1994 | 0.58 | 0.09 | 85% | 87 | |
| 086 | 50-028-01 | Y | 1994 | 14.54 | 0.55 | 96% | 87 | |
| 109 | 50-060-02 | N | 1995 | 0.75 | 0.47 | 37% | 87 | |
| 027 | 50-061-10 | N | 1996 | 0.49 | 0.25 | 48% | 87 | |
| 181 | 50-059-02 | N | 1997 | 1.07 | 0.48 | 55% | 82 | |
| 196 | 26-007-01 | N | 1999 | 2.07 | 1.22 | 41% | 81 | |
| 049 | 50-022-01 | Y | 1994 | 0.80 | 0.04 | 95% | 81 | |
| 041 | 50-063-01 | N | 1996 | 0.45 | 0.14 | 70% | 80 | |
| 074 | 50-048-01 | N | 1995 | 1.25 | 0.66 | 47% | 79 | |
| 015 | 50-018-04 | Y | 1994 | 3.88 | 0.24 | 94% | 77 | |
| 121 | 50-055-03 | N | 1996 | 0.18 | 0.41 | -130% | 76 | |
| 198 | 50-067-07 | N | 1999 | 0.54 | 0.40 | 24% | 76 | |
| 001 | 50-018-21 | N | 1998 | 1.06 | 0.45 | 57% | 75 | |
| 193 | 50-010-05 | N | 2000 | Baseline Year | 0.26 | N/A | 74 | |
| 204 | 50-067-10 | N | 1999 | 1.21 | 0.19 | 84% | 74 | |
| 020 | 50-008-01 | Y | 1994 | 0.34 | 0.16 | 54% | 73 | |
| 157 | 50-047-03 | N | 1997 | 0.44 | 0.21 | 51% | 72 | |
| 056 | 50-018-14 | N | 1994 | 2.21 | 1.51 | 32% | 71 | |
| 056 | 50-046-01 | N | 1994 | 2.21 | 1.51 | 32% | 71 | |
| 010 | 50-067-01 | N | 1996 | 0.40 | 0.20 | 49% | 69 | |
| 098 | 50-061-06 | N | 1995 | 1.68 | 0.19 | 89% | 68 | |
| 184 | 50-040-01 | N | 1995 | 1.40 | 0.32 | 77% | 67 | |
| 006 | 50-018-08 | Y | 1994 | 2.28 | 0.19 | 92% | 66 | |
| 062 | 50-062-05 | N | 1996 | 0.41 | 0.14 | 67% | 66 | |
| 061 | 50-062-10 | N | 1997 | 0.72 | 0.41 | 44% | 65 | |
| 057 | 50-041-02 | N | 1998 | 2.44 | 0.91 | 63% | 64 | |
| 039 | 50-005-01 | Y | 1994 | 0.91 | 0.29 | 67% | 63 | |
| 025 | 50-062-08 | N | 1996 | 0.51 | 0.31 | 39% | 61 | |
| 038 | 50-069-01 | N | 1996 | 1.06 | 0.40 | 62% | 58 | |
| 067 | 50-019-01 | Y | 1994 | 1.54 | 0.28 | 81% | 56 | |

*TBD = to be determined

## Table A.2 – Water Year 2000 Data Sorted by Phosphorus Concentration

| Unit Area ID | Basin ID | Early Baseline | Baseline Year | Rain Adjusted Unit Area Load (lbs/ac) | | WY00 % TP Reduction | WY00 TP Conc. (ppb) | Comments |
|---|---|---|---|---|---|---|---|---|
| | | | | Baseline | WY00 | | | |
| 108 | 50-061-18 | N | 1995 | 9.82 | 1.90 | 81% | 56 | |
| 042 | 50-067-02 | N | 1996 | 0.94 | 0.20 | 79% | 53 | |
| 110 | 50-051-01 | N | 1995 | 0.97 | 0.84 | 13% | 52 | |
| 066 | 50-062-02 | N | 1996 | 0.46 | 0.12 | 74% | 52 | |
| 107 | 50-031-01 | Y | 1994 | 2.56 | 0.82 | 68% | 50 | |
| 029 | 50-067-04 | N | 1996 | 0.55 | 0.27 | 52% | 49 | |
| 058 | 50-062-07 | N | 1996 | 1.41 | 0.26 | 81% | 46 | |
| 106 | 50-065-10 | N | 1995 | 1.55 | 0.57 | 63% | 43 | |
| 028 | 50-067-03 | N | 1996 | 1.02 | 0.48 | 53% | 43 | |
| 200 | 26-003-01 | N | 1999 | 0.27 | 0.07 | 73% | 35 | |
| 113 | 50-064-01 | N | 1997 | 2.98 | 0.16 | 95% | 34 | |
| 113 | 50-064-03 | N | 1997 | 2.98 | 0.16 | 95% | 34 | |
| 113 | 50-064-04 | N | 1997 | 2.98 | 0.16 | 95% | 34 | |
| 113 | 50-065-03 | N | 1997 | 2.98 | 0.16 | 95% | 34 | |
| 113 | 50-065-05 | N | 1997 | 2.98 | 0.16 | 95% | 34 | |
| 113 | 50-065-06 | N | 1997 | 2.98 | 0.16 | 95% | 34 | |
| 113 | 50-065-08 | N | 1997 | 2.98 | 0.16 | 95% | 34 | |
| 023 | 50-062-06 | N | 1996 | 0.62 | 0.18 | 70% | 22 | |
| 097 | 50-058-01 | N | 1995 | 0.02 | 0.00 | 100% | 0 | |
| 002 | 50-067-08 | N | 1996 | 2.20 | 0.00 | 100% | 0 | |
| 191 | 26-002-01 | N | TBD | TBD | 0.00 | N/A | N/A | No discharge |
| 030 | 50-009-03 | Y | 1994 | 4.15 | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (57% Sampled) |
| 091 | 50-017-01 | Y | 1994 | 3.22 | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (0% Sampled) |
| 174 | 50-044-01 | N | 1997 | 6.13 | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (13% Sampled) |
| 161 | 50-047-01 | N | 1996 | 1.46 | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (73% Sampled) |
| 022 | 50-050-01 | N | 1996 | 0.36 | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (0% Sampled) |
| 146 | 50-053-01 | N | 1995 | 5.16 | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (71% Sampled) |
| 142 | 50-055-02 | N | 1999 | 0.45 | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (65% Sampled) |
| 093 | 50-061-04 | N | 1995 | 1.67 | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (70% Sampled) |
| 045 | 50-061-05 | N | 1995 | 1.89 | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (59% Sampled) |
| 100 | 50-061-13 | N | 1995 | 1.16 | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (30% Sampled) |
| 118 | 50-065-02 | N | 1995 | 3.64 | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (42% Sampled) |
| 126 | 50-073-01 | N | TBD | TBD | 0.00 | N/A | N/A | No discharge |
| 207 | 50-075-01 | N | TBD | TBD | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (25% Sampled) |

