Nutrient TMDL for Sweet Briar Dam in Morton County, North Dakota

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1.0 INTRODUCTION AND DESCRIPTION OF THE WATERSHED

Sweet Briar Dam is a recreational impoundment located approximately 8 miles east of New Salem, ND (Figure 1). It was constructed in 1964 through the efforts of local community, the State Water Commission and the North Dakota Game and Fish Department. The dam itself also serves as the Interstate Highway 94 roadbed. At full pool, Sweet Briar Dam covers a surface area of 252.2 acres, has a maximum depth of 30.7 feet and an average depth of 10.6 feet (Figure 2).

Sweet Briar Dam and its contributing watershed lie within Morton and Oliver Counties and have a combined surface area of approximately 107,040 acres. Table 1 summarizes the geographical, hydrological, and physical characteristics of Sweet Briar Dam and the Sweet Briar Dam Watershed.

Table 1. General Characteristics of Sweet Briar Dam and the Sweet Briar Dam Watershed.

Legal Name	Sweet Briar Dam
Major Drainage Basin	Lower Heart
Nearest Municipality	Mandan, North Dakota
Assessment Unit ID	ND-10130203-005-L_00
County	Morton County, North Dakota
Latitude	46˚52'00"
Longitude	-101˚15'30"
Surface Area	252.2 acres
Watershed Area	107,040 acres
Average Depth	10.6 feet
Maximum Depth	30.7 feet
Volume	2,671.0 acre-feet
Tributaries	Sweet Briar Creek
Outlets	Gated structure
Type of Water body	Constructed Reservoir – Earthen Dam/Highway Embankment
Fishery Type	Class 3 - warm water fishery - bluegill, perch, northern pike
Classified Beneficial Uses	Recreation and aquatic life

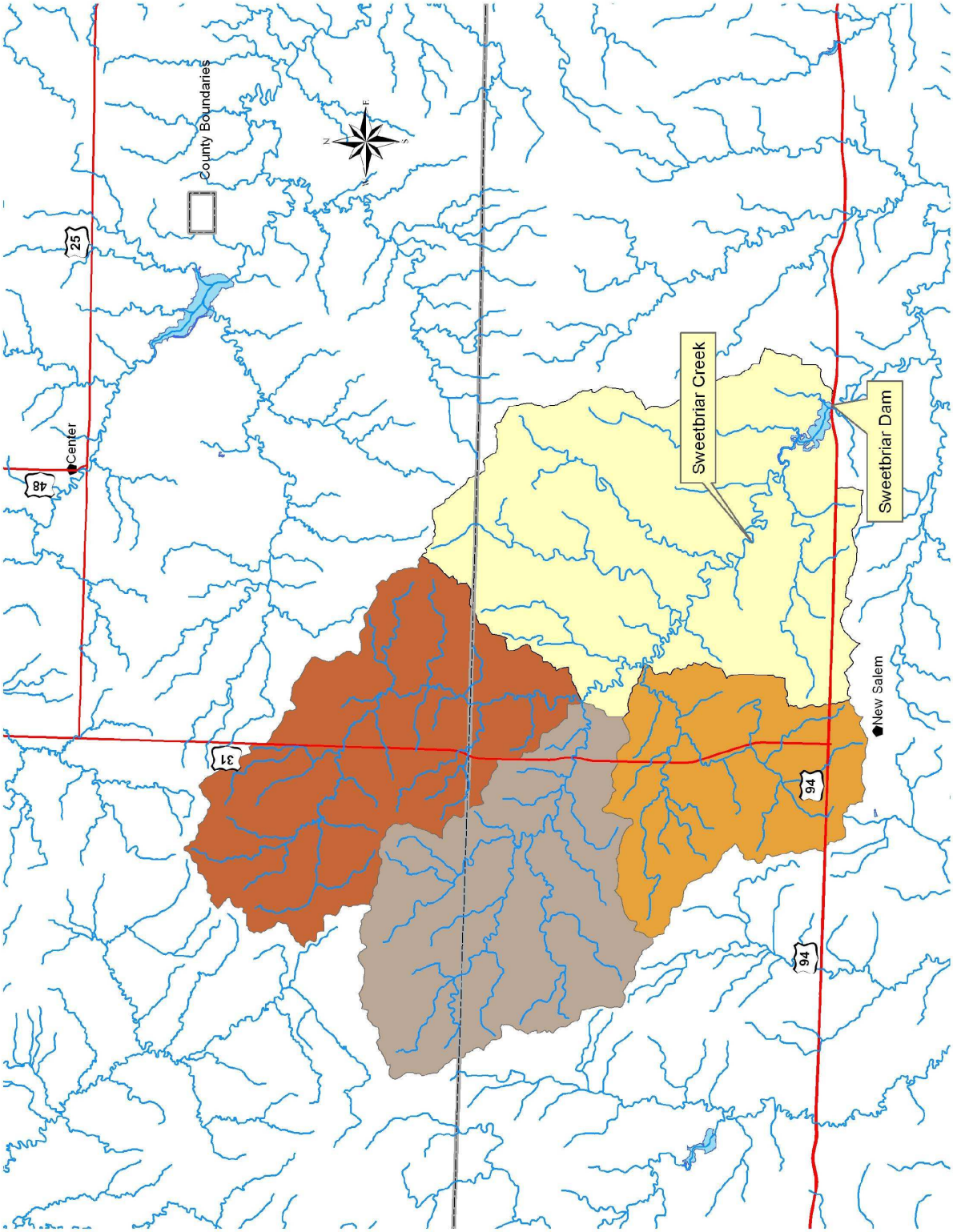


Figure 1. Location of Sweet Briar Dam and the Sweet Briar Dam Watershed.

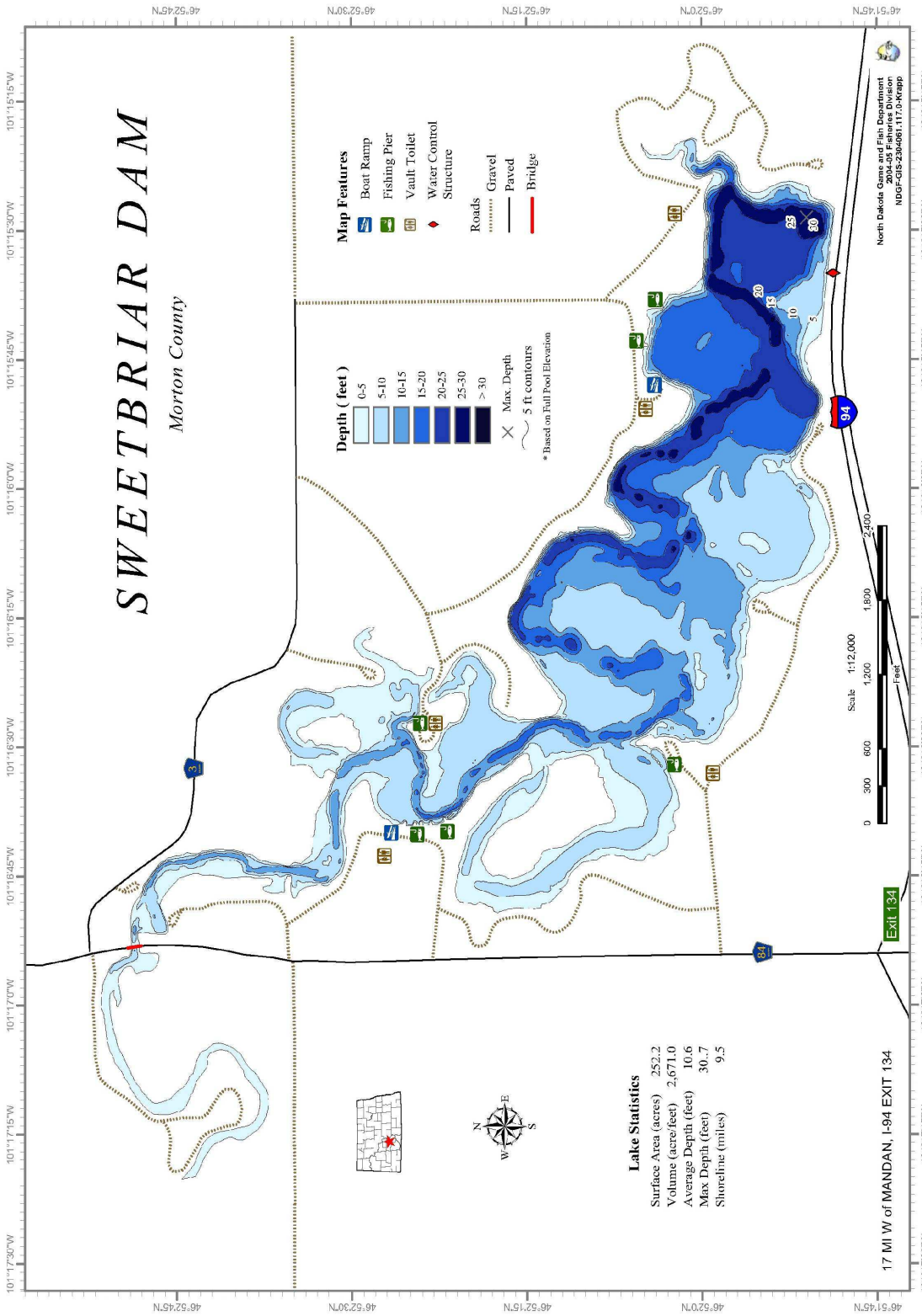


Figure 2. North Dakota Game and Fish Department Contour Map of Sweet Briar Dam.

1.1 Clean Water Act Section 303(d) Listing Information

As part of the Clean Water Act Section 303(d) Total Maximum Daily Load (TMDL) listing process, the North Dakota Department of Health (NDDoH) has identified Sweet Briar Dam as an impaired waterbody (Table 2). Based on its Trophic State Index (TSI) score, the recreation use of Sweet Briar Dam is impaired due to nutrients. Sweet Briar Dam has been classified as a Class 3 warm-water fishery. Class 3 lakes or reservoirs "are capable of supporting natural reproduction and growth of warm water fishes (e.g., largemouth bass and bluegill) and associated aquatic biota. Some cool water species may also be present" (NDDoH 2001, revised 2006).

Table 2. Sweet Briar Dam Section 303(d) Listing Information (NDDoH, 2006).

Assessment Unit ID	ND-10130203-005-L_00
Description	Sweet Briar Dam
Impaired Designated Uses	Recreation
Use Support	Fully supporting, but threatened
Impairment	Nutrient/Eutrophication
Priority	1A

1.2 Topography

The watershed of the Sweet Briar Dam lies completely within the Northwestern Great Plains Level III ecoregion. It is characterized as a semiarid rolling plain of shale, siltstone, and sandstone punctuated by occasional buttes and badlands. The dissected topography, wooded draws, and uncultivated areas provide a haven for wildlife.

Soils in the watershed are formed from rocky, gravelly, or sandy glacial till and are moderately well drained. In general, soils in the watershed are moderately fertile, easily worked and highly susceptible to wind and water erosion. Soils in the watershed, other than river bottom soils, which can be clayey, are predominately silty or loamy and moderately well to well drained.

Slopes range from nearly level to steep with average slopes between two and nine percent (NDDoH, 1993). Elevations in the watershed range form approximately 2,259-feet (MSL) in the headwaters to approximately 1,939-feet (MSL) in the vicinity of the reservoir.

1.3 Land Use/Land Cover

Based on data compiled in 2005, land use/land cover in the Sweet Briar Dam watershed is primarily agricultural (97.3 percent). Approximately 46.6 percent of the watershed is cropland, 47.7 percent pasture/hayland, and 1.7 percent enrolled in the conservation reserve program (CRP). The remainder of the land is in wetland and wildlife management (2.8 percent). There are no large urban areas within the watershed, however, there are several small farmsteads spread throughout the area (1.3 percent). Figure 3 shows land use data from the Lake Water Quality

Assessment conducted by NDDoH (1992). When these data were compared to the 2005 survey the percentages were very similar.

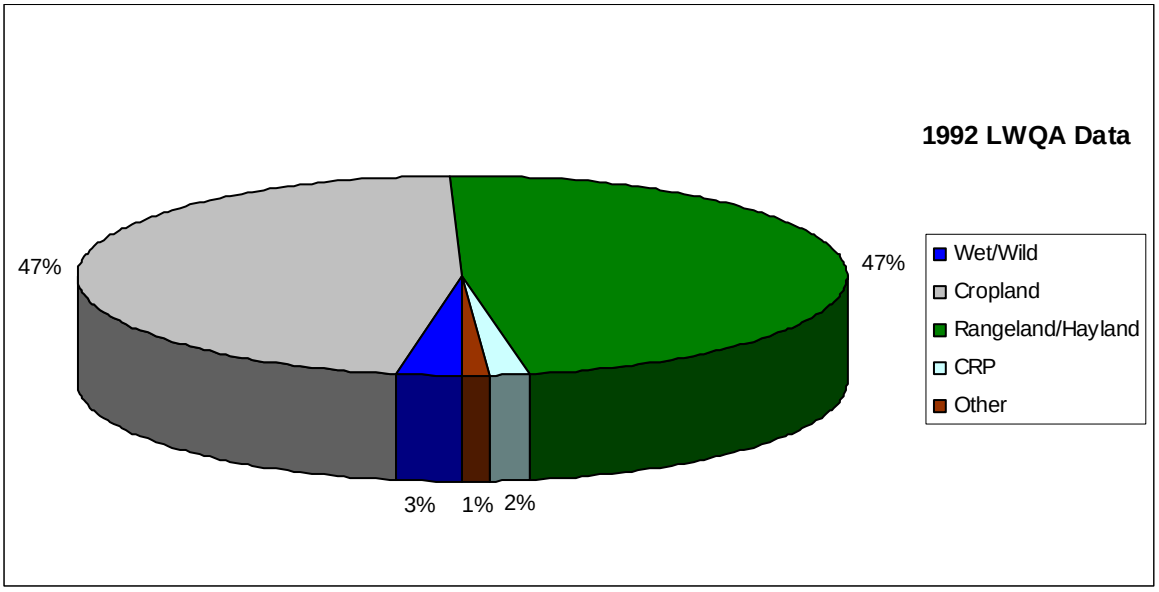


Figure 3. Land Use Data for the Sweet Briar Dam Watershed in 1992.

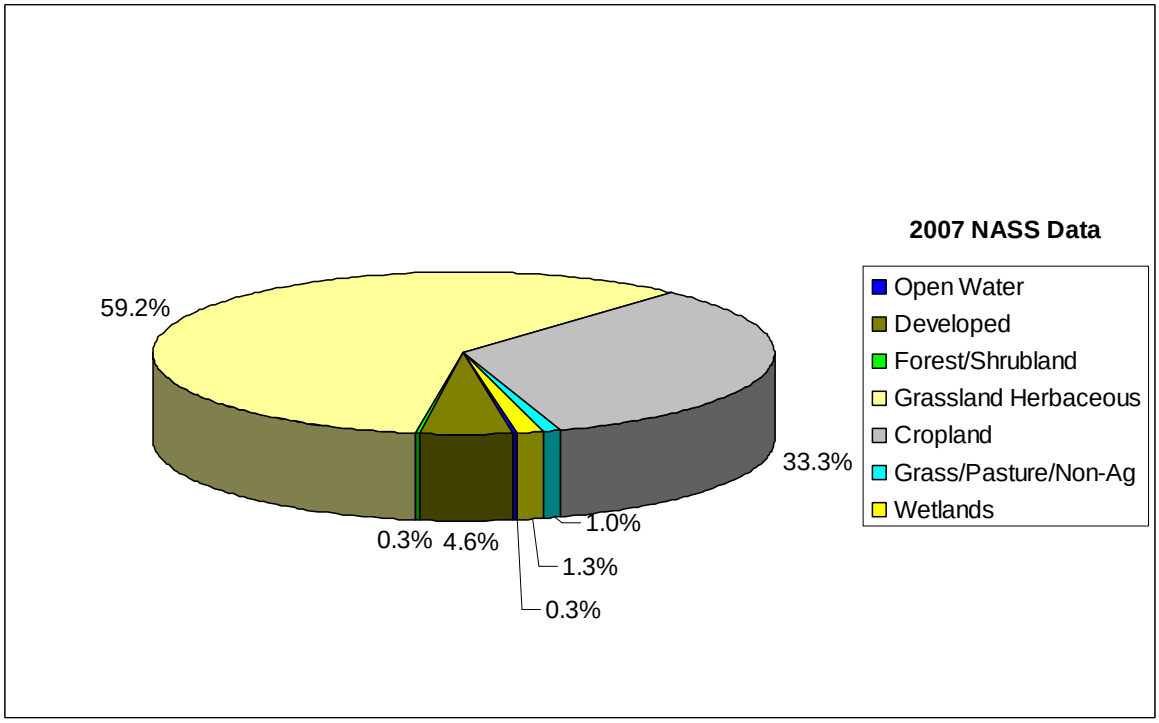


Figure4. National Agricultural Statistics Service, Land Use Data (2007).