*TBD = to be determined

## Table A.3 – Water Year 2000 Data Sorted by Load

| Unit Area ID | Basin ID | Early Baseline | Baseline Year | Rain Adjusted Unit Area Load (lbs/ac) | | WY00 % TP Reduction | WY00 TP Conc. (ppb) | Comments |
|---|---|---|---|---|---|---|---|---|
| | | | | Baseline | WY00 | | | |
| 089 | 50-011-04 | Y | 1994 | 5.21 | 13.27 | -155% | 1217 | |
| 208 | 50-035-03 | N | 1999 | 8.71 | 6.48 | 26% | 160 | |
| 177 | 50-061-17 | N | 1995 | 12.22 | 5.59 | 54% | 446 | |
| 176 | 50-071-01 | N | 1996 | 5.02 | 4.61 | 8% | 768 | |
| 139 | 50-023-01 | Y | 1994 | 11.83 | 4.51 | 62% | 400 | |
| 075 | 50-011-03 | Y | 1994 | 5.79 | 4.42 | 24% | 721 | |
| 194 | 50-009-04 | N | 1999 | 5.19 | 4.14 | 20% | 455 | |
| 150 | 50-031-02 | Y | 1994 | 5.48 | 3.69 | 33% | 396 | |
| 114 | 50-013-01 | Y | 1994 | 24.22 | 3.31 | 86% | 496 | |
| 088 | 50-070-01 | N | 1995 | 3.82 | 3.21 | 16% | 491 | |
| 169 | 50-037-01 | Y | 1994 | 6.70 | 2.69 | 60% | 358 | |
| 151 | 50-031-03 | Y | 1994 | 8.57 | 2.55 | 70% | 286 | |
| 115 | 50-035-02 | Y | 1994 | 5.40 | 2.40 | 56% | 357 | |
| 162 | 50-047-05 | N | 1997 | 0.55 | 2.39 | -334% | 290 | |
| 046 | 50-018-19 | Y | 1994 | 35.32 | 2.38 | 93% | 202 | |
| 159 | 50-018-11 | Y | 1994 | 19.73 | 2.36 | 88% | 232 | |
| 211 | 50-009-05 | N | 1999 | 8.71 | 2.35 | 73% | 505 | |
| 183 | 50-040-02 | N | 1995 | 3.61 | 2.14 | 41% | 250 | |
| 185 | 50-059-04 | N | 1996 | 1.14 | 2.03 | -78% | 360 | |
| 209 | 50-078-01 | N | 1999 | 8.71 | 2.02 | 77% | 182 | |
| 108 | 50-061-18 | N | 1995 | 9.82 | 1.90 | 81% | 56 | |
| 050 | 50-005-02 | Y | 1994 | 0.06 | 1.89 | -2942% | 1108 | |
| 149 | 50-041-01 | N | 1998 | 2.69 | 1.89 | 30% | 132 | |
| 120 | 50-012-01 | Y | 1994 | 4.06 | 1.86 | 54% | 123 | |
| 138 | 50-003-03 | N | 1995 | 0.22 | 1.85 | -729% | 302 | |
| 036 | 50-019-02 | Y | 1994 | 1.38 | 1.74 | -26% | 335 | |
| 148 | 50-010-04 | Y | 1994 | 4.76 | 1.73 | 64% | 182 | |
| 167 | 50-033-01 | Y | 1994 | 12.52 | 1.71 | 86% | 309 | |
| 129 | 50-016-01 | Y | 1994 | 15.11 | 1.60 | 89% | 228 | |
| 056 | 50-018-14 | N | 1994 | 2.21 | 1.51 | 32% | 71 | |
| 056 | 50-046-01 | N | 1994 | 2.21 | 1.51 | 32% | 71 | |
| 145 | 50-018-10 | Y | 1994 | 3.05 | 1.49 | 51% | 194 | |
| 188 | 50-015-01 | Y | 1994 | 2.62 | 1.42 | 46% | 301 | |
| 168 | 50-015-02 | Y | 1994 | 5.28 | 1.36 | 74% | 334 | |
| 160 | 50-038-01 | Y | 1994 | 3.71 | 1.33 | 64% | 417 | |
| 092 | 50-061-07 | N | 1995 | 1.24 | 1.33 | -8% | 101 | |
| 141 | 50-006-03 | Y | 1994 | 3.55 | 1.31 | 63% | 240 | |
| 043 | 50-018-17 | Y | 1994 | 3.10 | 1.26 | 59% | 184 | |
| 095 | 50-018-16 | Y | 1994 | 4.11 | 1.23 | 70% | 123 | |
| 180 | 50-049-01 | N | 1996 | 2.35 | 1.23 | 48% | 238 | |
| 180 | 50-059-01 | N | 1996 | 2.35 | 1.23 | 48% | 238 | |
| 196 | 26-007-01 | N | 1999 | 2.07 | 1.22 | 41% | 81 | |
| 195 | 26-009-01 | N | 1999 | 0.74 | 1.21 | -63% | 95 | |

*TBD = to be determined

## Table A.3 – Water Year 2000 Data Sorted by Load

| Unit Area ID | Basin ID | Early Baseline | Baseline Year | Rain Adjusted Unit Area Load (lbs/ac) | | WY00 % TP Reduction | WY00 TP Conc. (ppb) | Comments |
|---|---|---|---|---|---|---|---|---|
| | | | | Baseline | WY00 | | | |
| 084 | 50-039-02 | N | 1995 | 4.25 | 1.19 | 72% | 148 | |
| 090 | 50-048-02 | N | 1995 | 0.36 | 1.17 | -223% | 377 | |
| 044 | 50-018-20 | Y | 1994 | 3.59 | 1.15 | 68% | 193 | |
| 178 | 50-018-13 | Y | 1994 | 0.40 | 1.14 | -186% | 129 | |
| 156 | 50-030-01 | Y | 1994 | 14.14 | 1.09 | 92% | 221 | |
| 132 | 50-061-15 | N | 1995 | 1.91 | 1.08 | 43% | 182 | |
| 171 | 50-068-02 | N | 1997 | 2.30 | 1.06 | 54% | 316 | |
| 102 | 50-010-02 | N | 1994 | 1.80 | 1.05 | 42% | 157 | |
| 102 | 50-061-20 | N | 1994 | 1.80 | 1.05 | 42% | 157 | |
| 186 | 50-018-02 | Y | 1994 | 3.54 | 1.01 | 71% | 152 | |
| 116 | 50-007-02 | Y | 1994 | 15.11 | 1.00 | 93% | 222 | |
| 111 | 50-021-01 | Y | 1994 | 8.92 | 0.97 | 89% | 182 | |
| 182 | 50-059-03 | N | 1996 | 1.65 | 0.95 | 42% | 149 | |
| 166 | 50-002-01 | Y | 1994 | 3.21 | 0.94 | 71% | 218 | |
| 040 | 50-003-02 | Y | 1994 | 0.62 | 0.94 | -52% | 146 | |
| 203 | 50-067-09 | N | 1999 | 0.64 | 0.94 | -48% | 844 | |
| 143 | 50-006-02 | Y | 1994 | 5.50 | 0.93 | 83% | 175 | |
| 179 | 50-018-03 | Y | 1994 | 1.98 | 0.93 | 53% | 127 | |
| 065 | 50-034-01 | Y | 1994 | 1.68 | 0.92 | 45% | 114 | |
| 060 | 50-009-02 | Y | 1994 | 3.57 | 0.91 | 74% | 174 | |
| 057 | 50-041-02 | N | 1998 | 2.44 | 0.91 | 63% | 64 | |
| 163 | 50-047-02 | N | 1995 | 0.84 | 0.91 | -8% | 263 | |
| 134 | 50-006-01 | Y | 1994 | 4.53 | 0.90 | 80% | 128 | |
| 016 | 50-018-05 | N | 1995 | 3.64 | 0.89 | 75% | 223 | |
| 153 | 50-025-01 | Y | 1994 | 3.68 | 0.88 | 76% | 229 | |
| 070 | 50-034-03 | Y | 1994 | 4.08 | 0.88 | 78% | 211 | |
| 051 | 50-018-18 | Y | 1994 | 0.64 | 0.87 | -36% | 155 | |
| 137 | 50-035-01 | Y | 1994 | 5.74 | 0.86 | 85% | 227 | |
| 012 | 26-010-02 | N | 1995 | 6.21 | 0.85 | 86% | 273 | |
| 110 | 50-051-01 | N | 1995 | 0.97 | 0.84 | 13% | 52 | |
| 107 | 50-031-01 | Y | 1994 | 2.56 | 0.82 | 68% | 50 | |
| 197 | 50-067-06 | N | 1999 | 0.49 | 0.82 | -67% | 152 | |
| 054 | 50-018-23 | Y | 1994 | 2.22 | 0.81 | 64% | 158 | |
| 189 | 50-067-13 | N | 1997 | 2.29 | 0.76 | 67% | 131 | |
| 072 | 50-027-01 | Y | 1994 | 2.40 | 0.75 | 69% | 186 | |
| 082 | 50-070-02 | N | 1995 | 3.09 | 0.75 | 76% | 173 | |
| 073 | 50-055-01 | N | 1997 | 0.86 | 0.74 | 14% | 113 | |
| 147 | 50-027-03 | Y | 1994 | 2.32 | 0.73 | 69% | 312 | |
| 173 | 50-054-02 | N | 1996 | 0.50 | 0.71 | -43% | 230 | |
| 190 | 26-006-01 | N | 1998 | 1.19 | 0.70 | 41% | 318 | |
| 063 | 50-007-01 | Y | 1994 | 1.56 | 0.69 | 56% | 126 | |
| 112 | 50-011-01 | Y | 1994 | 2.76 | 0.69 | 75% | 156 | |
| 011 | 50-005-05 | Y | 1994 | 1.95 | 0.68 | 65% | 205 | |