* Shows the land use data for the 12 digit Hydrologic Unit Code for Sweet Briar Dam.

1.4 Climate and Precipitation

Sweet Briar Dam and its watershed lie within the south central climate division of North Dakota. South central North Dakota has a typical continental climate, characterized by large annual, daily, and day-to-day temperature changes; light to moderate precipitation; and nearly continuous air movement. New Salem, North Dakota, located 8 miles to the west, has a maximum average temperature of 53.9 °F and the minimum is 29.6 °F. Figure 5 shows the average monthly temperatures or the period of 1948 – 2007 (HPRCC, 2007). Average monthly precipitation in New Salem, North Dakota between 1948 and 2007 was 17.05 inches per year (HPRCC, 2007). Figure 6 shows the average monthly precipitation totals for the period of 1948 – 2007 (HPRCC, 2007).

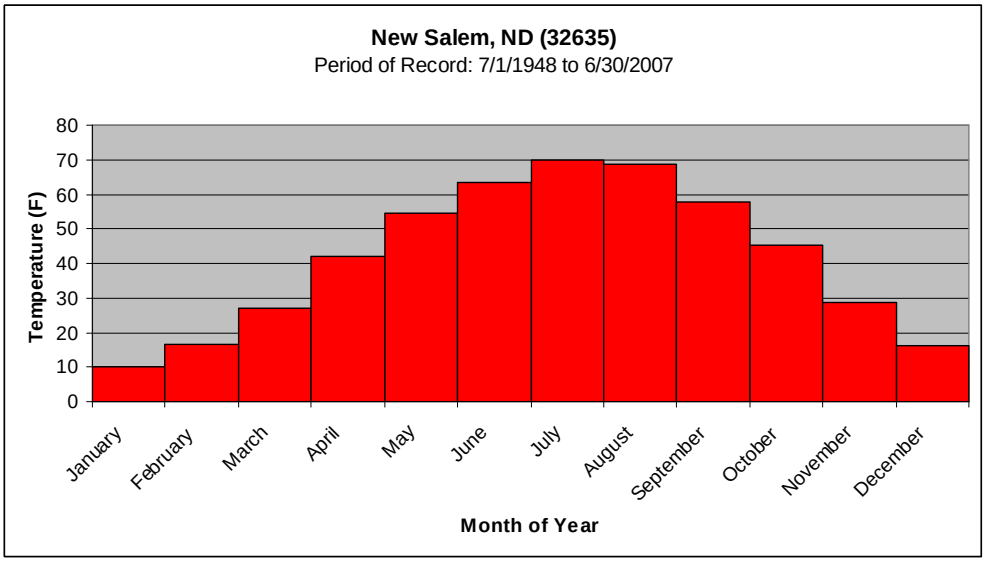


Figure 5. Average Monthly Temperature at New Salem, North Dakota (1948-2007).

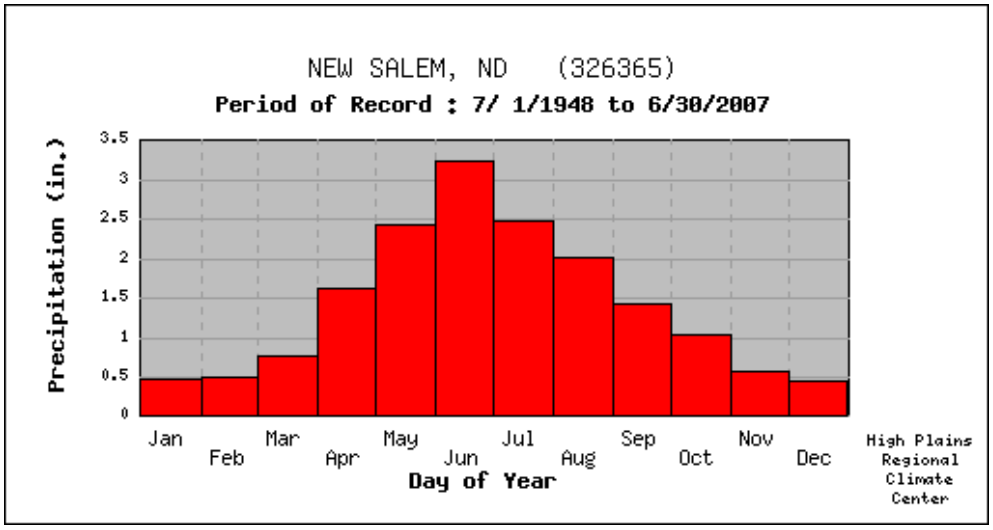


Figure 6. Average Monthly Precipitation at New Salem, North Dakota (1948-2007).

1.5 Available Water Quality Data

1.5.1 Lake Water Quality Assessment

The NDDoH conducted a Lake Water Quality Assessment (LWQA) and collected water quality samples in 1992 and 1993 from the reservoir using the methodology described in the *North Dakota Lake Assessment Atlas,* (NDDoH, 1993). Parameters analyzed included phosphorus, nitrogen, dissolved oxygen, water temperature, Secchi Disk Transparency, lake bed sediments, aquatic vegetation and phytoplankton. Data were summarized and reported in the *North Dakota Lake Assessment Atlas,* (NDDoH, 1993).

1.5.2 North Dakota Game and Fish Department Data

The North Dakota Game and Fish Department collected water quality data for Sweet Briar Dam from 1995 to 2006. Data show Secchi Disk Transparency readings of approximately 2.0-meters to 3.6-meters in the winter, and 0.7-m to 1.4-m in the summer. Winter temperature profiles ranged from 3.6 ºC on the top, to 5.0 °C on the bottom. Summer temperature profiles ranged from 27.5 ºC to 17.1 ºC on the bottom. The dissolved oxygen profiles ranged from 16.8mg/L to 0.9 mg/L on the bottom during the winter sampling event. The summer profile ranged from 15.0mg/L to 0.1mg/L. These trends were noted in most years from 1996 to 2006, with the exception of winter of 1997, when the lake was found to be in an anoxic state (DO <1.0 mg/L for the entire water column).

1.5.3 Sweet Briar Dam TMDL Project

In 2004, the Sweet Briar Dam TMDL Project was initiated. High Plains Consortium, Inc. collected samples in Sweet Briar Dam and from its watershed between October 2004 and September 2005. Surface water quality parameters were monitored in and around Sweet Briar Dam at six stations (Figure 7). Three stations were located on Sweet Briar Creek, which feeds Sweet Briar Dam and a single station was sampled on the northeast tributary to the reservoir. The in-lake site was located in the deepest part of the reservoir near the dam. The outlet site was located just downstream of the reservoir.

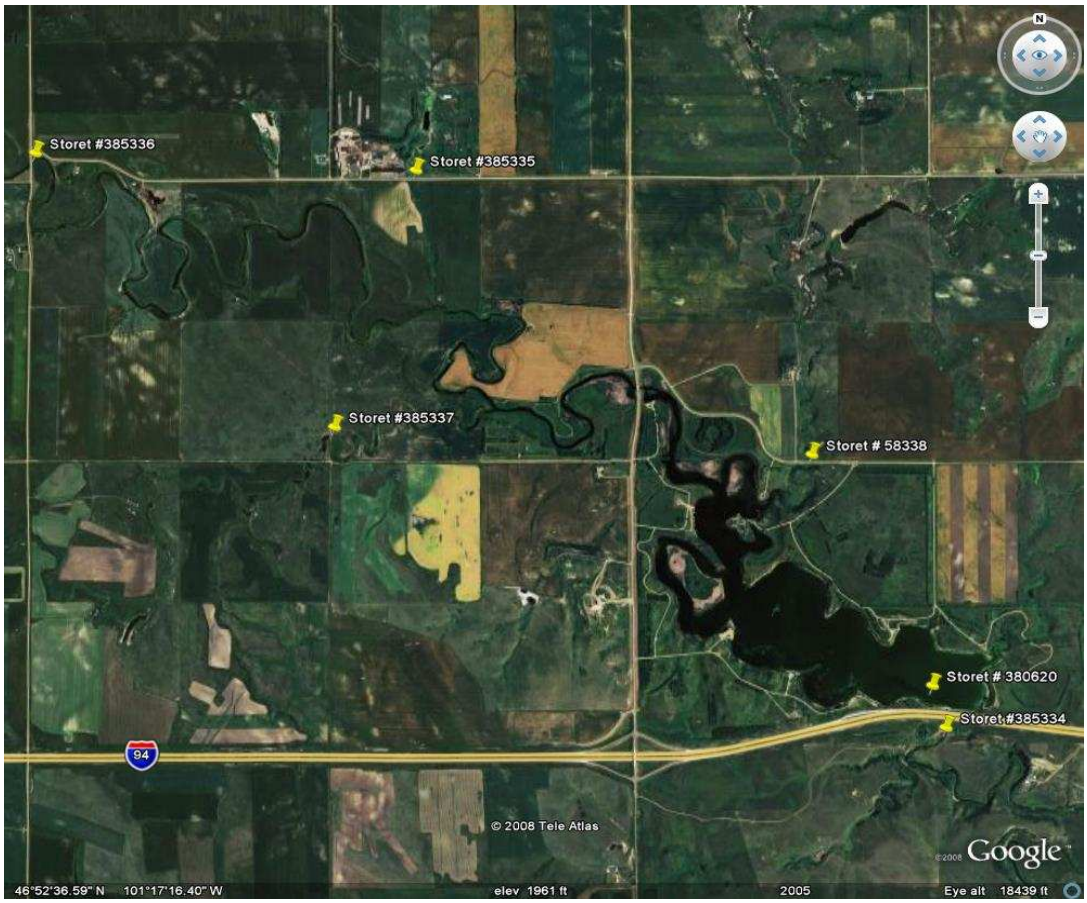


Figure 7. Sweet Briar Dam In-lake and Watershed Monitoring Sites.

Nutrients

Surface water quality samples were collected at four tributary stations (385335, 385336, 385337 and 385338), at one station in the deepest portion of Sweet Briar Dam (380620) and at the dam's outlet (385334). Samples were collected between October 2004 and September 2005. Only one sample was taken at North Tributary site (385335) due to minimal runoff and it is not included in the data summary for Sweet Briar Dam. Tables 3 through 7 reflect a summary of the data. The data extracted from Sweet Briar Dam indicates that the reservoir is nitrogen limited with an average total nitrogen (TN) to total phosphorus (TP) ratio of 6:1. Ratios above 7.2 generally indicate that phosphorus is the limiting nutrient (Chapra, 1997).

Table 3. Data Summary for Main Branch Site (385336), October 2004-September 2005.

Parameter	Max	Median	Average	Min
Nitrate/Nitrite (mg/L)	0.040	0.010	0.014	0.010
Total Kjeldahl Nitrogen (mg/L)	1.740	0. 872	1.018	0.569
Total Nitrogen (mg/L)	1.760	0.892	1.039	0.589
Total Phosphorus (mg/L)	0.422	0.073	0.112	0.045
Dissolved Phosphorus (mg/L)	0.283	0.045	0.077	0.021

Table 4. Data Summary for SW Branch Site (385337), October 2004-September 2005.

Parameter	Max	Median	Average	Min
Nitrate/Nitrite (mg/L)	0.050	0.020	0.023	0.010
Total Kjeldahl Nitrogen (mg/L)	1.960	1.180	1.199	0.774
Total Nitrogen (mg/L)	2.000	1.210	1.224	0.794
Total Phosphorus (mg/L)	0.306	0.086	0.109	0.056
Dissolved Phosphorus (mg/L)	0.262	0.040	0.068	0.031

Table 5. Data Summary for NE Branch Site (385338), October 2004-September 2005.

Parameter	Max	Median	Average	Min
Nitrate/Nitrite (mg/L)	0.180	0.020	0.039	0.010
Total Kjeldahl Nitrogen (mg/L)	26.800	2.110	3.135	0.837
Total Nitrogen (mg/L)	26.800	2.130	3.175	0.857
Total Phosphorus (mg/L)	3.780	0.162	0.339	0.043
Dissolved Phosphorus (mg/L)	0.385	0.107	0.141	0.026

Table 6. Data Summary for Outlet Site (385334),October 2004-September 2005.

Parameter	Max	Median	Average	Min
Nitrate/Nitrite (mg/L)	0.800	0.030	0.062	0.010
Total Kjeldahl Nitrogen (mg/L)	2.410	0.939	1.059	0.456
Total Nitrogen (mg/L)	2.450	0.995	1.122	0.495
Total Phosphorus (mg/L)	0.738	0.069	0.137	0.036
Dissolved Phosphorus (mg/L)	0.709	0.044	0.111	0.026

Table 7. Data Summary* for Deepest Site (380620), October 2004-September 2005.

Parameter	Max	Median	Average	Min
Nitrate/Nitrite (mg/L)	0.050	0.020	0.023	0.010
Total Kjeldahl Nitrogen (mg/L)	1.660	1.025	1.136	0.826
Total Nitrogen (mg/L)	1.690	1.060	1.162	0.846
Total Phosphorus (mg/L)	0.567	0.090	0.193	0.049
Dissolved Phosphorus (mg/L)	0.540	0.090	0.168	0.025
Chlorophyll-a (ug/L)	46.50	14.45	16.12	2.14
Secchi Disk Transparency (m)	4.5	3.5	2.95	1.0

* Based on samples collected from the 1-meter depth interval only.

Secchi Disk Transparency

Secchi Disk Transparency data was collected between October 2004 and September 2005. As shown in Figure 8, readings ranged from 1-meter to 4.5-meters. The average for the sampling period was 2.95-meters. Based on Secchi Disk Transparency data, the Trophic State Index (TSI) score for this reservoir is 44.41 (Table 9), which is in the mesotrophic range.

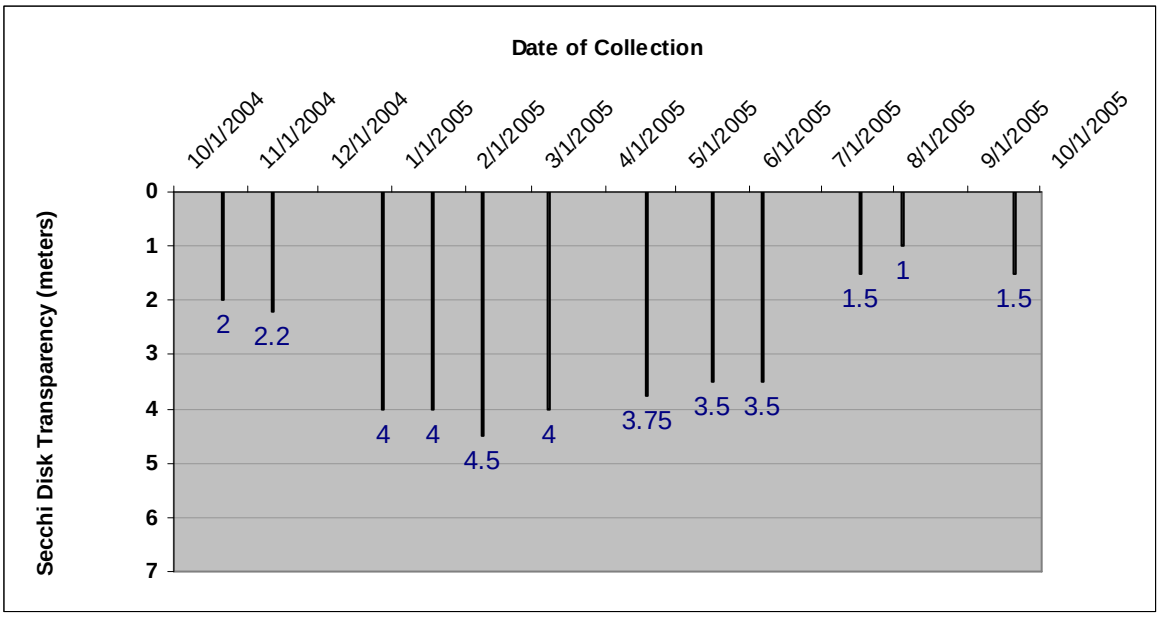


Figure 8. Secchi Disk Transparency Depths for Sweet Briar Dam (2004-2005).

Water clarity in a reservoir can be affected by many factors. Algal biomass, total suspended solids, and other debris can all affect Secchi Disk Transparency. During mid to late summer, when algal biomass and plant matter are typically at a maximum, Secchi Disk Transparency was lowest. Due to this fact, a reduction in nutrient loading into the reservoir should decrease algal biomass and increase water clarity.