*TBD = to be determined

## Table A.3 – Water Year 2000 Data Sorted by Load

| Unit Area ID | Basin ID | Early Baseline | Baseline Year | Rain Adjusted Unit Area Load (lbs/ac) | | WY00 % TP Reduction | WY00 TP Conc. (ppb) | Comments |
|---|---|---|---|---|---|---|---|---|
| | | | | Baseline | WY00 | | | |
| 071 | 50-034-04 | Y | 1994 | 1.54 | 0.66 | 57% | 234 | |
| 074 | 50-048-01 | N | 1995 | 1.25 | 0.66 | 47% | 79 | |
| 187 | 50-018-01 | Y | 1994 | 2.82 | 0.64 | 77% | 135 | |
| 081 | 50-065-07 | N | 1995 | 3.92 | 0.64 | 84% | 121 | |
| 172 | 50-018-12 | Y | 1994 | 1.78 | 0.62 | 65% | 103 | |
| 052 | 50-018-25 | Y | 1994 | 4.99 | 0.62 | 88% | 214 | |
| 019 | 50-018-09 | Y | 1994 | 4.22 | 0.61 | 85% | 145 | |
| 164 | 50-020-01 | Y | 1994 | 3.32 | 0.61 | 82% | 141 | |
| 069 | 50-034-02 | Y | 1994 | 3.37 | 0.61 | 82% | 135 | |
| 201 | 26-004-01 | N | 1999 | 1.22 | 0.59 | 52% | 192 | |
| 175 | 50-068-01 | N | 1996 | 1.13 | 0.59 | 48% | 150 | |
| 014 | 50-018-06 | Y | 1994 | 1.46 | 0.58 | 60% | 236 | |
| 085 | 50-045-02 | N | 1995 | 1.41 | 0.58 | 59% | 117 | |
| 165 | 50-002-02 | Y | 1994 | 2.90 | 0.57 | 80% | 150 | |
| 152 | 50-004-01 | Y | 1994 | 3.68 | 0.57 | 85% | 178 | |
| 096 | 50-032-01 | Y | 1994 | 0.84 | 0.57 | 32% | 107 | |
| 106 | 50-065-10 | N | 1995 | 1.55 | 0.57 | 63% | 43 | |
| 032 | 50-024-01 | N | 1995 | 6.43 | 0.56 | 91% | 389 | |
| 105 | 50-056-01 | N | 1996 | 0.98 | 0.56 | 43% | 101 | |
| 086 | 50-028-01 | Y | 1994 | 14.54 | 0.55 | 96% | 87 | |
| 192 | 50-076-01 | N | 2000 | Baseline Year | 0.55 | N/A | 359 | |
| 170 | 50-054-01 | N | 1996 | 0.84 | 0.54 | 35% | 132 | |
| 079 | 50-018-15 | Y | 1994 | 1.12 | 0.52 | 54% | 204 | |
| 059 | 50-066-01 | N | 1995 | 2.13 | 0.52 | 76% | 155 | |
| 055 | 50-010-03 | Y | 1994 | 1.31 | 0.50 | 62% | 123 | |
| 140 | 50-027-02 | Y | 1994 | 1.22 | 0.49 | 60% | 108 | |
| 181 | 50-059-02 | N | 1997 | 1.07 | 0.48 | 55% | 82 | |
| 028 | 50-067-03 | N | 1996 | 1.02 | 0.48 | 53% | 43 | |
| 017 | 50-018-22 | Y | 1994 | 8.18 | 0.47 | 94% | 114 | |
| 109 | 50-060-02 | N | 1995 | 0.75 | 0.47 | 37% | 87 | |
| 158 | 50-047-08 | N | 1996 | 0.96 | 0.46 | 52% | 96 | |
| 127 | 50-054-04 | N | 1996 | 0.82 | 0.46 | 44% | 108 | |
| 001 | 50-018-21 | N | 1998 | 1.06 | 0.45 | 57% | 75 | |
| 155 | 50-047-07 | N | 1996 | 0.67 | 0.45 | 33% | 151 | |
| 202 | 50-011-06 | N | 1999 | 0.02 | 0.44 | -2790% | 158 | |
| 094 | 50-029-01 | Y | 1994 | 2.48 | 0.43 | 83% | 108 | |
| 037 | 50-005-04 | Y | 1994 | 1.49 | 0.42 | 72% | 551 | |
| 104 | 50-010-01 | N | 1995 | 2.42 | 0.42 | 83% | 141 | |
| 205 | 50-067-11 | N | 1999 | 0.85 | 0.42 | 51% | 116 | |
| 121 | 50-055-03 | N | 1996 | 0.18 | 0.41 | -130% | 76 | |
| 061 | 50-062-10 | N | 1997 | 0.72 | 0.41 | 44% | 65 | |
| 198 | 50-067-07 | N | 1999 | 0.54 | 0.40 | 24% | 76 | |
| 038 | 50-069-01 | N | 1996 | 1.06 | 0.40 | 62% | 58 | |

*TBD = to be determined

## Table A.3 – Water Year 2000 Data Sorted by Load

| Unit Area ID | Basin ID | Early Baseline | Baseline Year | Rain Adjusted Unit Area Load (lbs/ac) | | WY00 % TP Reduction | WY00 TP Conc. (ppb) | Comments |
|---|---|---|---|---|---|---|---|---|
| | | | | Baseline | WY00 | | | |
| 144 | 50-027-04 | Y | 1994 | 2.10 | 0.39 | 81% | 158 | |
| 053 | 50-018-24 | Y | 1994 | 1.96 | 0.38 | 80% | 102 | |
| 130 | 50-054-03 | N | 1996 | 0.35 | 0.38 | -7% | 172 | |
| 047 | 50-003-01 | Y | 1994 | 0.40 | 0.36 | 9% | 266 | |
| 007 | 50-067-05 | N | 1996 | 0.42 | 0.36 | 14% | 97 | |
| 099 | 50-061-12 | N | 1995 | 2.55 | 0.35 | 86% | 95 | |
| 021 | 26-010-01 | N | 1995 | 1.81 | 0.32 | 83% | 150 | |
| 184 | 50-040-01 | N | 1995 | 1.40 | 0.32 | 77% | 67 | |
| 025 | 50-062-08 | N | 1996 | 0.51 | 0.31 | 39% | 61 | |
| 005 | 26-001-01 | Y | 1994 | 2.12 | 0.30 | 86% | 115 | |
| 005 | 26-008-01 | Y | 1994 | 2.12 | 0.30 | 86% | 115 | |
| 005 | 50-018-07 | Y | 1994 | 2.12 | 0.30 | 86% | 115 | |
| 003 | 50-043-01 | N | 1995 | 1.86 | 0.30 | 84% | 448 | |
| 076 | 50-061-03 | N | 1995 | 0.76 | 0.30 | 60% | 89 | |
| 026 | 50-061-11 | N | 1995 | 0.95 | 0.30 | 69% | 139 | |
| 039 | 50-005-01 | Y | 1994 | 0.91 | 0.29 | 67% | 63 | |
| 024 | 50-009-01 | Y | 1994 | 1.13 | 0.29 | 74% | 115 | |
| 067 | 50-019-01 | Y | 1994 | 1.54 | 0.28 | 81% | 56 | |
| 136 | 50-047-04 | N | 1996 | 0.68 | 0.28 | 59% | 144 | |
| 087 | 50-045-01 | N | 1995 | 4.35 | 0.27 | 94% | 158 | |
| 068 | 50-060-01 | N | 1995 | 0.18 | 0.27 | -52% | 97 | |
| 029 | 50-067-04 | N | 1996 | 0.55 | 0.27 | 52% | 49 | |
| 193 | 50-010-05 | N | 2000 | Baseline Year | 0.26 | N/A | 74 | |
| 058 | 50-062-07 | N | 1996 | 1.41 | 0.26 | 81% | 46 | |
| 027 | 50-061-10 | N | 1996 | 0.49 | 0.25 | 48% | 87 | |
| 015 | 50-018-04 | Y | 1994 | 3.88 | 0.24 | 94% | 77 | |
| 080 | 50-062-03 | N | 1996 | 0.54 | 0.24 | 56% | 149 | |
| 078 | 50-005-06 | Y | 1994 | 1.56 | 0.22 | 86% | 141 | |
| 157 | 50-047-03 | N | 1997 | 0.44 | 0.21 | 51% | 72 | |
| 010 | 50-067-01 | N | 1996 | 0.40 | 0.20 | 49% | 69 | |
| 042 | 50-067-02 | N | 1996 | 0.94 | 0.20 | 79% | 53 | |
| 006 | 50-018-08 | Y | 1994 | 2.28 | 0.19 | 92% | 66 | |
| 098 | 50-061-06 | N | 1995 | 1.68 | 0.19 | 89% | 68 | |
| 013 | 50-061-09 | N | 1995 | 2.77 | 0.19 | 93% | 164 | |
| 204 | 50-067-10 | N | 1999 | 1.21 | 0.19 | 84% | 74 | |
| 048 | 50-005-03 | Y | 1994 | 0.26 | 0.18 | 29% | 122 | |
| 023 | 50-062-06 | N | 1996 | 0.62 | 0.18 | 70% | 22 | |
| 064 | 50-062-09 | N | 1997 | 0.22 | 0.17 | 21% | 100 | |
| 020 | 50-008-01 | Y | 1994 | 0.34 | 0.16 | 54% | 73 | |
| 117 | 50-055-04 | N | 1995 | 1.44 | 0.16 | 89% | 118 | |
| 117 | 50-061-01 | N | 1995 | 1.44 | 0.16 | 89% | 118 | |
| 135 | 50-061-08 | N | 1999 | 1.76 | 0.16 | 91% | 153 | |
| 113 | 50-064-01 | N | 1997 | 2.98 | 0.16 | 95% | 34 | |

*TBD = to be determined

## Table A.3 – Water Year 2000 Data Sorted by Load

| Unit Area ID | Basin ID | Early Baseline | Baseline Year | Rain Adjusted Unit Area Load (lbs/ac) | | WY00 % TP Reduction | WY00 TP Conc. (ppb) | Comments |
|---|---|---|---|---|---|---|---|---|
| | | | | Baseline | WY00 | | | |
| 113 | 50-064-03 | N | 1997 | 2.98 | 0.16 | 95% | 34 | |
| 113 | 50-064-04 | N | 1997 | 2.98 | 0.16 | 95% | 34 | |
| 113 | 50-065-03 | N | 1997 | 2.98 | 0.16 | 95% | 34 | |
| 113 | 50-065-05 | N | 1997 | 2.98 | 0.16 | 95% | 34 | |
| 113 | 50-065-06 | N | 1997 | 2.98 | 0.16 | 95% | 34 | |
| 113 | 50-065-08 | N | 1997 | 2.98 | 0.16 | 95% | 34 | |
| 077 | 50-014-01 | Y | 1994 | 1.37 | 0.15 | 89% | 113 | |
| 035 | 50-062-11 | N | 1996 | 0.44 | 0.15 | 67% | 119 | |
| 062 | 50-062-05 | N | 1996 | 0.41 | 0.14 | 67% | 66 | |
| 041 | 50-063-01 | N | 1996 | 0.45 | 0.14 | 70% | 80 | |
| 033 | 50-062-01 | N | 1996 | 0.20 | 0.13 | 31% | 138 | |
| 066 | 50-062-02 | N | 1996 | 0.46 | 0.12 | 74% | 52 | |
| 101 | 50-062-04 | N | 1996 | 0.26 | 0.12 | 54% | 123 | |
| 034 | 50-042-01 | N | 1995 | 0.14 | 0.11 | 23% | 109 | |
| 031 | 50-019-03 | Y | 1994 | 0.58 | 0.09 | 85% | 87 | |
| 083 | 50-039-01 | N | 1995 | 4.01 | 0.08 | 98% | 206 | |
| 200 | 26-003-01 | N | 1999 | 0.27 | 0.07 | 73% | 35 | |
| 049 | 50-022-01 | Y | 1994 | 0.80 | 0.04 | 95% | 81 | |
| 191 | 26-002-01 | N | TBD | TBD | 0.00 | N/A | N/A | No discharge |
| 097 | 50-058-01 | N | 1995 | 0.02 | 0.00 | 100% | 0 | |
| 002 | 50-067-08 | N | 1996 | 2.20 | 0.00 | 100% | 0 | |
| 126 | 50-073-01 | N | TBD | TBD | 0.00 | N/A | N/A | No discharge |
| 030 | 50-009-03 | Y | 1994 | 4.15 | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (57% Sampled) |
| 091 | 50-017-01 | Y | 1994 | 3.22 | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (0% Sampled) |
| 174 | 50-044-01 | N | 1997 | 6.13 | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (13% Sampled) |
| 161 | 50-047-01 | N | 1996 | 1.46 | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (73% Sampled) |
| 022 | 50-050-01 | N | 1996 | 0.36 | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (0% Sampled) |
| 146 | 50-053-01 | N | 1995 | 5.16 | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (71% Sampled) |
| 142 | 50-055-02 | N | 1999 | 0.45 | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (65% Sampled) |
| 093 | 50-061-04 | N | 1995 | 1.67 | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (70% Sampled) |
| 045 | 50-061-05 | N | 1995 | 1.89 | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (59% Sampled) |
| 100 | 50-061-13 | N | 1995 | 1.16 | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (30% Sampled) |
| 118 | 50-065-02 | N | 1995 | 3.64 | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (42% Sampled) |
| 207 | 50-075-01 | N | TBD | TBD | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (25% Sampled) |