2.0 WATER QUALITY STANDARDS

The Clean Water Act requires that Total Maximum Daily Loads (TMDLs) be developed for all waters on a state's Section 303(d) list. A TMDL is defined as “the sum of the individual wasteload allocations for point sources and load allocations for nonpoint sources and natural background” such that the capacity of the waterbody to assimilate pollutant loadings is not exceeded. The purpose of a TMDL is to identify the pollutant load reductions or other actions that should be taken so that impaired waters will be able to attain water quality standards. TMDLs are required to be developed with seasonal variations and must include a margin of safety that addresses the uncertainty in the analysis. Separate TMDLs are required to address each cause of impairment (e.g., nutrients, organic enrichment).

2.1 Narrative Water Quality Standards

The NDDoH has set narrative water quality standards which apply to all surface waters in the state. The narrative standards pertaining to nutrient impairments are listed below (NDDoH, 2001, Revised 2006).

- All waters of the state shall be free from substances attributable to municipal, industrial, or other discharges or agricultural practices in concentrations or combinations which are toxic or harmful to humans, animals, plants, or resident aquatic biota.

- No discharge of pollutants, which alone or in combination with other substances, shall:
  (1) Cause a public health hazard or injury to environmental resources;
  (2) Impair existing or reasonable beneficial uses of the receiving waters; or
  (3) Directly or indirectly cause concentrations of pollutants to exceed applicable standards of the receiving waters.

In addition, all classified North Dakota lakes are assigned recreation, aquatic life, irrigation, livestock watering, and wildlife beneficial uses. Also, the NDDoH has set a biological goal for all surface waters in the state. The goal states "the biological condition of surface waters shall be similar to that of sites or waterbodies determined by the Department to be regional reference sites" (NDDoH, 2006).

2.2 Numeric Water Quality Standards

Sweet Briar Dam is a Class 3 waterbody which carries the following definition:

- *Warm water fishery. Waters capable of supporting natural reproduction and growth of warm water fishes (e.g., largemouth bass and bluegill) and associated aquatic biota. Some cool water species may also be present.*

The State Water Quality Standards declare that lakes shall use the same numeric criteria as Class 1 streams. This includes the state standard for dissolved nitrates as 1.0 mg/L. The State Water Quality Standards also specify guidelines for lake or reservoir improvement programs as well (Table 8).

Table 8. Numeric Water Quality Standards for North Dakota Lakes and Reservoirs (NDDoH, 2006).

Parameter	Guidelines	Limit
Guidelines for Class I Streams and Classified Lakes		
Nitrates (dissolved)	1.0 mg/L	Maximum allowed[1]
Dissolved Oxygen	5 mg/L	Daily Minimum[2]
Guidelines for Goals in a lake improvement or maintenance program		
NO_3 as N	0.25 mg/L	Goal
PO_4 as P	0.02 mg/L	Goal

1 "Up to 10% of samples may exceed"
2 "Up to 10% of representative samples collected during any three year period may be less than this value provided that lethal conditions are avoided."

3.0 TMDL Targets

A TMDL target is the value that is measured to judge the success of the TMDL effort. TMDL targets must be based on state water quality standards, but can also include site-specific values when no numeric criteria are specified in a state's water quality standards. The following sections summarize water quality targets for Sweet Briar Dam based on its beneficial uses. If the specific target is met, it is assumed the reservoir will meet the applicable water quality standards, including its designated beneficial uses.

3.1 Nutrient Target

The assessment methodology for lakes and reservoirs described in North Dakota's 2006 Integrated Section 305(b) and section 303(d) Water Quality Assessment Report indicates that Carlson's Trophic State Index (TSI) is the primary indicator used to assess beneficial uses of the state's lakes and reservoirs (NDDoH, 2006). Trophic status is the measure of productivity of a lake or reservoir and is directly related to the level of nutrients (phosphorus and nitrogen) entering the lake or reservoir from its watershed. Lakes tend to become eutrophic (more productive) with higher nitrogen and phosphorus inputs. Eutrophic lakes often have nuisance algal blooms, limited water clarity, and low dissolved oxygen concentrations that can result in impaired aquatic life and recreational uses. Carlson's TSI attempts to measure the trophic state of a lake using nitrogen, phosphorus, chlorophyll-a, and Secchi Disk Transparency measurements (Carlson, 1977).

Carlson's TSI scores based on chlorophyll-a and Secchi Disk Transparency data collected between October 2004 and September 2005, indicate Sweet Briar Dam is assessed as a mesotrophic to eutrophic lake (Table 9). The total phosphorus TSI for the reservoir was greater than the chlorophyll-a and Secchi Disk TSI scores, suggesting the reservoir is hypereutrophic. Based on Carlson and Simpson (1996) when total phosphorus TSI scores are greater than both chlorophyll-a and Secchi Disk scores and chlorophyll-a and Secchi Disk scores are similar, as is the case with Sweet Briar Dam, then it can be assumed that algae is the dominant factor affecting light penetration, but nitrogen limitation (as is the case with Sweet Briar Dam) is affecting algal growth (Table 10).

Table 9. Carlson's Trophic Status Index Scores for Sweet Briar Dam.

Parameter	TSI Relationship	Concentration/ Value	TSI Value	Trophic Status
Chlorophyll-*a* (µg/L)	TSI (Chl-a) = 30.6 + 9.81[ln(Chl-a)]	16.12	57.87	eutrophic
Total Phosphorus (µg/L) (TP)	TSI (TP) = 4.15 + 14.42[ln(TP)]	193	80.04	hypereutrophic
Secchi Disk Transparency (meters) (SD)	TSI (SD) = 60 - 14.41[ln(SD)]	2.95	44.41	mesotrophic
Total Nitrogen (mg/L) (TN)	TSI (TN) = 54.45 + 14.43[ln(TN)]	1.162	56.62	eutrophic

TSI < 30 - Oligotrophic (least productive) TSI 30-50 - Mesotrophic
TSI 50-70 - Eutrophic TSI > 70 - Hypereutrophic (most productive)

While the observed N:P ratio for Sweet Briar Dam was 6:1 (based on 2004-2005 data), indicating the reservoir is nitrogen limited, it is believed this is due more to excessive phosphorus in the reservoir, rather than a lack of nitrogen. A Carlson's total phosphorus TSI target of 62.45, equating to 0.057 mg/L, was therefore chosen for the Sweet Briar Dam endpoint. This equates to a trophic status category of eutrophic during all times of the year (Figure 9). The TSI target was chosen based on knowledge that: 1) phosphorus loading and concentrations are excessive in Sweet Briar Dam; and 2) AGNPS modeling shows that a 75 percent reduction is the maximum attainable phosphorus reduction by instituting best management practices (BMPs) on the critical cells in the watershed. A 75 percent reduction in phosphorus will reduce chlorophyll-a concentration, increase water clarity and dissolved oxygen, and decrease the productivity level of the reservoir.

Table 10. Relationships Between TSI Variables and Conditions (from Carlson and Simpson, 1996).

Relationship Between TSI Variables	Conditions
TSI(Chl) = TSI(TP) = TSI(SD)	Algae dominate light attenuation; TN/TP ~ 33:1
TSI(Chl) > TSI(SD)	Large particulates, such as *Aphanizomenon* flakes, dominate
TSI(TP) = TSI(SD) > TSI(CHL)	Non-algal particulates or color dominate light attenuation
TSI(SD) = TSI(CHL) > TSI(TP)	Phosphorus limits algal biomass (TN/TP >33:1)
TSI(TP) >TSI(CHL) = TSI(SD)	Algae dominate light attenuation but some factor such as nitrogen limitation, zooplankton grazing or toxics limit algal biomass.

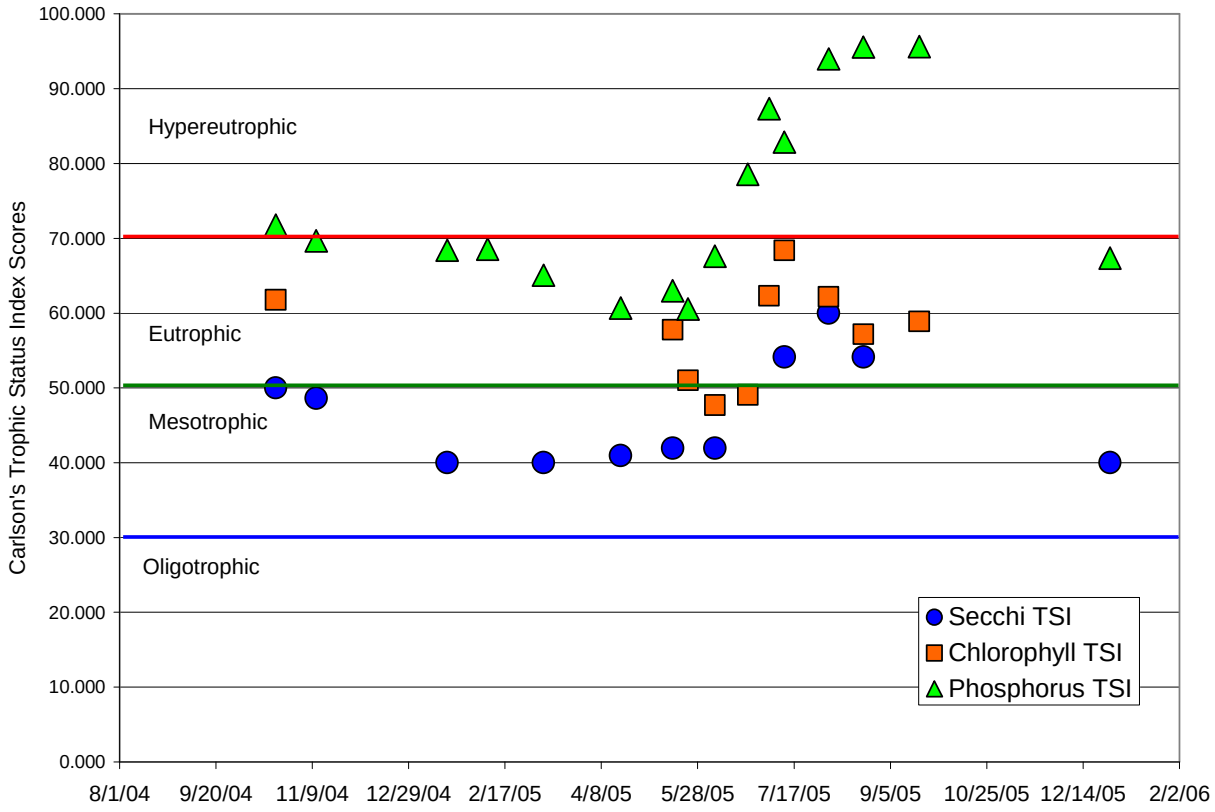


Figure 9. Temporal Distribution of TSI Scores for Sweet Briar Dam (2004-2005).

4.0 SIGNIFICANT SOURCES

4.1 Point Sources

There are no known point sources upstream of Sweet Briar Dam.

4.2 Nonpoint Sources

Nonpoint source pollution (NPS) accounts for 100 percent of the nutrient loading to Sweet Briar Dam. The vast majority of nutrient loads are transported with overland runoff from agricultural areas. Existing land use and AGNPS modeling (see Section 5.7 AGNPS Modeling) indicate that the majority of NPS loading is likely coming from cropland (47 percent of land within the watershed is cropped). Thirty-six (36 percent) of land in the watershed is used for pasture, so it is possible that some of the nutrient loading also originates from pasture. Implementation of best management practices by producers in the watershed will be necessary in order to address loadings from these lands.

5.0 TECHNICAL ANALYSIS

Establishing a relationship between in-stream water quality targets and pollutant source loading is a critical component of TMDL development. Identifying the cause-and-effect relationship between pollutant loads and the water quality response is necessary to evaluate the loading capacity of the receiving water bodies. The loading capacity is the amount of a pollutant that can be assimilated by the water body while still attaining and maintaining water quality standards. This section discusses the technical analysis used to estimate existing loads to Sweet Briar Dam and the predicted trophic response of the reservoir to reductions in loading capacity. A complete discussion of the FLUX and BATHTUB models may be found in Appendix A

5.1 FLUX Tributary Load Analysis

To facilitate the analysis and reduction of tributary inflow and outflow water quality and flow data, the FLUX program was employed. The FLUX program, developed by the US Corps of Engineers Waterways Experiment Station (Walker, 1996), uses six calculation techniques to estimate the average mass discharge or loading that passes a given river or stream site. FLUX estimates loadings based on grab sample chemical concentrations and the continuous daily flow record. Load is therefore defined as the mass of a pollutant during a given time period (e.g., hour, day, month, season, year). The FLUX program allows the user, through various iterations, to select the most appropriate load calculation technique and data stratification scheme, either by flow or date, which will give a load estimate with the smallest statistical error, as represented by the coefficient of variation. Output from the FLUX program is then provided as an input file to calibrate the BATHTUB eutrophication response model. For a complete description of the FLUX program, the reader is referred to Walker (1996).

5.2 BATHTUB Trophic Response Model

The BATHTUB model (Walker, 1996) was used to predict and evaluate the effects of various nutrient load reduction scenarios on Sweet Briar Dam. BATHTUB performs steady-state water and nutrient balance calculations in a spatially segmented hydraulic network. The model accounts for advective and diffusive transport and nutrient sedimentation. Eutrophication related water quality conditions are predicted using empirical relationships previously developed and tested for reservoir applications.

The BATHTUB model is developed in three phases. The first two phases involve the analysis and reduction of the tributary and in-lake water quality data. The third phase involves model

calibration. In the data reduction phase, the in-lake and tributary monitoring data collected as part of the project were summarized in a format, which can serve as inputs to the model.

Predicted changes in trophic response to Sweet Briar Dam were evaluated by reducing externally derived nutrient loads by 25, 50, and 75 percent. These reductions were simulated in the model by reducing the total phosphorus and nitrogen concentrations in the contributing tributary and other external delivery sources by 25, 50, and 75 percent, while flow was held constant.

When the input data from FLUX and Excel programs are entered into the BATHTUB model the user has the ability to compare predicted conditions (model output) to actual conditions using general rates and factors. The BATHTUB model is then calibrated by combining tributary load estimates for the project period with in-lake water quality estimates. The model is termed calibrated when the predicted estimates for the trophic response variables are similar to observed estimates from the project monitoring data. BATHTUB then has the ability to predict total phosphorus concentration, chlorophyll-a concentration, and Secchi Disk Transparency along with and the associated TSI scores as a means of expressing trophic response.

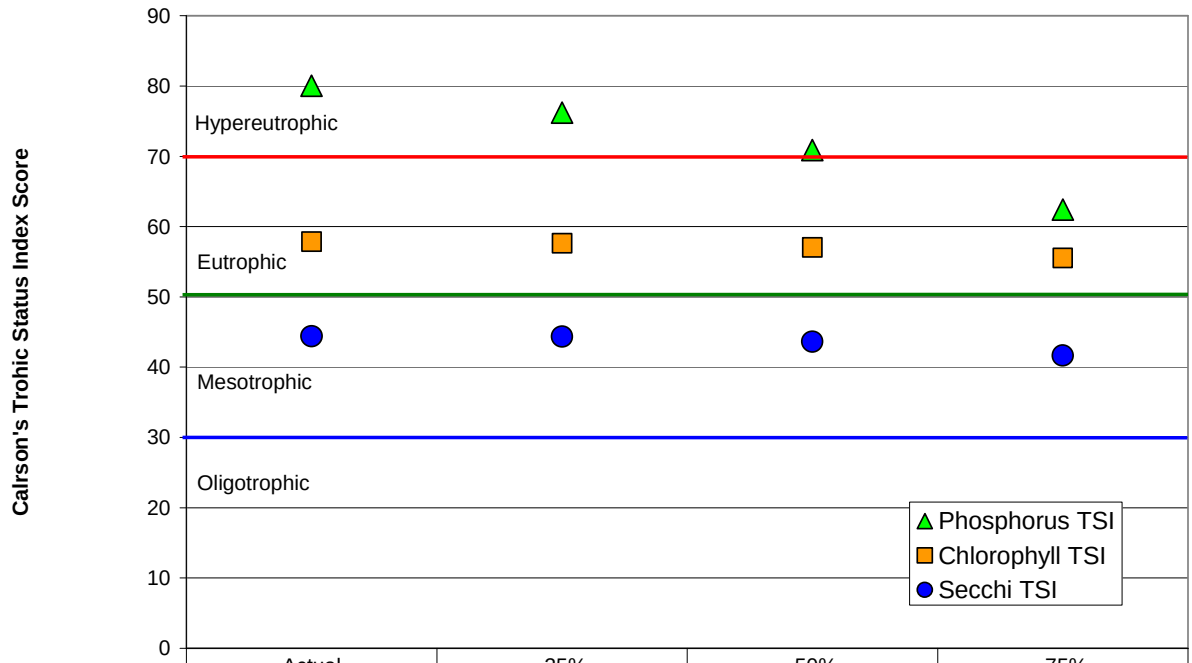
As stated above, BATHTUB can compare predicted vs. actual conditions. After calibration, the model was run based on observed concentrations of phosphorus and nitrogen, to derive an estimated annual average total phosphorus load of 484.6 kg/yr and 4,867.0 kg/yr for total nitrogen. The model was then run to evaluate the effectiveness of a number of nutrient reduction alternatives including; (1) reducing externally derived nutrient loads; (2) reducing internally available nutrients; and (3) reducing both external and internal nutrient loads.

The model results indicate that if it were possible to reduce external phosphorus loading to Sweet Briar Dam by 75 percent, the average annual total phosphorus and chlorophyll-a concentrations in the lake would decrease and Secchi Disk Transparency depth would increase measurably (Table 11). It is also likely, that this large a reduction in nutrient load would result in an improvement to the trophic status of Sweet Briar Dam that would be noticeable to the average lake users as the reduction in the amount of green in the lake and overall clarity would increase.

Table 11. Observed and Predicted Values for Selected Trophic Response Variables Assuming a 25, 50, and 75 Percent Reduction in External Phosphorus Loading.

Variable	Observed	25%	50%	75%
Total Phosphorus as P (µg/L)	0.193	0.148	0.102	0.057
Total Nitrogen as N (µg/L)	1.162	0.930	0.687	0.445
Chlorophyll-a (µg/L)	16.12	15.71	14.77	12.47
Secchi Disk Transparency (meters)	2.95	2.96	3.12	3.57
Carlson's TSI for Phosphorus	80.04	76.23	70.89	62.43
Carlson's TSI for Chlorophyll-a	57.87	57.62	57.02	55.35
Carlson's TSI for Secchi Disk	44.41	44.36	43.62	41.64

To acquire a noticeable change in the trophic status, the BATHTUB model predicted that a 75 percent reduction in external total phosphorus loads result in a reservoir in the eutrophic range (Figure 10).



	Actual	-25%	-50%	-75%
Phosphorus TSI	80.04	76.23	70.89	62.43
Chlorophyll TSI	57.87	57.62	57.02	55.53
Secchi TSI	44.41	44.36	43.62	41.64

Figure 10. Predicted Trophic Response to Phosphorus Load Reductions to Sweet Briar Dam of 25, 50, and 75 Percent.

5.3 AGNPS Watershed Model

In order to identify significant NPS pollutant sources in the Sweet Briar Dam watershed and to assess the relative reductions in nutrient (nitrogen and phosphorus) loading that can be expected from the implementation of BMPs in the watershed, an AGNPS 3.65 model analysis was employed.

The primary objectives for using the AGNPS 3.65 model are to: 1) evaluate NPS contributions within the watersheds; 2) identify critical pollutant source areas within the watershed; and 3) evaluate potential pollutant (nitrogen, phosphorus, and sediment) reduction estimates that can be achieved through the implementation of various BMP implementation scenarios.

The AGNPS 3.65 model is a single event model that has twenty input parameters. Sixteen parameters were used to calculate nutrient/sediment output, surface runoff and erosion. The parameters used were receiving cell, aspect, SCS curve, percent slope, slope shape, slope length, Manning's roughness coefficient, K-factor, C-factor, P-factor, surface conditions constant, soil texture, fertilizer inputs, point source indicators, COD factor and channel indicator.

The AGNPS 3.65 model was used in conjunction with an intensive land use survey to determine critical areas within the Sweet Briar Dam Watershed. Criteria used during the land use assessment were percent cover on cropland and pasture/range conditions. These criteria were used to determine the C-factor for each cell. The initial model was run using current conditions

determined during the land use assessment. A 25 yr/24 hr storm event (4.10 inches) in Morton County was applied to the model to evaluate relative pollutant yields from each 160-acre cell. Each quarter of land was given a cell number. A total of 107,040 acres were input into the program, representing 669 cells. Cells with sediment phosphorous levels above 0.10 lbs/ac or cells with soluble phosphorous runoff concentrations above 0.15 ppm were identified as critical. The model identified 158 cells in the watershed (14,880 acres of cropland and 10,400 acres of pasture/rangeland) as being "critical". The critical cells comprise 24 percent of the watershed area.

The model was run a second time depicting a best-case scenario, in which all critical cropland and pasture/rangeland cells were treated with BMPs. The BMPs used during the second run were no till, nutrient management, prescribed grazing and pasture/hayland plantings. The BMPs were reflected within the model by making changes in the input parameters. Once nutrient loadings are decreased, algal biomass will decline, dissolved oxygen will increase, and the overall trophic status of the reservoir will improve and meet its beneficial use designation.

6.0 MARGIN OF SAFETY AND SEASONALITY

6.1 Margin of Safety

Section 303(d) of the Clean Water Act and EPA's regulations require that "TMDLs should be established at levels necessary to attain and maintain the applicable narrative and numerical water quality standards with seasonal variations and a margin of safety that takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality." The margin of safety (MOS) can either be incorporated into conservative assumptions used to develop the TMDL (implicit) or added as a separate component of the TMDL (explicit). For the purposes of this nutrient TMDL, a MOS of 10% of the loading capacity will be used as an explicit MOS.

Assuming the existing annual phosphorus load to Sweet Briar Dam from tributary sources and internal cycling is 484.0 kg and the TMDL reduction goal is a 75% reduction in total annual phosphorus loading, then this would result in a TMDL target total phosphorus loading capacity of 121.0 kg of total phosphorus per year. Based on a 10 % explicit margin of safety, the MOS for the Sweet Briar Dam TMDL would be 12.1 kg of phosphorus per year.

Post-implementation monitoring and adaptive management related to the effectiveness of the nutrient controls in the lake and watershed can also be used to assure attainment of the TMDL target.

6.2 Seasonality

Section 303(d)(1)(C) of the Clean Water Act and the EPA's regulations require that a TMDL be established with seasonal variations. The Sweet Briar Dam TMDL addresses seasonality because the BATHTUB model incorporates seasonal differences in its prediction of annual total phosphorus and nitrogen loadings.

7.0 TMDL

Table 12 summarizes the nutrient TMDL for Sweet Briar Dam in terms of loading capacity (LC), wasteload allocations (WLA), load allocations (LA), and a margin of safety (MOS). The TMDL can be generically described by the following equation:

TMDL = LC = WLA + LA + MOS

Where:

LC = loading capacity, or the greatest loading a water body can receive without violating water quality standards;

WLA = waste load allocation, or the portion of the TMDL allocated to existing or future point sources;

LA = load allocation, or the portion of the TMDL allocated to existing or future non-point sources;

MOS = margin of safety, or an accounting of the uncertainty about the relationship between pollutant loads and receiving water quality. The margin of safety can be provided implicitly through analytical assumptions or explicitly by reserving a portion of the loading capacity.

7.1 Nutrient TMDL

The BATHTUB computer model was used to predict the anticipated improvement in water quality with percentage reductions in the average annual total phosphorus loads from surface water runoff and internal cycling. Based on data collected in 2004 and 2005, the existing load to Sweet Briar Dam is estimated at 484.60 kg/yr. Assuming a 75 percent reduction in the average annual total phosphorus load, as determined by BATHTUB and AGNPS modeling, Sweet Briar Dam will reach the in-lake TMDL target total phosphorus concentration of 0.057 mg/L with a corresponding TSI score of 62.45. This corresponds to the loading capacity of 121.00 kg/yr. Assuming 10 percent (12.10 kg/yr) is assigned to the MOS and there are no point sources in the watershed, all of the remaining loading capacity (108.90 kg/yr) is assigned to the load allocation (Table 12).

In November 2006 EPA issued a memorandum “Establishing TMDL “Daily” Loads in Light of the Decision by the U.S. Court of Appeals for the D.C. Circuit in Friends of the Earth, Inc. v. EPA et. al., No. 05-5015 (April 25, 2006) and Implications for NPDES Permits,” which recommends that all TMDLs and associated load allocations and wasteload allocations include a daily time increment in conjunction with other appropriate temporal expressions that may be necessary to implement the relevant water quality standard. While the Department believes that the appropriate temporal expression for phosphorus loading to lakes and reservoirs is as an annual load, the phosphorus TMDL has also been expressed as a daily load. In order to express this phosphorus TMDL as a daily load the annual loading capacity of 121.00 kg/yr was divided by 365 days. Based on this analysis, the phosphorus TMDL, expressed as an average daily load,

is 0.332 kg/day with the load allocation equal to 0.299 kg/day and the MOS equal to 0.033 kg/day.

Table 12. Summary of the Phosphorus TMDL for Sweet Briar Dam.

Category	Total Phosphorus (kg/yr)	Explanation
Existing Load	484.60	From observed data
Loading Capacity	121.00	75 percent total reduction based on BATHTUB and AGNPS modeling
Wasteload Allocation	0.0	No point sources
Load Allocation	108.90	Entire loading capacity minus MOS is allocated to non-point sources
MOS	12.10	10 percent of the Loading Capacity is reserved as an explicit margin of safety

8.0 ALLOCATION

Phosphorus loads into the reservoir will be reduced by 75 percent through the treatment of the AGNPS identified critical areas. There are 158 cells within the Sweet Briar Dam watershed identified as “critical” by AGNPS modeling. Critical cells are defined as those cells with sediment phosphorous levels above 0.10 lbs/ac or cells with soluble phosphorous runoff concentrations above 0.15 ppm. These cells represent a total area of 14,880 (cropland) and 10,400 (pasture/rangeland) acres, or 24 percent of the watershed. If all of the critical watershed areas could be treated with appropriate best management practices (BMPs), then the specified reduction is possible.

Restoration alternatives for reservoirs and lakes can generally be classified as:

- Source controls;
- In-lake controls; and
- Problem treatment.

Source controls are used to modify the quality of water entering a lake or reservoir. Examples of source controls are management within the watershed to reduce erosion (i.e., BMPs), chemical treatment to reduce inflow nutrient concentrations, and point source treatment or diversion. Implementation of BMPs will be on volunteer basis for the Sweet Briar Dam TMDL. BMPs will primarily consist of altering the current tillage practices for cultivated land within the watershed to reduce the nutrient load reaching the reservoir. Potential conservation management practices are tillage, residue and grazing management options. These options include the use of no-till, ridge till, mulch tillage, grazing management and manure management.

The application of alum, a chemical used to remove phosphorus from the water column, and dredging are examples of in-lake controls.

Problem treatment includes weed harvesting, aeration, and chemical treatment to reduce plant growth and the release of nutrients from lake sediments.

9.0 PUBLIC PARTICIPATION

To satisfy the public participation requirement of this TMDL, a hard copy of the TMDL for Sweet Briar Dam and a request for comment was been mailed to participating agencies, partners, and to those who requested a copy. Those included in the mailing of a hard copy were as follows:

- Morton County Soil Conservation District
- Morton County Water Resource Board
- North Dakota Game and Fish Department
- USDA-NRCS State and Morton County Field Offices
- U.S. Fish and Wildlife Service, Ecological Services Field Office, Bismarck ND
- US Environmental Protection Agency - Region VIII

In addition to mailing copies of this TMDL report for Sweet Briar Dam to interested parties, the TMDL report was been posted on the North Dakota Department of Health, Division of Water Quality web site at http://www.health.state.nd.us/wq. A 30-day public notice, soliciting comment and participation from interested parties was also printed in the following newspapers:

- Bismarck Tribune
- Mandan News

In response to the Department's public notice, comments were received from the US EPA Region 8 and from Scott Elstad with the North Dakota Game and Fish Department. A letter in support of the Sweet Briar Dam TMDL report was also received from Ted Becker representing the Morton County Soil Conservation District. A copy of the US EPA's comments and the Morton County SCD's letter are provided in Appendices E and F, respectively. The Department's response to comments is provided in Appendix G.

10.0 MONITORING

To insure that the implementation of BMPs will reduce phosphorus levels and result in a corresponding increase in dissolved oxygen, water quality monitoring will be conducted in accordance with an approved Quality Assurance Project Plan (QAPP) for Sweet Briar Dam.

Specifically, monitoring will be conducted for all variables that are currently causing impairments to the beneficial uses of the waterbody. These include, but are not limited to nutrients (i.e., nitrogen and phosphorus) and dissolved oxygen. Once a watershed restoration plan (e.g. 319 PIP) is implemented, monitoring will be conducted in the lake/reservoir beginning two years after implementation and extending five years after the implementation project is complete.

11.0 TMDL IMPLEMENTATION STRATEGY

Implementation of TMDLs is dependent upon the availability of Section 319 NPS funds or other watershed restoration programs (e.g. USDA EQIP, ND Game and Fish Department Save Our Lakes Program), as well as securing a local project sponsor and the required matching funds. Provided these three requirements are in place, a project implementation plan (PIP) is developed in accordance with the TMDL and submitted to the ND Nonpoint Source Pollution Task Force and US EPA for approval. The implementation of the best management practices contained in the NPS pollution management project is voluntary. Therefore, success of any TMDL implementation

project is ultimately dependent on the ability of the local project sponsor to find cooperating producers.

It is recognized that significant land use changes may have or will have taken place in the watershed by the time a Watershed Restoration Project is undertaken. Therefore, it is recommended that as the first step in a Watershed Restoration Project the original AGNPS watershed model (or AnnAGNPS model) be updated and re-run with current land use conditions. Results of this model output should then be used to direct BMP implementation in the watershed.

Monitoring is also a required component of all project implementation plans (PIPs). As a part of the PIP, data are collected to monitor and track the effects of BMP implementation as well as to judge overall project success. Quality Assurance Project Plans (QAPPs) detail the strategy of how, when and where monitoring will be conducted to gather the data needed to document success in meeting the TMDL implementation goal(s). As data are gathered and analyzed, watershed restoration tasks will be adapted, if necessary, to place BMPs where they will have the greatest benefit to water quality and in meeting the TMDL goal(s).

12.0 ENDANGERED SPECIES ACT COMPLIANCE

The North Dakota Department of Health has reviewed the list of Threatened and Endangered Species in Morton County as provided by the US Fish and Wildlife Service (Appendix D). Although there are listed species present in the county they do not utilize the waterbody that is targeted by this TMDL. It is, therefore, the Department's best professional judgment that the Sweet Briar Dam TMDL poses "No Adverse Effect" to those Threatened and Endangered species listed for Morton County.

As mentioned in Section 9.0, the US Fish and Wildlife Service was sent a copy of this document for their review during the public comment period. No comments were received.

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Appendix A
A Calibrated Trophic Response Model (BATHTUB) for Sweet Briar Dam

A Calibrated Trophic Response Model (Bathtub) for Sweet Briar Dam As a Tool to Evaluate Various Nutrient Reduction Alternatives Based on Data Collected by the High Plains Consortium Inc. from October 21, 2004 through September 20, 2005

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February, 2007
Revised September 12, 2007
By Peter Wax
North Dakota Department of Health
Second Revision October 22, 2008

Introduction

In order to meet the project goals, as set forth by the project sponsors of improving the trophic condition of Sweet Briar Dam to levels capable of maintaining the reservoirs beneficial uses (e.g., fishing, recreation, and drinking water supply), and the objectives of this project, which are to: (1) develop a nutrient and sediment budget for the reservoir; (2) identify the primary sources and causes of nutrients and sediments to the reservoir; and (3) examine and make recommendations for reservoir restoration measures which will reduce documented nutrient and sediment loadings to the reservoir, a calibrated trophic response model was developed for Sweet Briar Dam. The model enables investigations into various nutrient reduction alternatives relative to the project goal of improving Sweet Briar Dam's trophic status. The model will allow resource managers and the public to relate changes in nutrient loadings to the trophic condition of the reservoir and to set realistic lake restoration goals that are scientifically defensible, achievable and socially acceptable.

Methods

For purposes of this project, the BATHTUB program was use to predict changes in trophic status based on changes in nutrient loading. The BATHTUB program, developed by the US Army Corps of Engineers Waterways Experiment Station (Walker 1996), applies an empirically derived eutrophication model to reservoirs. The model is developed in three phases. The first two phases involve the analysis and reduction of the tributary and in-lake water quality data. The third phase involves model calibration. In the data reduction phase, the in-lake and tributary monitoring data collected as part of the project are summarized, or reduced, in a format which can serve as inputs to the model. The following is a brief explanation of the computer software, methods, and procedures used to complete each of these phases.

Tributary Data

To facilitate the analysis and reduction of tributary inflow and outflow water quality and flow data the FLUX program was employed. The FLUX program, also developed by the US Corps of Engineers Waterways Experiment Station (Walker 1996), uses six calculation techniques to estimate the average mass discharge or loading that passes a given river or stream site. FLUX estimates loadings based on grab sample chemical concentrations and continuous daily flow record. Load is therefore defined as the mass of a pollutant during a given time period (e.g., hour, day, month, season, year). The FLUX program allows the user, through various iterations, to select the most appropriate load calculation technique and data stratification scheme, either by flow or date, which will give a load estimate with the smallest statistical error, as represented by the coefficient of variation. Output from the FLUX program is then provided as an input file to calibrate the BATHTUB eutrophication response model. For a complete description of the FLUX program the reader is referred to Walker (1996).