*TBD = to be determined

## Table A.4 – Water Year 2000 Data Sorted by Percent Reduction

| Unit Area ID | Basin ID | Early Baseline | Baseline Year | Rain Adjusted Unit Area Load (lbs/ac) | | WY00 % TP Reduction | WY00 TP Conc. (ppb) | Comments |
|---|---|---|---|---|---|---|---|---|
| | | | | Baseline | WY00 | | | |
| 097 | 50-058-01 | N | 1995 | 0.02 | 0.00 | 100% | 0 | |
| 002 | 50-067-08 | N | 1996 | 2.20 | 0.00 | 100% | 0 | |
| 083 | 50-039-01 | N | 1995 | 4.01 | 0.08 | 98% | 206 | |
| 086 | 50-028-01 | Y | 1994 | 14.54 | 0.55 | 96% | 87 | |
| 049 | 50-022-01 | Y | 1994 | 0.80 | 0.04 | 95% | 81 | |
| 113 | 50-064-01 | N | 1997 | 2.98 | 0.16 | 95% | 34 | |
| 113 | 50-064-03 | N | 1997 | 2.98 | 0.16 | 95% | 34 | |
| 113 | 50-064-04 | N | 1997 | 2.98 | 0.16 | 95% | 34 | |
| 113 | 50-065-03 | N | 1997 | 2.98 | 0.16 | 95% | 34 | |
| 113 | 50-065-05 | N | 1997 | 2.98 | 0.16 | 95% | 34 | |
| 113 | 50-065-06 | N | 1997 | 2.98 | 0.16 | 95% | 34 | |
| 113 | 50-065-08 | N | 1997 | 2.98 | 0.16 | 95% | 34 | |
| 015 | 50-018-04 | Y | 1994 | 3.88 | 0.24 | 94% | 77 | |
| 017 | 50-018-22 | Y | 1994 | 8.18 | 0.47 | 94% | 114 | |
| 087 | 50-045-01 | N | 1995 | 4.35 | 0.27 | 94% | 158 | |
| 116 | 50-007-02 | Y | 1994 | 15.11 | 1.00 | 93% | 222 | |
| 046 | 50-018-19 | Y | 1994 | 35.32 | 2.38 | 93% | 202 | |
| 013 | 50-061-09 | N | 1995 | 2.77 | 0.19 | 93% | 164 | |
| 006 | 50-018-08 | Y | 1994 | 2.28 | 0.19 | 92% | 66 | |
| 156 | 50-030-01 | Y | 1994 | 14.14 | 1.09 | 92% | 221 | |
| 032 | 50-024-01 | N | 1995 | 6.43 | 0.56 | 91% | 389 | |
| 135 | 50-061-08 | N | 1999 | 1.76 | 0.16 | 91% | 153 | |
| 077 | 50-014-01 | Y | 1994 | 1.37 | 0.15 | 89% | 113 | |
| 129 | 50-016-01 | Y | 1994 | 15.11 | 1.60 | 89% | 228 | |
| 111 | 50-021-01 | Y | 1994 | 8.92 | 0.97 | 89% | 182 | |
| 117 | 50-055-04 | N | 1995 | 1.44 | 0.16 | 89% | 118 | |
| 117 | 50-061-01 | N | 1995 | 1.44 | 0.16 | 89% | 118 | |
| 098 | 50-061-06 | N | 1995 | 1.68 | 0.19 | 89% | 68 | |
| 159 | 50-018-11 | Y | 1994 | 19.73 | 2.36 | 88% | 232 | |
| 052 | 50-018-25 | Y | 1994 | 4.99 | 0.62 | 88% | 214 | |
| 005 | 26-001-01 | Y | 1994 | 2.12 | 0.30 | 86% | 115 | |
| 005 | 26-008-01 | Y | 1994 | 2.12 | 0.30 | 86% | 115 | |
| 012 | 26-010-02 | N | 1995 | 6.21 | 0.85 | 86% | 273 | |
| 078 | 50-005-06 | Y | 1994 | 1.56 | 0.22 | 86% | 141 | |
| 114 | 50-013-01 | Y | 1994 | 24.22 | 3.31 | 86% | 496 | |
| 005 | 50-018-07 | Y | 1994 | 2.12 | 0.30 | 86% | 115 | |
| 167 | 50-033-01 | Y | 1994 | 12.52 | 1.71 | 86% | 309 | |
| 099 | 50-061-12 | N | 1995 | 2.55 | 0.35 | 86% | 95 | |
| 152 | 50-004-01 | Y | 1994 | 3.68 | 0.57 | 85% | 178 | |
| 019 | 50-018-09 | Y | 1994 | 4.22 | 0.61 | 85% | 145 | |
| 031 | 50-019-03 | Y | 1994 | 0.58 | 0.09 | 85% | 87 | |
| 137 | 50-035-01 | Y | 1994 | 5.74 | 0.86 | 85% | 227 | |
| 003 | 50-043-01 | N | 1995 | 1.86 | 0.30 | 84% | 448 | |

*TBD = to be determined

## Table A.4 – Water Year 2000 Data Sorted by Percent Reduction

| Unit Area ID | Basin ID | Early Baseline | Baseline Year | Rain Adjusted Unit Area Load (lbs/ac) | | WY00 % TP Reduction | WY00 TP Conc. (ppb) | Comments |
|---|---|---|---|---|---|---|---|---|
| | | | | Baseline | WY00 | | | |
| 081 | 50-065-07 | N | 1995 | 3.92 | 0.64 | 84% | 121 | |
| 204 | 50-067-10 | N | 1999 | 1.21 | 0.19 | 84% | 74 | |
| 021 | 26-010-01 | N | 1995 | 1.81 | 0.32 | 83% | 150 | |
| 143 | 50-006-02 | Y | 1994 | 5.50 | 0.93 | 83% | 175 | |
| 104 | 50-010-01 | N | 1995 | 2.42 | 0.42 | 83% | 141 | |
| 094 | 50-029-01 | Y | 1994 | 2.48 | 0.43 | 83% | 108 | |
| 164 | 50-020-01 | Y | 1994 | 3.32 | 0.61 | 82% | 141 | |
| 069 | 50-034-02 | Y | 1994 | 3.37 | 0.61 | 82% | 135 | |
| 067 | 50-019-01 | Y | 1994 | 1.54 | 0.28 | 81% | 56 | |
| 144 | 50-027-04 | Y | 1994 | 2.10 | 0.39 | 81% | 158 | |
| 108 | 50-061-18 | N | 1995 | 9.82 | 1.90 | 81% | 56 | |
| 058 | 50-062-07 | N | 1996 | 1.41 | 0.26 | 81% | 46 | |
| 165 | 50-002-02 | Y | 1994 | 2.90 | 0.57 | 80% | 150 | |
| 134 | 50-006-01 | Y | 1994 | 4.53 | 0.90 | 80% | 128 | |
| 053 | 50-018-24 | Y | 1994 | 1.96 | 0.38 | 80% | 102 | |
| 042 | 50-067-02 | N | 1996 | 0.94 | 0.20 | 79% | 53 | |
| 070 | 50-034-03 | Y | 1994 | 4.08 | 0.88 | 78% | 211 | |
| 187 | 50-018-01 | Y | 1994 | 2.82 | 0.64 | 77% | 135 | |
| 184 | 50-040-01 | N | 1995 | 1.40 | 0.32 | 77% | 67 | |
| 209 | 50-078-01 | N | 1999 | 8.71 | 2.02 | 77% | 182 | |
| 153 | 50-025-01 | Y | 1994 | 3.68 | 0.88 | 76% | 229 | |
| 059 | 50-066-01 | N | 1995 | 2.13 | 0.52 | 76% | 155 | |
| 082 | 50-070-02 | N | 1995 | 3.09 | 0.75 | 76% | 173 | |
| 112 | 50-011-01 | Y | 1994 | 2.76 | 0.69 | 75% | 156 | |
| 016 | 50-018-05 | N | 1995 | 3.64 | 0.89 | 75% | 223 | |
| 024 | 50-009-01 | Y | 1994 | 1.13 | 0.29 | 74% | 115 | |
| 060 | 50-009-02 | Y | 1994 | 3.57 | 0.91 | 74% | 174 | |
| 168 | 50-015-02 | Y | 1994 | 5.28 | 1.36 | 74% | 334 | |
| 066 | 50-062-02 | N | 1996 | 0.46 | 0.12 | 74% | 52 | |
| 200 | 26-003-01 | N | 1999 | 0.27 | 0.07 | 73% | 35 | |
| 211 | 50-009-05 | N | 1999 | 8.71 | 2.35 | 73% | 505 | |
| 037 | 50-005-04 | Y | 1994 | 1.49 | 0.42 | 72% | 551 | |
| 084 | 50-039-02 | N | 1995 | 4.25 | 1.19 | 72% | 148 | |
| 166 | 50-002-01 | Y | 1994 | 3.21 | 0.94 | 71% | 218 | |
| 186 | 50-018-02 | Y | 1994 | 3.54 | 1.01 | 71% | 152 | |
| 095 | 50-018-16 | Y | 1994 | 4.11 | 1.23 | 70% | 123 | |
| 151 | 50-031-03 | Y | 1994 | 8.57 | 2.55 | 70% | 286 | |
| 023 | 50-062-06 | N | 1996 | 0.62 | 0.18 | 70% | 22 | |
| 041 | 50-063-01 | N | 1996 | 0.45 | 0.14 | 70% | 80 | |
| 072 | 50-027-01 | Y | 1994 | 2.40 | 0.75 | 69% | 186 | |
| 147 | 50-027-03 | Y | 1994 | 2.32 | 0.73 | 69% | 312 | |
| 026 | 50-061-11 | N | 1995 | 0.95 | 0.30 | 69% | 139 | |
| 044 | 50-018-20 | Y | 1994 | 3.59 | 1.15 | 68% | 193 | |