Lake Data

Sweet Briar Dam in-lake water quality data was reduced using Microsoft Excel. The data was reduced in excel to provide three computational functions, including: (1) the ability to display constitutes as a function of depth, location, and/or date; (2) calculate summary statistics (e.g., mean, median and standard error in the mixed layer of the lake or reservoir); and (3) track the temporal trophic status. As is the case with FLUX, output from the Excel program is used as input to calibrate the BATHTUB model.

Bathtub Model Calibration

As stated previously, the BATHTUB eutrophication model was selected for this project as a means evaluating the effects of various nutrient reduction alternatives on the predicted trophic status of Sweet Briar Dam. BATHTUB performs water and nutrient balance calculations in a steady-state. The BATHTUB model also allows the user to spatially segment the reservoir. Eutrophication related water quality variables (e.g., total phosphorus, total nitrogen, chlorophyll-*a*, secchi depth, organic nitrogen, orthophosphorous, and hypolimnetic oxygen depletion rate) are predicted using empirical relationships previously developed and tested for reservoir systems (Walker 1985).

Within the BATHTUB program the user can select from six schemes based on reservoir morphometry and the needs of the resource manager. Using BATHTUB the user can view the reservoir as a single spatially averaged reservoir or as single segmented reservoir. The user can also model parts of the reservoir, such as an embayment, or model a collection of reservoirs. For purposes of this project, Sweet Briar Dam was modeled as a single, spatially averaged, reservoir.
Once input is provided to the model from FLUX and Excel the user can compare predicted conditions (i.e., model output) to actual conditions. Since BATHTUB uses a set of generalized rates and factors, predicted vs. actual conditions may differ by a factor of 2 or more using the initial, un-calibrated, model. These differences reflect a combination of measurement errors in the inflow and outflow data, as well as unique features of the reservoir being modeled.

In order to closely match an actual in-lake condition with the predicted condition, BATHTUB allows the user to modify a set of calibration factors (Table 1). For a complete description of the BATHTUB model the reader is referred to Walker (1996).

Table 1. Selected model parameters, number and name of model, and where appropriate the calibration factor used for Sweet Briar Dam Bathtub Model.

Model Option	Model Selection	Calibration Factor
Conservative Substance	0 Computed	1.00
Phosphorus Balance	7 Settling Velocity	1.88
Phosphorus – Ortho P	7	6.30
Nitrogen Balance	7 Settling Velocity	1.00
Organic Nitrogen	7	2.14
Chlorophyll-a	2 P, Light, T	0.98
Secchi Depth	1 Vs. Chl-a & Turbidity	1.40
Phosphorus Calibration	2 Concentrations	NA
Nitrogen Calibration	2 Concentrations	NA
Availability Factors	0 Ignore	NA
Mass-Balance Tables	0 Use Observed Concentrations	NA

Results

The trophic response model, BATHTUB, has been calibrated to match Sweet Briar Dam's trophic response for the project period October 21, 2004 through September 20, 2005. This is accomplished by combining tributary loading estimates for the project period with in-lake water quality estimates. Tributary flow and concentration data for the project period are reduced by the FLUX program and the corresponding in-lake water quality data are reduced utilizing Excel. The output from these two programs is then provided as input to the BATHTUB model.

The model is calibrated through several iterations, first by selecting appropriate empirical relationships for model coefficients (e.g., nitrogen and phosphorus sedimentation, nitrogen and phosphorus decay, oxygen depletion, and algal/chlorophyll growth), and second by adjusting model calibration factors for those coefficients (Table 1). The model is termed calibrated when the predicted estimates for the trophic response variables are similar to observed estimates made from project monitoring data.

The two most important nutrients controlling trophic response in Sweet Briar Dam are nitrogen and phosphorus. After calibration, the observed average annual concentration of total nitrogen and total phosphorus compare well with those of the BATHTUB model. The model predicted the reservoir's annual mean concentration of total phosphorus to be 0.193 mg L^{-1} and 1.172 mg L^{-1} for total nitrogen compared to the observed values for total phosphorus and total nitrogen at 1 meter of depth of 0.193 mg L^{-1} and 1.162 mg L^{-1}, respectively (Table 2).

Other measures of trophic response predicted by the model are average annual chlorophyll-a concentration and average secchi disk transparency. The calibrated model did a good job of predicting average chlorophyll-a concentration and secchi disk transparency as well (Table 2). Once predictions of total phosphorus, chlorophyll-a, and secchi disk transparency are made, the model calculates Carlson's Trophic Status Index (TSI) (Carlson 1977) as a means of expressing predicted trophic response (Table 2). Carlson's TSI is an index that can be used to measure the relative trophic state of a lake or reservoir. Simply stated, trophic state is how much production (i.e., algal and weed growth) occurs in the waterbody. The lower the nutrient concentrations are within the waterbody the lower the production and the lower the trophic state or level. In contrast, increased nutrient concentrations in a lake or reservoir increase the production of algae and weeds which make the lake or reservoir more eutrophic or of a higher trophic state. Oligotrophic is the term which describes the least productive lakes and hypereutrophic is the term used to describe lakes and reservoirs with excessive nutrients and primary production.

Table 2. Observed and Predicted Values for Selected Trophic Response Variables for the Calibrated "BATHTUB" Model.

Variable	Observed	Predicted
Total Phosphorus as P (mg/L)	0.193	0.193
Total Dissolved Phosphorus as P (mg/L)	0.168	0.168
Total Nitrogen as N (mg/L)	1.162	1.172
Organic Nitrogen as N (mg/L)	1.136	1.138
Chlorophyll-a (mg/L)	16.12	16.18
Secchi Disk Transparency (meters)	2.95	2.89
Carlson's TSI for Phosphorus	80.04	80.02
Carlson's TSI for Chlorophyll-a	57.87	57.91
Carlson's TSI for Secchi Disk	44.41	44.71

Figure 1 provides a graphic summary of the TSI range for each trophic level compared to values for each of the trophic response variables. The calibrated model provided predictions of trophic status which are similar to the observed TSI values for the project period (Table 2). Predicted and observed TSI values for phosphorus suggest Sweet Briar Dam is hypereutrophic, while the TSI values for chlorophyll-a and secchi disk indicated the reservoir is eutrophic. Figure 2 is a graphic that shows the annual temporal distribution of Sweet Briar Dam's trophic state based on the three parameters total phosphorus as phosphate, and chlorophyll-a concentrations and secchi disk depth transparency.

Model Predictions

Once the model is calibrated to existing conditions, the model can be used to evaluate the effectiveness of any number of nutrient reduction or lake restoration alternatives. This evaluation is accomplished by comparing the predicted trophic state, as reflected by Carlson's TSI, with currently observed TSI values. Modeled nutrient reduction alternatives are presented in three basic categories: (1) reducing externally derived nutrient loads; (2) reducing internally available nutrients; and (3) reducing both external and internal nutrient loads. For Sweet Briar Dam only external nutrient loads were addressed. External nutrient loads were addressed because they are known to cause eutrophication and because they are controllable through the implementation of watershed Best Management Practices (BMPs).

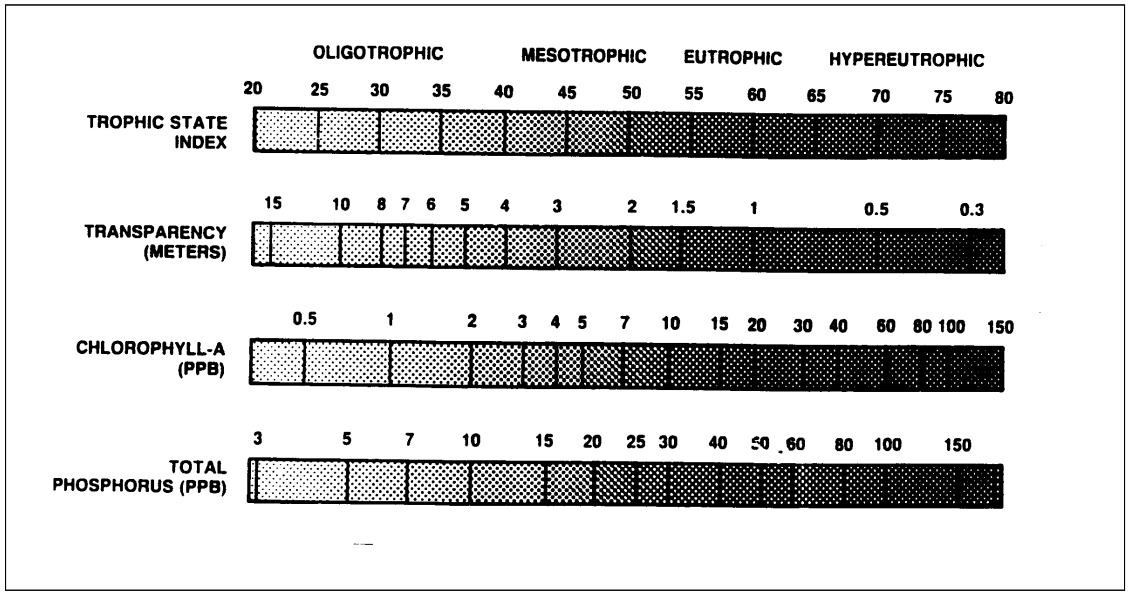

Figure 1. Graphic depiction of Carlson's Trophic Status Index

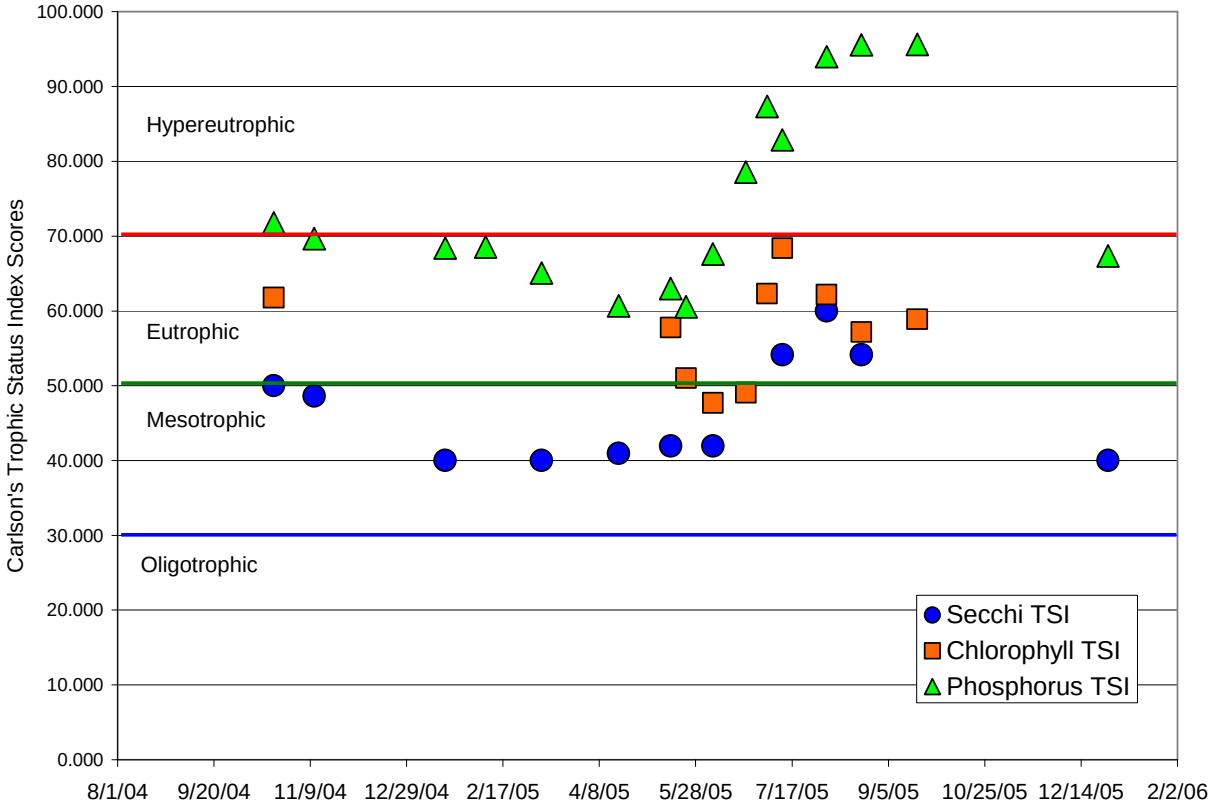

Figure 2. Temporal distribution of Carlson's Trophic Status Index scores for Sweet Briar Dam (October 21, 2004 and September 20, 2005)

Predicted changes in trophic response to Sweet Briar Dam were evaluated by reducing externally derived nutrient loads by 25, 50, and 75 percent. These reductions were simulated in the model by reducing the total phosphorus and nitrogen concentrations in the contributing tributary and other external delivery sources by 25, 50, and 75 percent, while flow was held constant.

The model results indicate that if it were possible to reduce external phosphorus loading to Sweet Briar Dam by 75 percent, the average annual total phosphorus and chlorophyll-a concentrations in the lake would decrease and secchi disk transparency depth would increase measurably (Table 3, Figure 3). It is also likely, that this large a reduction in nutrient load would result in an improvement to the trophic status of Sweet Briar Dam that would be noticeable to the average lake users as the reduction in the amount of green in the lake and overall clarity would increase to, or nearly to the mesotrophic range.

With a 75 percent reduction in external phosphorus and nitrogen load, the model predicts a reduction in Carlson's TSI score from 57.87 to 55.35 for chlorophyll-a from 44.41 to 41.64 for secchi disk transparency, corresponding to a trophic state of eutrophic and mesotrophic, respectively.

Table 3. Observed and Predicted Values for Selected Trophic Response Variables Assuming a 25, 50, and 75 Percent Reduction in External Phosphorus and Nitrogen Loading.

Variable	Observed	-25%	-50%	-75%
Total Phosphorus as P (µg/L)	0.193	0.148	0.102	0.057
Total Nitrogen as N (µg/L)	1.162	0.930	0.687	0.445
Chlorophyll-a (µg/L)	16.12	15.71	14.77	12.47
Secchi Disk Transparency (meters)	2.95	2.96	3.12	3.57
Carlson's TSI for Phosphorus	80.04	76.23	70.89	62.43
Carlson's TSI for Chlorophyll-a	57.87	57.62	57.02	55.35
Carlson's TSI for Secchi Disk	44.41	44.36	43.62	41.64

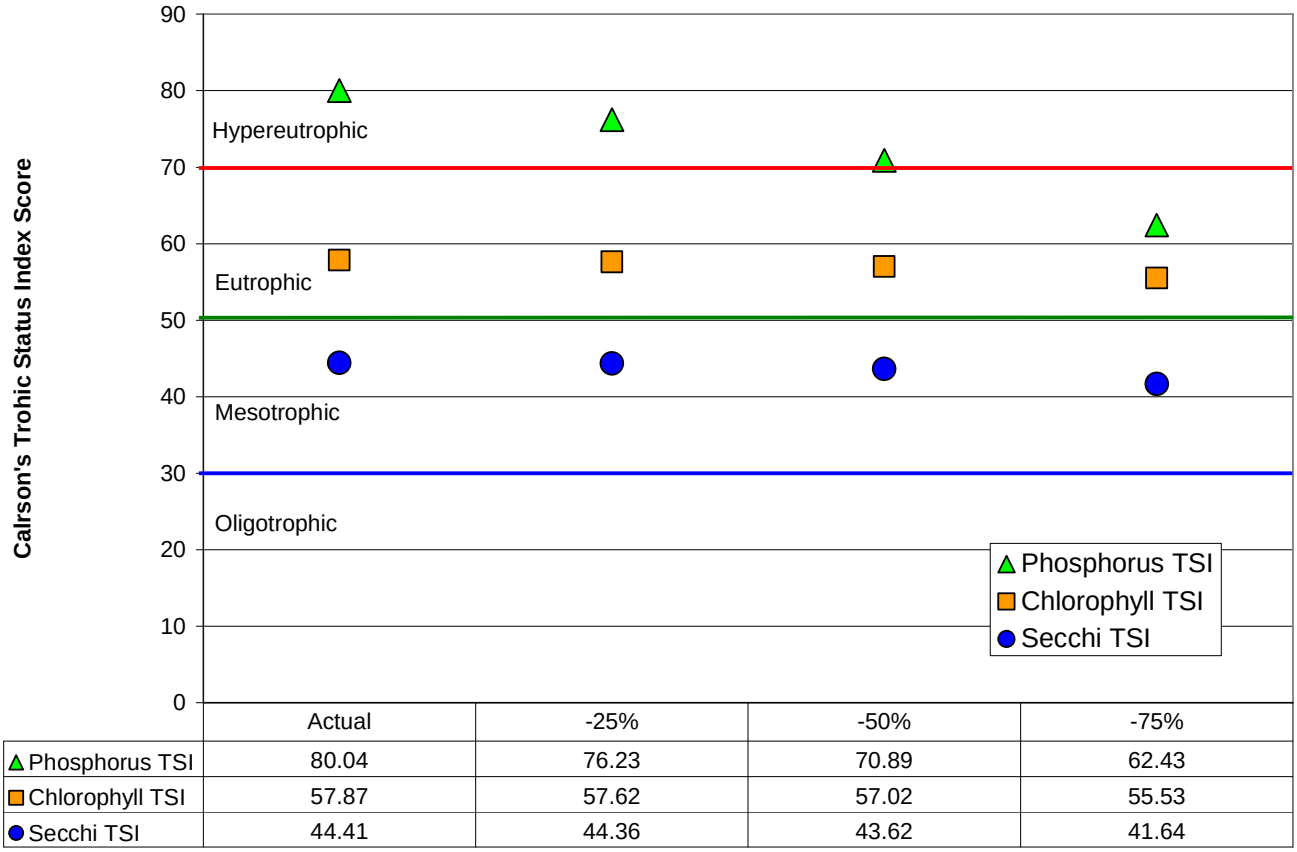

Figure 3. Predicted trophic response to phosphorus load reductions to Sweet Briar Dam of 25, 50, and 75 percent

Appendix B
BATHTUB Model Results

CASE: Sweet Briar Dam Calibrated Model

HYDRAULIC AND DISPERSION PARAMETERS:

SEG	OUT	INFLOW HM3/YR	NET RESIDENCE TIME YRS	OVERFLOW RATE M/YR	MEAN VELOCITY KM/YR	----DISPERSION----- ESTIMATED KM2/YR	NUMERIC KM2/YR	EXCHANGE RATE HM3/YR
1	0	4.01	.82262	3.9	3.6	16.	5.	0.