*TBD = to be determined

## Table A.4 – Water Year 2000 Data Sorted by Percent Reduction

| Unit Area ID | Basin ID | Early Baseline | Baseline Year | Rain Adjusted Unit Area Load (lbs/ac) | | WY00 % TP Reduction | WY00 TP Conc. (ppb) | Comments |
|---|---|---|---|---|---|---|---|---|
| | | | | Baseline | WY00 | | | |
| 107 | 50-031-01 | Y | 1994 | 2.56 | 0.82 | 68% | 50 | |
| 039 | 50-005-01 | Y | 1994 | 0.91 | 0.29 | 67% | 63 | |
| 062 | 50-062-05 | N | 1996 | 0.41 | 0.14 | 67% | 66 | |
| 035 | 50-062-11 | N | 1996 | 0.44 | 0.15 | 67% | 119 | |
| 189 | 50-067-13 | N | 1997 | 2.29 | 0.76 | 67% | 131 | |
| 011 | 50-005-05 | Y | 1994 | 1.95 | 0.68 | 65% | 205 | |
| 172 | 50-018-12 | Y | 1994 | 1.78 | 0.62 | 65% | 103 | |
| 148 | 50-010-04 | Y | 1994 | 4.76 | 1.73 | 64% | 182 | |
| 054 | 50-018-23 | Y | 1994 | 2.22 | 0.81 | 64% | 158 | |
| 160 | 50-038-01 | Y | 1994 | 3.71 | 1.33 | 64% | 417 | |
| 141 | 50-006-03 | Y | 1994 | 3.55 | 1.31 | 63% | 240 | |
| 057 | 50-041-02 | N | 1998 | 2.44 | 0.91 | 63% | 64 | |
| 106 | 50-065-10 | N | 1995 | 1.55 | 0.57 | 63% | 43 | |
| 055 | 50-010-03 | Y | 1994 | 1.31 | 0.50 | 62% | 123 | |
| 139 | 50-023-01 | Y | 1994 | 11.83 | 4.51 | 62% | 400 | |
| 038 | 50-069-01 | N | 1996 | 1.06 | 0.40 | 62% | 58 | |
| 014 | 50-018-06 | Y | 1994 | 1.46 | 0.58 | 60% | 236 | |
| 140 | 50-027-02 | Y | 1994 | 1.22 | 0.49 | 60% | 108 | |
| 169 | 50-037-01 | Y | 1994 | 6.70 | 2.69 | 60% | 358 | |
| 076 | 50-061-03 | N | 1995 | 0.76 | 0.30 | 60% | 89 | |
| 043 | 50-018-17 | Y | 1994 | 3.10 | 1.26 | 59% | 184 | |
| 085 | 50-045-02 | N | 1995 | 1.41 | 0.58 | 59% | 117 | |
| 136 | 50-047-04 | N | 1996 | 0.68 | 0.28 | 59% | 144 | |
| 001 | 50-018-21 | N | 1998 | 1.06 | 0.45 | 57% | 75 | |
| 071 | 50-034-04 | Y | 1994 | 1.54 | 0.66 | 57% | 234 | |
| 063 | 50-007-01 | Y | 1994 | 1.56 | 0.69 | 56% | 126 | |
| 115 | 50-035-02 | Y | 1994 | 5.40 | 2.40 | 56% | 357 | |
| 080 | 50-062-03 | N | 1996 | 0.54 | 0.24 | 56% | 149 | |
| 181 | 50-059-02 | N | 1997 | 1.07 | 0.48 | 55% | 82 | |
| 020 | 50-008-01 | Y | 1994 | 0.34 | 0.16 | 54% | 73 | |
| 120 | 50-012-01 | Y | 1994 | 4.06 | 1.86 | 54% | 123 | |
| 079 | 50-018-15 | Y | 1994 | 1.12 | 0.52 | 54% | 204 | |
| 177 | 50-061-17 | N | 1995 | 12.22 | 5.59 | 54% | 446 | |
| 101 | 50-062-04 | N | 1996 | 0.26 | 0.12 | 54% | 123 | |
| 171 | 50-068-02 | N | 1997 | 2.30 | 1.06 | 54% | 316 | |
| 179 | 50-018-03 | Y | 1994 | 1.98 | 0.93 | 53% | 127 | |
| 028 | 50-067-03 | N | 1996 | 1.02 | 0.48 | 53% | 43 | |
| 201 | 26-004-01 | N | 1999 | 1.22 | 0.59 | 52% | 192 | |
| 158 | 50-047-08 | N | 1996 | 0.96 | 0.46 | 52% | 96 | |
| 029 | 50-067-04 | N | 1996 | 0.55 | 0.27 | 52% | 49 | |
| 145 | 50-018-10 | Y | 1994 | 3.05 | 1.49 | 51% | 194 | |
| 157 | 50-047-03 | N | 1997 | 0.44 | 0.21 | 51% | 72 | |
| 205 | 50-067-11 | N | 1999 | 0.85 | 0.42 | 51% | 116 | |

*TBD = to be determined

## Table A.4 – Water Year 2000 Data Sorted by Percent Reduction

| Unit Area ID | Basin ID | Early Baseline | Baseline Year | Rain Adjusted Unit Area Load (lbs/ac) | | WY00 % TP Reduction | WY00 TP Conc. (ppb) | Comments |
|---|---|---|---|---|---|---|---|---|
| | | | | Baseline | WY00 | | | |
| 010 | 50-067-01 | N | 1996 | 0.40 | 0.20 | 49% | 69 | |
| 180 | 50-049-01 | N | 1996 | 2.35 | 1.23 | 48% | 238 | |
| 180 | 50-059-01 | N | 1996 | 2.35 | 1.23 | 48% | 238 | |
| 027 | 50-061-10 | N | 1996 | 0.49 | 0.25 | 48% | 87 | |
| 175 | 50-068-01 | N | 1996 | 1.13 | 0.59 | 48% | 150 | |
| 074 | 50-048-01 | N | 1995 | 1.25 | 0.66 | 47% | 79 | |
| 188 | 50-015-01 | Y | 1994 | 2.62 | 1.42 | 46% | 301 | |
| 065 | 50-034-01 | Y | 1994 | 1.68 | 0.92 | 45% | 114 | |
| 127 | 50-054-04 | N | 1996 | 0.82 | 0.46 | 44% | 108 | |
| 061 | 50-062-10 | N | 1997 | 0.72 | 0.41 | 44% | 65 | |
| 105 | 50-056-01 | N | 1996 | 0.98 | 0.56 | 43% | 101 | |
| 132 | 50-061-15 | N | 1995 | 1.91 | 1.08 | 43% | 182 | |
| 102 | 50-010-02 | N | 1994 | 1.80 | 1.05 | 42% | 157 | |
| 182 | 50-059-03 | N | 1996 | 1.65 | 0.95 | 42% | 149 | |
| 102 | 50-061-20 | N | 1994 | 1.80 | 1.05 | 42% | 157 | |
| 190 | 26-006-01 | N | 1998 | 1.19 | 0.70 | 41% | 318 | |
| 196 | 26-007-01 | N | 1999 | 2.07 | 1.22 | 41% | 81 | |
| 183 | 50-040-02 | N | 1995 | 3.61 | 2.14 | 41% | 250 | |
| 025 | 50-062-08 | N | 1996 | 0.51 | 0.31 | 39% | 61 | |
| 109 | 50-060-02 | N | 1995 | 0.75 | 0.47 | 37% | 87 | |
| 170 | 50-054-01 | N | 1996 | 0.84 | 0.54 | 35% | 132 | |
| 150 | 50-031-02 | Y | 1994 | 5.48 | 3.69 | 33% | 396 | |
| 155 | 50-047-07 | N | 1996 | 0.67 | 0.45 | 33% | 151 | |
| 056 | 50-018-14 | N | 1994 | 2.21 | 1.51 | 32% | 71 | |
| 096 | 50-032-01 | Y | 1994 | 0.84 | 0.57 | 32% | 107 | |
| 056 | 50-046-01 | N | 1994 | 2.21 | 1.51 | 32% | 71 | |
| 033 | 50-062-01 | N | 1996 | 0.20 | 0.13 | 31% | 138 | |
| 149 | 50-041-01 | N | 1998 | 2.69 | 1.89 | 30% | 132 | |
| 048 | 50-005-03 | Y | 1994 | 0.26 | 0.18 | 29% | 122 | |
| 208 | 50-035-03 | N | 1999 | 8.71 | 6.48 | 26% | 160 | |
| 075 | 50-011-03 | Y | 1994 | 5.79 | 4.42 | 24% | 721 | |
| 198 | 50-067-07 | N | 1999 | 0.54 | 0.40 | 24% | 76 | |
| 034 | 50-042-01 | N | 1995 | 0.14 | 0.11 | 23% | 109 | |
| 064 | 50-062-09 | N | 1997 | 0.22 | 0.17 | 21% | 100 | |
| 194 | 50-009-04 | N | 1999 | 5.19 | 4.14 | 20% | 455 | |
| 088 | 50-070-01 | N | 1995 | 3.82 | 3.21 | 16% | 491 | |
| 073 | 50-055-01 | N | 1997 | 0.86 | 0.74 | 14% | 113 | |
| 007 | 50-067-05 | N | 1996 | 0.42 | 0.36 | 14% | 97 | |
| 110 | 50-051-01 | N | 1995 | 0.97 | 0.84 | 13% | 52 | |
| 047 | 50-003-01 | Y | 1994 | 0.40 | 0.36 | 9% | 266 | |
| 176 | 50-071-01 | N | 1996 | 5.02 | 4.61 | 8% | 768 | |
| 130 | 50-054-03 | N | 1996 | 0.35 | 0.38 | -7% | 172 | |
| 163 | 50-047-02 | N | 1995 | 0.84 | 0.91 | -8% | 263 | |

*TBD = to be determined

## Table A.4 – Water Year 2000 Data Sorted by Percent Reduction

| Unit Area ID | Basin ID | Early Baseline | Baseline Year | Rain Adjusted Unit Area Load (lbs/ac) | | WY00 % TP Reduction | WY00 TP Conc. (ppb) | Comments |
|---|---|---|---|---|---|---|---|---|
| | | | | Baseline | WY00 | | | |
| 092 | 50-061-07 | N | 1995 | 1.24 | 1.33 | -8% | 101 | |
| 036 | 50-019-02 | Y | 1994 | 1.38 | 1.74 | -26% | 335 | |
| 051 | 50-018-18 | Y | 1994 | 0.64 | 0.87 | -36% | 155 | |
| 173 | 50-054-02 | N | 1996 | 0.50 | 0.71 | -43% | 230 | |
| 203 | 50-067-09 | N | 1999 | 0.64 | 0.94 | -48% | 844 | |
| 040 | 50-003-02 | Y | 1994 | 0.62 | 0.94 | -52% | 146 | |
| 068 | 50-060-01 | N | 1995 | 0.18 | 0.27 | -52% | 97 | |
| 195 | 26-009-01 | N | 1999 | 0.74 | 1.21 | -63% | 95 | |
| 197 | 50-067-06 | N | 1999 | 0.49 | 0.82 | -67% | 152 | |
| 185 | 50-059-04 | N | 1996 | 1.14 | 2.03 | -78% | 360 | |
| 121 | 50-055-03 | N | 1996 | 0.18 | 0.41 | -130% | 76 | |
| 089 | 50-011-04 | Y | 1994 | 5.21 | 13.27 | -155% | 1217 | |
| 178 | 50-018-13 | Y | 1994 | 0.40 | 1.14 | -186% | 129 | |
| 090 | 50-048-02 | N | 1995 | 0.36 | 1.17 | -223% | 377 | |
| 162 | 50-047-05 | N | 1997 | 0.55 | 2.39 | -334% | 290 | |
| 138 | 50-003-03 | N | 1995 | 0.22 | 1.85 | -729% | 302 | |
| 202 | 50-011-06 | N | 1999 | 0.02 | 0.44 | -2790% | 158 | |
| 050 | 50-005-02 | Y | 1994 | 0.06 | 1.89 | -2942% | 1108 | |
| 191 | 26-002-01 | N | TBD | TBD | 0.00 | N/A | N/A | No discharge |
| 030 | 50-009-03 | Y | 1994 | 4.15 | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (57% Sampled) |
| 193 | 50-010-05 | N | 2000 | Baseline Year | 0.26 | N/A | 74 | |
| 091 | 50-017-01 | Y | 1994 | 3.22 | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (0% Sampled) |
| 174 | 50-044-01 | N | 1997 | 6.13 | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (13% Sampled) |
| 161 | 50-047-01 | N | 1996 | 1.46 | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (73% Sampled) |
| 022 | 50-050-01 | N | 1996 | 0.36 | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (0% Sampled) |
| 146 | 50-053-01 | N | 1995 | 5.16 | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (71% Sampled) |
| 142 | 50-055-02 | N | 1999 | 0.45 | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (65% Sampled) |
| 093 | 50-061-04 | N | 1995 | 1.67 | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (70% Sampled) |
| 045 | 50-061-05 | N | 1995 | 1.89 | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (59% Sampled) |
| 100 | 50-061-13 | N | 1995 | 1.16 | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (30% Sampled) |
| 118 | 50-065-02 | N | 1995 | 3.64 | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (42% Sampled) |
| 126 | 50-073-01 | N | TBD | TBD | 0.00 | N/A | N/A | No discharge |
| 207 | 50-075-01 | N | TBD | TBD | Unable to Calculate | Unable to Calculate | Unable to Calculate | <75% annual load sampled (25% Sampled) |
| 192 | 50-076-01 | N | 2000 | Baseline Year | 0.55 | N/A | 359 | |

*TBD = to be determined

CON 13-02
Environmental Resource Regulation Division

August 9, 2000

Everglades Agricultural Area
Landowners and Permittees

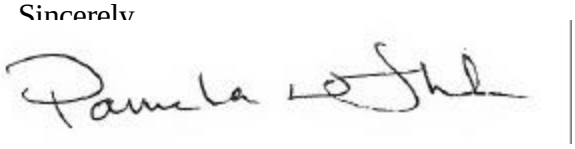
Subject: **Everglades Agricultural Area**
**Water Year 2000 (May 1, 1999 through April 30, 2000)**
**Basin Wide Phosphorus Loading Model Results**

The District is pleased to provide the attached Information Update announcing a 55% reduction in phosphorus discharged from the EAA to the Everglades Protection Area for Water Year 2000 as compared to the base period. This is provided to you in response to the requirements of Rule 40E-63 and is also being provided in a news release to local news media. A copy of the news release is also attached.