CASE: Sweet Briar 2007

GROSS WATER BALANCE:

ID	T	LOCATION	DRAINAGE AREA KM2	---- FLOW (HM3/YR) ---- MEAN	VARIANCE	CV	RUNOFF M/YR
1	1	Northeast	20.720	.110	.000E+00	.000	.005
2	1	Northwest	373.610	1.485	.000E+00	.000	.004
3	1	Bridge	15.540	2.410	.000E+00	.000	.155
4	1	Texas	23.310	.000	.000E+00	.000	.000
5	4	Outlet	433.180	4.414	.000E+00	.000	.010
TRIBUTARY INFLOW			433.180	4.005	.000E+00	.000	.009
***TOTAL INFLOW			434.200	4.005	.000E+00	.000	.009
GAUGED OUTFLOW			433.180	4.414	.000E+00	.000	.010
ADVECTIVE OUTFLOW			1.020	-.409	.000E+00	.000	-.401
***TOTAL OUTFLOW			434.200	4.005	.000E+00	.000	.009

CASE: Sweet Briar Dam Calibrated Model

GROSS MASS BALANCE BASED UPON OBSERVED CONCENTRATIONS
COMPONENT: TOTAL P

ID	T	LOCATION	LOADING KG/YR	LOADING %(I)	VARIANCE KG/YR**2	VARIANCE %(I)	CV	CONC MG/M3	EXPORT KG/KM2
1	1	Northeast	26.8	5.2	.000E+00	.0	.000	244.0	1.3
2	1	Northwest	158.9	30.8	.000E+00	.0	.000	107.0	.4
3	1	Bridge	298.8	58.0	.000E+00	.0	.000	124.0	19.2
4	1	Texas	.0	.0	.000E+00	.0	.000	54.0	.0
5	4	Outlet	490.0	95.1	.000E+00	.0	.000	111.0	1.1
PRECIPITATION			30.6	5.9	.234E+03	100.0	.500	.0	30.0
TRIBUTARY INFLOW			484.6	94.1	.000E+00	.0	.000	121.0	1.1
***TOTAL INFLOW			515.2	100.0	.234E+03	100.0	.030	128.6	1.2
GAUGED OUTFLOW			851.9	165.4	.000E+00	.0	.000	193.0	2.0
ADVECTIVE OUTFLOW			-78.9	-15.3	.000E+00	.0	.000	193.0	-77.4
***TOTAL OUTFLOW			773.0	150.0	.000E+00	.0	.000	193.0	1.8
***RETENTION			-257.8	-50.0	.234E+03	100.0	.059	.0	.0

OVERFLOW RATE M/YR	HYDRAULIC RESIDENCE TIME YRS	TOTAL P POOL CONC MG/M3	TOTAL P RESIDENCE TIME YRS	TOTAL P TURNOVER RATIO -	TOTAL P RETENTION COEF -
3.93	.8226	193.0	1.2343	.8102	-.5004

GROSS MASS BALANCE BASED UPON OBSERVED CONCENTRATIONS
COMPONENT: TOTAL N

ID	T	LOCATION	LOADING KG/YR	LOADING %(I)	VARIANCE KG/YR**2	VARIANCE %(I)	CV	CONC MG/M3	EXPORT KG/KM2
1	1	Northeast	277.6	4.7	.000E+00	.0	.000	2524.0	13.4
2	1	Northwest	1441.9	24.5	.000E+00	.0	.000	971.0	3.9
3	1	Bridge	3147.5	53.5	.000E+00	.0	.000	1306.0	202.5
4	1	Texas	.0	.0	.000E+00	.0	.000	1020.0	.0
5	4	Outlet	4758.3	80.8	.000E+00	.0	.000	1078.0	11.0
PRECIPITATION			1020.0	17.3	.260E+06	100.0	.500	.0	1000.0
TRIBUTARY INFLOW			4867.0	82.7	.000E+00	.0	.000	1215.2	11.2
***TOTAL INFLOW			5887.0	100.0	.260E+06	100.0	.087	1469.9	13.6
GAUGED OUTFLOW			5129.1	87.1	.000E+00	.0	.000	1162.0	11.8
ADVECTIVE OUTFLOW			-475.3	-8.1	.000E+00	.0	.000	1162.0	-465.9
***TOTAL OUTFLOW			4653.8	79.1	.000E+00	.0	.000	1162.0	10.7
***RETENTION			1233.2	20.9	.260E+06	100.0	.414	.0	.0

OVERFLOW RATE M/YR	HYDRAULIC RESIDENCE TIME YRS	TOTAL N POOL CONC MG/M3	TOTAL N RESIDENCE TIME YRS	TOTAL N TURNOVER RATIO -	TOTAL N RETENTION COEF -
3.93	.8226	1162.0	.6503	1.5378	.2095

CASE: Sweet Briar Dam Calibrated Model

T STATISTICS COMPARE OBSERVED AND PREDICTED MEANS
USING THE FOLLOWING ERROR TERMS:
1 = OBSERVED WATER QUALITY ERROR ONLY
2 = ERROR TYPICAL OF MODEL DEVELOPMENT DATA SET
3 = OBSERVED AND PREDICTED ERROR

SEGMENT: 1 Deepest

VARIABLE		OBSERVED MEAN	OBSERVED CV	ESTIMATED MEAN	ESTIMATED CV	RATIO	T STATISTICS 1	T STATISTICS 2	T STATISTICS 3
TOTAL P	MG/M3	193.0	.00	192.7	.45	1.00	.00	.00	.00
TOTAL N	MG/M3	1162.0	.00	1171.5	.56	.99	.00	-.04	-.01
C.NUTRIENT	MG/M3	77.3	.00	77.9	.53	.99	.00	-.04	-.01
CHL-A	MG/M3	16.1	.00	16.2	.26	1.00	.00	-.01	-.01
SECCHI	M	3.0	.00	2.9	.24	1.02	.00	.07	.09
ORGANIC N	MG/M3	1136.0	.00	1138.3	.22	1.00	.00	-.01	-.01
TP-ORTHO-P	MG/M3	168.0	.00	167.6	.32	1.00	.00	.01	.01
HOD-V	MG/M3-DAY	.0	.00	96.5	.20	.00	.00	.00	.00
MOD-V	MG/M3-DAY	.0	.00	92.6	.30	.00	.00	.00	.00

OBSERVED AND PREDICTED DIAGNOSTIC VARIABLES
RANKED AGAINST CE MODEL DEVELOPMENT DATA SET

SEGMENT: 1 Deepest

VARIABLE		VALUES OBSERVED	VALUES ESTIMATED	RANKS (%) OBSERVED	RANKS (%) ESTIMATED
TOTAL P	MG/M3	193.00	192.74	93.9	93.9
TOTAL N	MG/M3	1162.00	1171.55	59.2	59.7
C.NUTRIENT	MG/M3	77.28	77.87	83.3	83.5
CHL-A	MG/M3	16.12	16.18	75.9	76.0
SECCHI	M	2.95	2.89	90.7	90.2
ORGANIC N	MG/M3	1136.00	1138.34	95.7	95.7
TP-ORTHO-P	MG/M3	168.00	167.56	96.5	96.5
HOD-V	MG/M3-DAY	.00	96.54	.0	61.9
MOD-V	MG/M3-DAY	.00	92.63	.0	66.8
ANTILOG PC-1		440.35	447.94	67.3	67.7
ANTILOG PC-2		18.09	17.86	97.5	97.4
(N - 150) / P		5.24	5.30	4.2	4.3
INORGANIC N / P		1.04	1.32	.0	.1
TURBIDITY	1/M	.08	.08	1.1	1.1
ZMIX * TURBIDITY		.80	.80	3.9	3.9
ZMIX / SECCHI		3.39	3.46	27.9	29.1
CHL-A * SECCHI		47.55	46.75	98.5	98.4
CHL-A / TOTAL P		.08	.08	9.0	9.1
FREQ(CHL-a>10)	%	67.73	67.95	.0	.0
FREQ(CHL-a>20)	%	25.53	25.72	.0	.0
FREQ(CHL-a>30)	%	9.48	9.58	.0	.0
FREQ(CHL-a>40)	%	3.79	3.84	.0	.0
FREQ(CHL-a>50)	%	1.64	1.66	.0	.0
FREQ(CHL-a>60)	%	.76	.77	.0	.0
CARLSON TSI-P		80.04	80.02	.0	.0
CARLSON TSI-CHLA		57.87	57.91	.0	.0
CARLSON TSI-SEC		44.41	44.71	.0	.0

CASE: Sweet Briar Dam Calibrated Less 25% N & P Loads

HYDRAULIC AND DISPERSION PARAMETERS:

SEG	OUT	INFLOW HM3/YR	NET RESIDENCE TIME YRS	OVERFLOW RATE M/YR	MEAN VELOCITY KM/YR	----DISPERSION----- ESTIMATED KM2/YR	NUMERIC KM2/YR	EXCHANGE RATE HM3/YR
1	0	4.01	.82262	3.9	3.6	0.	5.	0.

CASE: Sweet Briar 2007

GROSS WATER BALANCE:

ID	T	LOCATION	DRAINAGE AREA KM2	---- FLOW (HM3/YR) ---- MEAN	VARIANCE	CV	RUNOFF M/YR
1	1	Northeast	20.720	.110	.000E+00	.000	.005
2	1	Northwest	373.610	1.485	.000E+00	.000	.004
3	1	Bridge	15.540	2.410	.000E+00	.000	.155
4	1	Texas	23.310	.000	.000E+00	.000	.000
5	4	Outlet	433.180	4.414	.000E+00	.000	.010
TRIBUTARY INFLOW			433.180	4.005	.000E+00	.000	.009
***TOTAL INFLOW			434.200	4.005	.000E+00	.000	.009
GAUGED OUTFLOW			433.180	4.414	.000E+00	.000	.010
ADVECTIVE OUTFLOW			1.020	-.409	.000E+00	.000	-.401
***TOTAL OUTFLOW			434.200	4.005	.000E+00	.000	.009

CASE: Sweet Briar Dam Calibrated Less 25% N & P Loads

GROSS MASS BALANCE BASED UPON OBSERVED CONCENTRATIONS
COMPONENT: TOTAL P

ID	T	LOCATION	LOADING KG/YR	LOADING %(I)	VARIANCE KG/YR**2	VARIANCE %(I)	CV	CONC MG/M3	EXPORT KG/KM2
1	1	Northeast	20.1	5.1	.000E+00	.0	.000	183.0	1.0
2	1	Northwest	118.8	30.0	.000E+00	.0	.000	80.0	.3
3	1	Bridge	226.5	57.2	.000E+00	.0	.000	94.0	14.6
4	1	Texas	.0	.0	.000E+00	.0	.000	41.0	.0
5	4	Outlet	490.0	123.7	.000E+00	.0	.000	111.0	1.1
PRECIPITATION			30.6	7.7	.234E+03	100.0	.500	.0	30.0
TRIBUTARY INFLOW			365.5	92.3	.000E+00	.0	.000	91.3	.8
***TOTAL INFLOW			396.1	100.0	.234E+03	100.0	.039	98.9	.9
GAUGED OUTFLOW			851.9	215.1	.000E+00	.0	.000	193.0	2.0
ADVECTIVE OUTFLOW			-78.9	-19.9	.000E+00	.0	.000	193.0	-77.4
***TOTAL OUTFLOW			773.0	195.2	.000E+00	.0	.000	193.0	1.8
***RETENTION			-376.9	-95.2	.234E+03	100.0	.041	.0	.0

OVERFLOW RATE M/YR	HYDRAULIC RESIDENCE TIME YRS	TOTAL P POOL CONC MG/M3	TOTAL P RESIDENCE TIME YRS	TOTAL P TURNOVER RATIO -	TOTAL P RETENTION COEF -
3.93	.8226	193.0	1.6054	.6229	-.9516

GROSS MASS BALANCE BASED UPON OBSERVED CONCENTRATIONS
COMPONENT: TOTAL N

ID	T	LOCATION	LOADING KG/YR	LOADING %(I)	VARIANCE KG/YR**2	VARIANCE %(I)	CV	CONC MG/M3	EXPORT KG/KM2
1	1	Northeast	208.2	4.5	.000E+00	.0	.000	1893.0	10.0
2	1	Northwest	1081.1	23.1	.000E+00	.0	.000	728.0	2.9
3	1	Bridge	2361.8	50.6	.000E+00	.0	.000	980.0	152.0
4	1	Texas	.0	.0	.000E+00	.0	.000	765.0	.0
5	4	Outlet	4758.3	101.9	.000E+00	.0	.000	1078.0	11.0
PRECIPITATION			1020.0	21.8	.260E+06	100.0	.500	.0	1000.0
TRIBUTARY INFLOW			3651.1	78.2	.000E+00	.0	.000	911.6	8.4
***TOTAL INFLOW			4671.1	100.0	.260E+06	100.0	.109	1166.3	10.8
GAUGED OUTFLOW			5129.1	109.8	.000E+00	.0	.000	1162.0	11.8
ADVECTIVE OUTFLOW			-475.3	-10.2	.000E+00	.0	.000	1162.0	-465.9
***TOTAL OUTFLOW			4653.8	99.6	.000E+00	.0	.000	1162.0	10.7
***RETENTION			17.3	.4	.260E+06	100.0	9.999	.0	.0

OVERFLOW RATE M/YR	HYDRAULIC RESIDENCE TIME YRS	TOTAL N POOL CONC MG/M3	TOTAL N RESIDENCE TIME YRS	TOTAL N TURNOVER RATIO -	TOTAL N RETENTION COEF -
3.93	.8226	1162.0	.8196	1.2201	.0037

CASE: Sweet Briar Dam Calibrated Less 25% N & P Loads

T STATISTICS COMPARE OBSERVED AND PREDICTED MEANS
USING THE FOLLOWING ERROR TERMS:
1 = OBSERVED WATER QUALITY ERROR ONLY
2 = ERROR TYPICAL OF MODEL DEVELOPMENT DATA SET
3 = OBSERVED AND PREDICTED ERROR

SEGMENT: 1 Deepest

VARIABLE		OBSERVED MEAN	OBSERVED CV	ESTIMATED MEAN	ESTIMATED CV	RATIO	T STATISTICS 1	T STATISTICS 2	T STATISTICS 3
TOTAL P	MG/M3	193.0	.00	148.2	.45	1.30	.00	.98	.59
TOTAL N	MG/M3	1162.0	.00	929.6	.56	1.25	.00	1.01	.40
C.NUTRIENT	MG/M3	77.3	.00	59.5	.56	1.30	.00	1.30	.47
CHL-A	MG/M3	16.1	.00	15.7	.27	1.03	.00	.07	.10
SECCHI	M	3.0	.00	3.0	.24	1.00	.00	-.01	-.02
ORGANIC N	MG/M3	1136.0	.00	1115.4	.22	1.02	.00	.07	.08
TP-ORTHO-P	MG/M3	168.0	.00	162.3	.33	1.04	.00	.09	.11
HOD-V	MG/M3-DAY	.0	.00	95.1	.20	.00	.00	.00	.00
MOD-V	MG/M3-DAY	.0	.00	91.3	.30	.00	.00	.00	.00