As in previous years, the District is very encouraged by these results and looks forward to continuing an excellent working relationship with the Agricultural Community. We look forward to working with you in the coming months and years to ensure our common goal of restoration and protection of the Everglades.

We would also like to take this opportunity to remind you of the upcoming rulemaking workshop scheduled for August 22, 2000 from 10:00 am to noon at Belle Glade City Hall. We look forward to seeing you there.

Sincerely



Pamela Smith, P.E.
Senior Supervising Engineer
Everglades Regulation Department
South Florida Water Management District

PS/RM

Attachments

August 9, 2000

# Rule 40E-63 Information Update

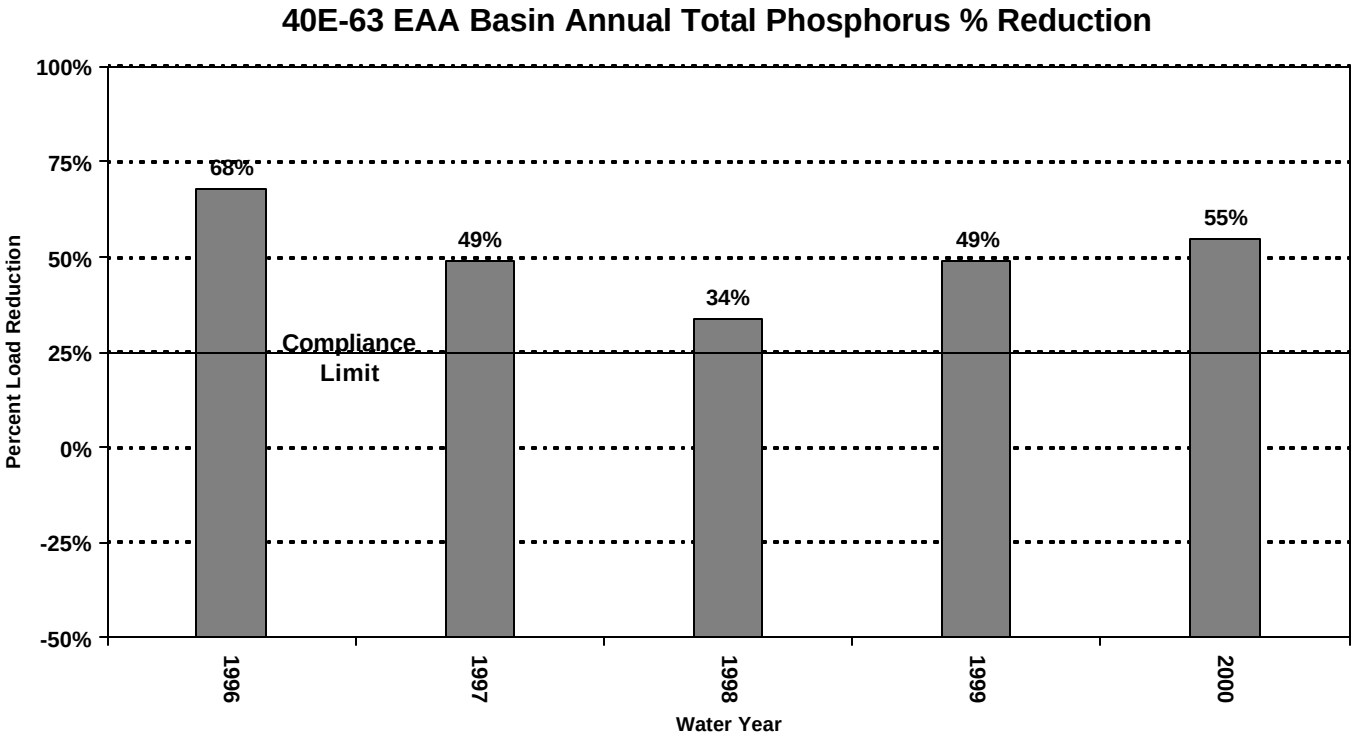
**EAA Basin -- Total Phosphorus Reduction**
*Water Year 2000 (May 1, 1999 To April 30, 2000)*

The EAA best management practices (BMP) program (Rule 40E-63) requires a 25% reduction of annual total phosphorus entering the Everglades from the EAA. The percent reduction is measured by comparing a current year's total phosphorus load with the load from an October 1, 1978 through September 30, 1988 base period. The base period load is hydrologically adjusted for differences in rainfall amounts and distribution between the current year and the baseline years. Total phosphorus loads are monitored by the SFWMD at surface water discharge points to and from the Everglades Agricultural Area (EAA).

As required by Rule 40E-63, this information update is to announce that the EAA Basin total phosphorus load reduction from the EAA for water year 2000 was 55%.

An analysis and summary of the overall phosphorus loads to the Everglades will be included in the EAA BMP Annual Report that is currently under preparation.

The following chart shows the percent reduction for the five complete water years of required BMP implementation. Please call Sharon Trost at (561) 682-6814 or Bill Baker at (561) 682-6021 if you have any questions regarding this information update.



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# SFWMD REPORTS FIFTH CONSECUTIVE DROP IN PHOSPHORUS FLOWING INTO NORTHERN EVERGLADES

For the fifth consecutive year, the South Florida Water Management District has reported a decline in the amount of phosphorus in the water leaving farms in the Everglades Agricultural Area (EAA) south of Lake Okeechobee.

The total phosphorus reduction in the runoff was **55 percent** for the period of May 1, 1999, to April 30, 2000. The state's 1994 Everglades Forever Act requires EAA farmers to reduce the total phosphorus in runoff from their land by 25 percent each year by implementing "best management practices" (BMPs).

To calculate the annual reduction, the District compares a current year's total phosphorus load with that of the 10-year base period -- October 1978 through September 1988 -- before BMPs were in place. The District makes hydrologic adjustments for differences in rainfall and distribution between the current year and the baseline years.

The state required BMPs to be in place by January 1995. Since then, the EAA basin has exceeded the required 25 percent reduction in each ensuing year. The previous years' phosphorus reductions were: 1996 -- 68 percent; 1997 -- 49 percent; 1998 -- 34 percent; and 1999 -- 49 percent.

**(MORE)**

For "water year 2000" (May '99-April '00), 193 metric tons of phosphorus flowed out of the EAA basin (including farms, towns and industry). This compares with the estimated 425 metric tons predicted to have been in the runoff had the BMPs not been implemented. Concentrations of phosphorus in the water also were down, averaging 119 parts per billion (ppb) compared to pre-BMP concentrations of 173 ppb.

These loads and concentrations apply only to the runoff entering the "Everglades protection area" from the EAA. They do not account for the phosphorus entering the "Everglades protection area" from other sources -- including Lake Okeechobee releases (for environmental, urban water supply, and flood-control purposes), adjacent canals and levees (the C-139, L-28, and feeder canal basins west of the EAA and the C-11W basin in Broward County) and the stormwater treatment areas (STAs). The District will include an analysis and summary of the overall phosphorus loads to the Everglades in the 2000 EAA BMP annual report it is currently preparing.

"We are pleased that the EAA farmers have had such success in lowering the amount of phosphorus coming off their land in the past five years," said Frank R. Finch, P.E., District executive director. "They have proven to be good partners as we work together to restore the Everglades. As these declines continue, we should see even better results for the water flowing into the Everglades when all the STAs come on line."

The District has completed four of six state-mandated stormwater treatment areas, and three are on-line and operating.

# # #

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