CASE: Sweet Briar 2007

OBSERVED AND PREDICTED DIAGNOSTIC VARIABLES
RANKED AGAINST CE MODEL DEVELOPMENT DATA SET

SEGMENT: 1 Deepest

VARIABLE		VALUES OBSERVED	VALUES ESTIMATED	RANKS (%) OBSERVED	RANKS (%) ESTIMATED
TOTAL P	MG/M3	193.00	148.18	93.9	89.5
TOTAL N	MG/M3	1162.00	929.57	59.2	45.3
C.NUTRIENT	MG/M3	77.28	59.50	83.3	73.8
CHL-A	MG/M3	16.12	15.71	75.9	74.8
SECCHI	M	2.95	2.96	90.7	90.8
ORGANIC N	MG/M3	1136.00	1115.41	95.7	95.3
TP-ORTHO-P	MG/M3	168.00	162.29	96.5	96.2
HOD-V	MG/M3-DAY	.00	95.13	.0	61.2
MOD-V	MG/M3-DAY	.00	91.28	.0	66.1
ANTILOG PC-1		440.35	369.63	67.3	62.3
ANTILOG PC-2		18.09	18.74	97.5	97.9
(N - 150) / P		5.24	5.26	4.2	4.2
INORGANIC N / P		1.04	1.00	.0	.0
TURBIDITY	1/M	.08	.08	1.1	1.1
ZMIX * TURBIDITY		.80	.80	3.9	3.9
ZMIX / SECCHI		3.39	3.38	27.9	27.6
CHL-A * SECCHI		47.55	46.52	98.5	98.4
CHL-A / TOTAL P		.08	.11	9.0	16.7
FREQ(CHL-a>10)	%	67.73	66.23	.0	.0
FREQ(CHL-a>20)	%	25.53	24.21	.0	.0
FREQ(CHL-a>30)	%	9.48	8.79	.0	.0
FREQ(CHL-a>40)	%	3.79	3.46	.0	.0
FREQ(CHL-a>50)	%	1.64	1.47	.0	.0
FREQ(CHL-a>60)	%	.76	.67	.0	.0
CARLSON TSI-P		80.04	76.23	.0	.0
CARLSON TSI-CHLA		57.87	57.62	.0	.0
CARLSON TSI-SEC		44.41	44.36	.0	.0

CASE: Sweet Briar Calibrated Model Less 50% N & P Loads

HYDRAULIC AND DISPERSION PARAMETERS:

SEG	OUT	INFLOW HM3/YR	NET RESIDENCE TIME YRS	OVERFLOW RATE M/YR	MEAN VELOCITY KM/YR	----DISPERSION----- ESTIMATED KM2/YR	NUMERIC KM2/YR	EXCHANGE RATE HM3/YR
1	0	4.01	.82262	3.9	3.6	0.	5.	0.

CASE: Sweet Briar 2007

GROSS WATER BALANCE:

ID	T	LOCATION	DRAINAGE AREA KM2	---- FLOW (HM3/YR) ---- MEAN	VARIANCE	CV	RUNOFF M/YR
1	1	Northeast	20.720	.110	.000E+00	.000	.005
2	1	Northwest	373.610	1.485	.000E+00	.000	.004
3	1	Bridge	15.540	2.410	.000E+00	.000	.155
4	1	Texas	23.310	.000	.000E+00	.000	.000
5	4	Outlet	433.180	4.414	.000E+00	.000	.010
TRIBUTARY INFLOW			433.180	4.005	.000E+00	.000	.009
***TOTAL INFLOW			434.200	4.005	.000E+00	.000	.009
GAUGED OUTFLOW			433.180	4.414	.000E+00	.000	.010
ADVECTIVE OUTFLOW			1.020	-.409	.000E+00	.000	-.401
***TOTAL OUTFLOW			434.200	4.005	.000E+00	.000	.009

CASE: Sweet Briar Calibrated Model Less 50% N & P Loads

GROSS MASS BALANCE BASED UPON OBSERVED CONCENTRATIONS
COMPONENT: TOTAL P

ID	T	LOCATION	LOADING KG/YR	LOADING %(I)	VARIANCE KG/YR**2	VARIANCE %(I)	CV	CONC MG/M3	EXPORT KG/KM2
1	1	Northeast	13.4	4.9	.000E+00	.0	.000	122.0	.6
2	1	Northwest	80.2	29.3	.000E+00	.0	.000	54.0	.2
3	1	Bridge	149.4	54.6	.000E+00	.0	.000	62.0	9.6
4	1	Texas	.0	.0	.000E+00	.0	.000	27.0	.0
5	4	Outlet	490.0	179.1	.000E+00	.0	.000	111.0	1.1
PRECIPITATION			30.6	11.2	.234E+03	100.0	.500	.0	30.0
TRIBUTARY INFLOW			243.0	88.8	.000E+00	.0	.000	60.7	.6
***TOTAL INFLOW			273.6	100.0	.234E+03	100.0	.056	68.3	.6
GAUGED OUTFLOW			851.9	311.3	.000E+00	.0	.000	193.0	2.0
ADVECTIVE OUTFLOW			-78.9	-28.8	.000E+00	.0	.000	193.0	-77.4
***TOTAL OUTFLOW			773.0	282.5	.000E+00	.0	.000	193.0	1.8
***RETENTION			-499.3	-182.5	.234E+03	100.0	.031	.0	.0

OVERFLOW RATE M/YR	HYDRAULIC RESIDENCE TIME YRS	TOTAL P POOL CONC MG/M3	TOTAL P RESIDENCE TIME YRS	TOTAL P TURNOVER RATIO -	TOTAL P RETENTION COEF -
3.93	.8226	193.0	2.3238	.4303	-1.8249

GROSS MASS BALANCE BASED UPON OBSERVED CONCENTRATIONS
COMPONENT: TOTAL N

ID	T	LOCATION	LOADING KG/YR	LOADING %(I)	VARIANCE KG/YR**2	VARIANCE %(I)	CV	CONC MG/M3	EXPORT KG/KM2
1	1	Northeast	138.8	4.0	.000E+00	.0	.000	1262.0	6.7
2	1	Northwest	721.7	20.9	.000E+00	.0	.000	486.0	1.9
3	1	Bridge	1573.7	45.6	.000E+00	.0	.000	653.0	101.3
4	1	Texas	.0	.0	.000E+00	.0	.000	510.0	.0
5	4	Outlet	4758.3	137.8	.000E+00	.0	.000	1078.0	11.0
PRECIPITATION			1020.0	29.5	.260E+06	100.0	.500	.0	1000.0
TRIBUTARY INFLOW			2434.3	70.5	.000E+00	.0	.000	607.8	5.6
***TOTAL INFLOW			3454.3	100.0	.260E+06	100.0	.148	862.5	8.0
GAUGED OUTFLOW			5129.1	148.5	.000E+00	.0	.000	1162.0	11.8
ADVECTIVE OUTFLOW			-475.3	-13.8	.000E+00	.0	.000	1162.0	-465.9
***TOTAL OUTFLOW			4653.8	134.7	.000E+00	.0	.000	1162.0	10.7
***RETENTION			-1199.6	-34.7	.260E+06	100.0	.425	.0	.0

OVERFLOW RATE M/YR	HYDRAULIC RESIDENCE TIME YRS	TOTAL N POOL CONC MG/M3	TOTAL N RESIDENCE TIME YRS	TOTAL N TURNOVER RATIO -	TOTAL N RETENTION COEF -
3.93	.8226	1162.0	1.1083	.9023	-.3473

CASE: Sweet Briar Calibrated Model Less 50% N & P Loads

T STATISTICS COMPARE OBSERVED AND PREDICTED MEANS
USING THE FOLLOWING ERROR TERMS:
1 = OBSERVED WATER QUALITY ERROR ONLY
2 = ERROR TYPICAL OF MODEL DEVELOPMENT DATA SET
3 = OBSERVED AND PREDICTED ERROR

SEGMENT: 1 Deepest

VARIABLE		OBSERVED MEAN	OBSERVED CV	ESTIMATED MEAN	ESTIMATED CV	RATIO	T STATISTICS 1	T STATISTICS 2	T STATISTICS 3
TOTAL P	MG/M3	193.0	.00	102.4	.45	1.89	.00	2.36	1.40
TOTAL N	MG/M3	1162.0	.00	687.4	.57	1.69	.00	2.39	.92
C.NUTRIENT	MG/M3	77.3	.00	41.0	.61	1.88	.00	3.15	1.04
CHL-A	MG/M3	16.1	.00	14.8	.28	1.09	.00	.25	.32
SECCHI	M	3.0	.00	3.1	.24	.95	.00	-.20	-.22
ORGANIC N	MG/M3	1136.0	.00	1069.7	.22	1.06	.00	.24	.27
TP-ORTHO-P	MG/M3	168.0	.00	151.8	.34	1.11	.00	.28	.30
HOD-V	MG/M3-DAY	.0	.00	92.2	.20	.00	.00	.00	.00
MOD-V	MG/M3-DAY	.0	.00	88.5	.30	.00	.00	.00	.00

CASE: Sweet Briar 2007

OBSERVED AND PREDICTED DIAGNOSTIC VARIABLES
RANKED AGAINST CE MODEL DEVELOPMENT DATA SET

SEGMENT: 1 Deepest

VARIABLE		VALUES OBSERVED	VALUES ESTIMATED	RANKS (%) OBSERVED	RANKS (%) ESTIMATED
TOTAL P	MG/M3	193.00	102.37	93.9	80.1
TOTAL N	MG/M3	1162.00	687.41	59.2	27.8
C.NUTRIENT	MG/M3	77.28	41.03	83.3	56.9
CHL-A	MG/M3	16.12	14.77	75.9	72.2
SECCHI	M	2.95	3.12	90.7	91.8
ORGANIC N	MG/M3	1136.00	1069.74	95.7	94.5
TP-ORTHO-P	MG/M3	168.00	151.79	96.5	95.6
HOD-V	MG/M3-DAY	.00	92.25	.0	59.6
MOD-V	MG/M3-DAY	.00	88.52	.0	64.5
ANTILOG PC-1		440.35	276.64	67.3	53.7
ANTILOG PC-2		18.09	19.93	97.5	98.4
(N - 150) / P		5.24	5.25	4.2	4.2
INORGANIC N / P		1.04	1.00	.0	.0
TURBIDITY	1/M	.08	.08	1.1	1.1
ZMIX * TURBIDITY		.80	.80	3.9	3.9
ZMIX / SECCHI		3.39	3.21	27.9	24.8
CHL-A * SECCHI		47.55	46.03	98.5	98.3
CHL-A / TOTAL P		.08	.14	9.0	31.5
FREQ(CHL-a>10)	%	67.73	62.54	.0	.0
FREQ(CHL-a>20)	%	25.53	21.23	.0	.0
FREQ(CHL-a>30)	%	9.48	7.32	.0	.0
FREQ(CHL-a>40)	%	3.79	2.77	.0	.0
FREQ(CHL-a>50)	%	1.64	1.14	.0	.0
FREQ(CHL-a>60)	%	.76	.51	.0	.0
CARLSON TSI-P		80.04	70.89	.0	.0
CARLSON TSI-CHLA		57.87	57.02	.0	.0
CARLSON TSI-SEC		44.41	43.62	.0	.0

CASE: Sweet Briar Dam Calibrated Less 75% N and P Loads

HYDRAULIC AND DISPERSION PARAMETERS:

SEG	OUT	INFLOW HM3/YR	NET RESIDENCE TIME YRS	OVERFLOW RATE M/YR	MEAN VELOCITY KM/YR	----DISPERSION----- ESTIMATED KM2/YR	NUMERIC KM2/YR	EXCHANGE RATE HM3/YR
1	0	4.01	.82262	3.9	3.6	0.	5.	0.

CASE: Sweet Briar 2007

GROSS WATER BALANCE:

ID	T	LOCATION	DRAINAGE AREA KM2	---- FLOW (HM3/YR) ---- MEAN	VARIANCE	CV	RUNOFF M/YR
1	1	Northeast	20.720	.110	.000E+00	.000	.005
2	1	Northwest	373.610	1.485	.000E+00	.000	.004
3	1	Bridge	15.540	2.410	.000E+00	.000	.155
4	1	Texas	23.310	.000	.000E+00	.000	.000
5	4	Outlet	433.180	4.414	.000E+00	.000	.010
TRIBUTARY INFLOW			433.180	4.005	.000E+00	.000	.009
***TOTAL INFLOW			434.200	4.005	.000E+00	.000	.009
GAUGED OUTFLOW			433.180	4.414	.000E+00	.000	.010
ADVECTIVE OUTFLOW			1.020	-.409	.000E+00	.000	-.401
***TOTAL OUTFLOW			434.200	4.005	.000E+00	.000	.009

CASE: Sweet Briar Dam Calibrated Less 75% N and P Loads

GROSS MASS BALANCE BASED UPON OBSERVED CONCENTRATIONS
COMPONENT: TOTAL P

ID	T	LOCATION	LOADING KG/YR	LOADING %(I)	VARIANCE KG/YR**2	VARIANCE %(I)	CV	CONC MG/M3	EXPORT KG/KM2
1	1	Northeast	6.7	4.4	.000E+00	.0	.000	61.0	.3
2	1	Northwest	40.1	26.4	.000E+00	.0	.000	27.0	.1
3	1	Bridge	74.7	49.1	.000E+00	.0	.000	31.0	4.8
4	1	Texas	.0	.0	.000E+00	.0	.000	14.0	.0
5	4	Outlet	490.0	322.1	.000E+00	.0	.000	111.0	1.1
PRECIPITATION			30.6	20.1	.234E+03	100.0	.500	.0	30.0
TRIBUTARY INFLOW			121.5	79.9	.000E+00	.0	.000	30.3	.3
***TOTAL INFLOW			152.1	100.0	.234E+03	100.0	.101	38.0	.4
GAUGED OUTFLOW			851.9	560.0	.000E+00	.0	.000	193.0	2.0
ADVECTIVE OUTFLOW			-78.9	-51.9	.000E+00	.0	.000	193.0	-77.4
***TOTAL OUTFLOW			773.0	508.1	.000E+00	.0	.000	193.0	1.8
***RETENTION			-620.8	-408.1	.234E+03	100.0	.025	.0	.0

OVERFLOW RATE M/YR	HYDRAULIC RESIDENCE TIME YRS	TOTAL P POOL CONC MG/M3	TOTAL P RESIDENCE TIME YRS	TOTAL P TURNOVER RATIO -	TOTAL P RETENTION COEF -
3.93	.8226	193.0	4.1801	.2392	-4.0815

GROSS MASS BALANCE BASED UPON OBSERVED CONCENTRATIONS
COMPONENT: TOTAL N

ID	T	LOCATION	LOADING KG/YR	LOADING %(I)	VARIANCE KG/YR**2	VARIANCE %(I)	CV	CONC MG/M3	EXPORT KG/KM2
1	1	Northeast	69.4	3.1	.000E+00	.0	.000	631.0	3.3
2	1	Northwest	360.9	16.1	.000E+00	.0	.000	243.0	1.0
3	1	Bridge	788.1	35.2	.000E+00	.0	.000	327.0	50.7
4	1	Texas	.0	.0	.000E+00	.0	.000	255.0	.0
5	4	Outlet	4758.3	212.6	.000E+00	.0	.000	1078.0	11.0
PRECIPITATION			1020.0	45.6	.260E+06	100.0	.500	.0	1000.0
TRIBUTARY INFLOW			1218.3	54.4	.000E+00	.0	.000	304.2	2.8
***TOTAL INFLOW			2238.3	100.0	.260E+06	100.0	.228	558.9	5.2
GAUGED OUTFLOW			5129.1	229.1	.000E+00	.0	.000	1162.0	11.8
ADVECTIVE OUTFLOW			-475.3	-21.2	.000E+00	.0	.000	1162.0	-465.9
***TOTAL OUTFLOW			4653.8	207.9	.000E+00	.0	.000	1162.0	10.7
***RETENTION			-2415.5	-107.9	.260E+06	100.0	.211	.0	.0

OVERFLOW RATE M/YR	HYDRAULIC RESIDENCE TIME YRS	TOTAL N POOL CONC MG/M3	TOTAL N RESIDENCE TIME YRS	TOTAL N TURNOVER RATIO -	TOTAL N RETENTION COEF -
3.93	.8226	1162.0	1.7103	.5847	-1.0791

CASE: Sweet Briar Dam Calibrated Less 75% N and P Loads

T STATISTICS COMPARE OBSERVED AND PREDICTED MEANS
USING THE FOLLOWING ERROR TERMS:
1 = OBSERVED WATER QUALITY ERROR ONLY
2 = ERROR TYPICAL OF MODEL DEVELOPMENT DATA SET
3 = OBSERVED AND PREDICTED ERROR

SEGMENT: 1 Deepest

VARIABLE		OBSERVED MEAN	OBSERVED CV	ESTIMATED MEAN	ESTIMATED CV	RATIO	T STATISTICS 1	T STATISTICS 2	T STATISTICS 3
TOTAL P	MG/M3	193.0	.00	56.9	.46	3.39	.00	4.54	2.65
TOTAL N	MG/M3	1162.0	.00	445.4	.60	2.61	.00	4.36	1.61
C.NUTRIENT	MG/M3	77.3	.00	22.6	.75	3.42	.00	6.12	1.64
CHL-A	MG/M3	16.1	.00	12.5	.31	1.29	.00	.74	.82
SECCHI	M	3.0	.00	3.6	.26	.83	.00	-.69	-.73
ORGANIC N	MG/M3	1136.0	.00	957.1	.23	1.19	.00	.69	.74
TP-ORTHO-P	MG/M3	168.0	.00	125.9	.38	1.33	.00	.79	.76
HOD-V	MG/M3-DAY	.0	.00	84.7	.22	.00	.00	.00	.00
MOD-V	MG/M3-DAY	.0	.00	81.3	.31	.00	.00	.00	.00

CASE: Sweet Briar 2007

OBSERVED AND PREDICTED DIAGNOSTIC VARIABLES
RANKED AGAINST CE MODEL DEVELOPMENT DATA SET

SEGMENT: 1 Deepest

VARIABLE		VALUES OBSERVED	VALUES ESTIMATED	RANKS (%) OBSERVED	RANKS (%) ESTIMATED
TOTAL P	MG/M3	193.00	56.91	93.9	57.6
TOTAL N	MG/M3	1162.00	445.44	59.2	10.3
C.NUTRIENT	MG/M3	77.28	22.60	83.3	28.4
CHL-A	MG/M3	16.12	12.47	75.9	64.4
SECCHI	M	2.95	3.57	90.7	94.2
ORGANIC N	MG/M3	1136.00	957.13	95.7	91.6
TP-ORTHO-P	MG/M3	168.00	125.91	96.5	93.4
HOD-V	MG/M3-DAY	.00	84.74	.0	55.1
MOD-V	MG/M3-DAY	.00	81.31	.0	59.9
ANTILOG PC-1		440.35	160.10	67.3	37.3
ANTILOG PC-2		18.09	21.59	97.5	98.9
(N - 150) / P		5.24	5.19	4.2	4.1
INORGANIC N / P		1.04	1.00	.0	.0
TURBIDITY	1/M	.08	.08	1.1	1.1
ZMIX * TURBIDITY		.80	.80	3.9	3.9
ZMIX / SECCHI		3.39	2.80	27.9	18.0
CHL-A * SECCHI		47.55	44.56	98.5	98.1
CHL-A / TOTAL P		.08	.22	9.0	56.9
FREQ(CHL-a>10)	%	67.73	51.83	.0	.0
FREQ(CHL-a>20)	%	25.53	14.17	.0	.0
FREQ(CHL-a>30)	%	9.48	4.21	.0	.0
FREQ(CHL-a>40)	%	3.79	1.43	.0	.0
FREQ(CHL-a>50)	%	1.64	.54	.0	.0
FREQ(CHL-a>60)	%	.76	.22	.0	.0
CARLSON TSI-P		80.04	62.43	.0	.0
CARLSON TSI-CHLA		57.87	55.35	.0	.0
CARLSON TSI-SEC		44.41	41.64	.0	.0

Appendix C
Water Quality Data Collected in Support of the Sweet Briar Dam TMDL Development Project (2004-2005)

Sweet Briar Dam (Deepest Area) Water Quality Data for 2004-2005

SITE ID	LOCATION	DEPTH	DATE COLLECT	TIME COLLECT	ANALYTE NAME	RESULT	DETECT LIMIT	UNIT
380620	Sweetbriar Dam - Deepest	0.923	10/21/2004	12:30	Chlor A	23.5		ug/L
380620	Sweetbriar Dam - Deepest	1	10/21/2004	12:30	Diss P	0.090		mg/L
380620	Sweetbriar Dam - Deepest	1	10/21/2004	12:30	N (Total)	1.01		mg/L
380620	Sweetbriar Dam - Deepest	1	10/21/2004	12:30	NH3-N	*Non-detect	0.010	mg/L
380620	Sweetbriar Dam - Deepest	1	10/21/2004	12:30	NO3+NO2	*Non-detect	0.02	mg/L
380620	Sweetbriar Dam - Deepest	1	10/21/2004	12:30	P (Total)	0.107		mg/L
380620	Sweetbriar Dam - Deepest	1	10/21/2004	12:30	TKN	0.990		mg/L
380620	Sweetbriar Dam - Deepest	4	10/21/2004	12:30	Diss P	0.087		mg/L
380620	Sweetbriar Dam - Deepest	4	10/21/2004	12:30	N (Total)	1.05		mg/L
380620	Sweetbriar Dam - Deepest	4	10/21/2004	12:30	NH3-N	0.016		mg/L
380620	Sweetbriar Dam - Deepest	4	10/21/2004	12:30	NO3+NO2	0.02		mg/L
380620	Sweetbriar Dam - Deepest	4	10/21/2004	12:30	P (Total)	0.121		mg/L
380620	Sweetbriar Dam - Deepest	4	10/21/2004	12:30	TKN	1.03		mg/L
380620	Sweetbriar Dam - Deepest	7	10/21/2004	12:30	Diss P	0.103		mg/L
380620	Sweetbriar Dam - Deepest	7	10/21/2004	12:30	N (Total)	1.05		mg/L
380620	Sweetbriar Dam - Deepest	7	10/21/2004	12:30	NH3-N	*Non-detect	0.010	mg/L
380620	Sweetbriar Dam - Deepest	7	10/21/2004	12:30	NO3+NO2	0.02		mg/L
380620	Sweetbriar Dam - Deepest	7	10/21/2004	12:30	P (Total)	0.118		mg/L
380620	Sweetbriar Dam - Deepest	7	10/21/2004	12:30	TKN	1.03		mg/L
380620	Sweetbriar Dam - Deepest	1	11/11/2004	13:30	Diss P	0.098		mg/L
380620	Sweetbriar Dam - Deepest	1	11/11/2004	13:30	N (Total)	1.08		mg/L
380620	Sweetbriar Dam - Deepest	1	11/11/2004	13:30	NH3-N	0.075		mg/L
380620	Sweetbriar Dam - Deepest	1	11/11/2004	13:30	NO3+NO2	0.03		mg/L
380620	Sweetbriar Dam - Deepest	1	11/11/2004	13:30	P (Total)	0.093		mg/L
380620	Sweetbriar Dam - Deepest	1	11/11/2004	13:30	TKN	1.05		mg/L
380620	Sweetbriar Dam - Deepest	4	11/11/2004	13:30	Diss P	0.063		mg/L
380620	Sweetbriar Dam - Deepest	4	11/11/2004	13:30	N (Total)	1.03		mg/L
380620	Sweetbriar Dam - Deepest	4	11/11/2004	13:30	NH3-N	0.048		mg/L
380620	Sweetbriar Dam - Deepest	4	11/11/2004	13:30	NO3+NO2	0.04		mg/L
380620	Sweetbriar Dam - Deepest	4	11/11/2004	13:30	P (Total)	0.085		mg/L
380620	Sweetbriar Dam - Deepest	4	11/11/2004	13:30	TKN	0.990		mg/L
380620	Sweetbriar Dam - Deepest	7	11/11/2004	13:30	Diss P	0.063		mg/L
380620	Sweetbriar Dam - Deepest	7	11/11/2004	13:30	N (Total)	0.943		mg/L
380620	Sweetbriar Dam - Deepest	7	11/11/2004	13:30	NH3-N	0.016		mg/L
380620	Sweetbriar Dam - Deepest	7	11/11/2004	13:30	NO3+NO2	0.03		mg/L
380620	Sweetbriar Dam - Deepest	7	11/11/2004	13:30	P (Total)	0.107		mg/L
380620	Sweetbriar Dam - Deepest	7	11/11/2004	13:30	TKN	0.913		mg/L
380620	Sweetbriar Dam - Deepest	1	12/28/2004	11:30	Diss P	0.092		mg/L
380620	Sweetbriar Dam - Deepest	1	12/28/2004	11:30	N (Total)	1.04		mg/L
380620	Sweetbriar Dam - Deepest	1	12/28/2004	11:30	NH3-N	0.022		mg/L
380620	Sweetbriar Dam - Deepest	1	12/28/2004	11:30	NO3+NO2	0.04		mg/L
380620	Sweetbriar Dam - Deepest	1	12/28/2004	11:30	P (Total)	0.082		mg/L
380620	Sweetbriar Dam - Deepest	1	12/28/2004	11:30	TKN	1.00		mg/L
380620	Sweetbriar Dam - Deepest	4	12/28/2004	11:30	Diss P	0.056		mg/L
380620	Sweetbriar Dam - Deepest	4	12/28/2004	11:30	N (Total)	1.03		mg/L
380620	Sweetbriar Dam - Deepest	4	12/28/2004	11:30	NH3-N	0.044		mg/L
380620	Sweetbriar Dam - Deepest	4	12/28/2004	11:30	NO3+NO2	0.04		mg/L
380620	Sweetbriar Dam - Deepest	4	12/28/2004	11:30	P (Total)	0.061		mg/L
380620	Sweetbriar Dam - Deepest	4	12/28/2004	11:30	TKN	0.990		mg/L
380620	Sweetbriar Dam - Deepest	7	12/28/2004	11:30	Diss P	0.059		mg/L

SITE ID	LOCATION	DEPTH	DATE COLLECT	TIME COLLECT	ANALYTE NAME	RESULT	DETECT LIMIT	UNIT
380620	Sweetbriar Dam - Deepest	7	12/28/2004	11:30	N (Total)	1.33		mg/L
380620	Sweetbriar Dam - Deepest	7	12/28/2004	11:30	NH3-N	*Non-detect	0.010	mg/L
380620	Sweetbriar Dam - Deepest	7	12/28/2004	11:30	NO3+NO2	0.51		mg/L
380620	Sweetbriar Dam - Deepest	7	12/28/2004	11:30	P (Total)	0.073		mg/L
380620	Sweetbriar Dam - Deepest	7	12/28/2004	11:30	TKN	0.820		mg/L
380620	Sweetbriar Dam - Deepest	1	1/18/2005	10:30	Diss P	0.054		mg/L
380620	Sweetbriar Dam - Deepest	1	1/18/2005	10:30	N (Total)	1.14		mg/L
380620	Sweetbriar Dam - Deepest	1	1/18/2005	10:30	NH3-N	0.071		mg/L
380620	Sweetbriar Dam - Deepest	1	1/18/2005	10:30	NO3+NO2	0.03		mg/L
380620	Sweetbriar Dam - Deepest	1	1/18/2005	10:30	P (Total)	0.086		mg/L
380620	Sweetbriar Dam - Deepest	1	1/18/2005	10:30	TKN	1.11		mg/L
380620	Sweetbriar Dam - Deepest	4	1/18/2005	10:30	Diss P	0.061		mg/L
380620	Sweetbriar Dam - Deepest	4	1/18/2005	10:30	N (Total)	1.11		mg/L
380620	Sweetbriar Dam - Deepest	4	1/18/2005	10:30	NH3-N	0.065		mg/L
380620	Sweetbriar Dam - Deepest	4	1/18/2005	10:30	NO3+NO2	0.04		mg/L
380620	Sweetbriar Dam - Deepest	4	1/18/2005	10:30	P (Total)	0.078		mg/L
380620	Sweetbriar Dam - Deepest	4	1/18/2005	10:30	TKN	1.07		mg/L
380620	Sweetbriar Dam - Deepest	7	1/18/2005	10:30	Diss P	0.063		mg/L
380620	Sweetbriar Dam - Deepest	7	1/18/2005	10:30	N (Total)	1.15		mg/L
380620	Sweetbriar Dam - Deepest	7	1/18/2005	10:30	NH3-N	0.088		mg/L
380620	Sweetbriar Dam - Deepest	7	1/18/2005	10:30	NO3+NO2	0.08		mg/L
380620	Sweetbriar Dam - Deepest	7	1/18/2005	10:30	P (Total)	0.091		mg/L
380620	Sweetbriar Dam - Deepest	7	1/18/2005	10:30	TKN	1.07		mg/L
380620	Sweetbriar Dam - Deepest	1	2/8/2005	11:45	Diss P	0.070		mg/L
380620	Sweetbriar Dam - Deepest	1	2/8/2005	11:45	N (Total)	1.13		mg/L
380620	Sweetbriar Dam - Deepest	1	2/8/2005	11:45	NH3-N	0.076		mg/L
380620	Sweetbriar Dam - Deepest	1	2/8/2005	11:45	NO3+NO2	0.04		mg/L
380620	Sweetbriar Dam - Deepest	1	2/8/2005	11:45	P (Total)	0.087		mg/L
380620	Sweetbriar Dam - Deepest	1	2/8/2005	11:45	TKN	1.09		mg/L
380620	Sweetbriar Dam - Deepest	4	2/8/2005	12:00	Diss P	0.062		mg/L
380620	Sweetbriar Dam - Deepest	4	2/8/2005	12:00	N (Total)	1.12		mg/L
380620	Sweetbriar Dam - Deepest	4	2/8/2005	12:00	NH3-N	0.064		mg/L
380620	Sweetbriar Dam - Deepest	4	2/8/2005	12:00	NO3+NO2	0.03		mg/L
380620	Sweetbriar Dam - Deepest	4	2/8/2005	12:00	P (Total)	0.090		mg/L
380620	Sweetbriar Dam - Deepest	4	2/8/2005	12:00	TKN	1.09		mg/L
380620	Sweetbriar Dam - Deepest	7	2/8/2005	12:15	Diss P	0.075		mg/L
380620	Sweetbriar Dam - Deepest	7	2/8/2005	12:15	N (Total)	1.13		mg/L
380620	Sweetbriar Dam - Deepest	7	2/8/2005	12:15	NH3-N	0.060		mg/L
380620	Sweetbriar Dam - Deepest	7	2/8/2005	12:15	NO3+NO2	0.04		mg/L
380620	Sweetbriar Dam - Deepest	7	2/8/2005	12:15	P (Total)	0.085		mg/L
380620	Sweetbriar Dam - Deepest	7	2/8/2005	12:15	TKN	1.09		mg/L
380620	Sweetbriar Dam - Deepest	1	3/9/2005	11:00	Diss P	0.060		mg/L
380620	Sweetbriar Dam - Deepest	1	3/9/2005	11:00	N (Total)	0.901		mg/L
380620	Sweetbriar Dam - Deepest	1	3/9/2005	11:00	NH3-N	*Non-detect	0.010	mg/L
380620	Sweetbriar Dam - Deepest	1	3/9/2005	11:00	NO3+NO2	*Non-detect	0.02	mg/L
380620	Sweetbriar Dam - Deepest	1	3/9/2005	11:00	P (Total)	0.068		mg/L
380620	Sweetbriar Dam - Deepest	1	3/9/2005	11:00	TKN	0.881		mg/L
380620	Sweetbriar Dam - Deepest	4	3/9/2005	11:00	Diss P	0.055		mg/L
380620	Sweetbriar Dam - Deepest	4	3/9/2005	11:00	N (Total)	1.03		mg/L
380620	Sweetbriar Dam - Deepest	4	3/9/2005	11:00	NH3-N	*Non-detect	0.010	mg/L
380620	Sweetbriar Dam - Deepest	4	3/9/2005	11:00	NO3+NO2	*Non-detect	0.02	mg/L
380620	Sweetbriar Dam - Deepest	4	3/9/2005	11:00	P (Total)	0.068		mg/L

SITE ID	LOCATION	DEPTH	DATE COLLECT	TIME COLLECT	ANALYTE NAME	RESULT	DETECT LIMIT	UNIT
380620	Sweetbriar Dam - Deepest	4	3/9/2005	11:00	TKN	1.01		mg/L
380620	Sweetbriar Dam - Deepest	7	3/9/2005	11:00	Diss P	0.051		mg/L
380620	Sweetbriar Dam - Deepest	7	3/9/2005	11:00	N (Total)	0.902		mg/L
380620	Sweetbriar Dam - Deepest	7	3/9/2005	11:00	NH3-N	*Non-detect	0.010	mg/L
380620	Sweetbriar Dam - Deepest	7	3/9/2005	11:00	NO3+NO2	*Non-detect	0.02	mg/L
380620	Sweetbriar Dam - Deepest	7	3/9/2005	11:00	P (Total)	0.071		mg/L
380620	Sweetbriar Dam - Deepest	7	3/9/2005	11:00	TKN	0.882		mg/L
380620	Sweetbriar Dam - Deepest	1	4/18/2005	15:10	Diss P	0.025		mg/L
380620	Sweetbriar Dam - Deepest	1	4/18/2005	15:10	N (Total)	0.880		mg/L
380620	Sweetbriar Dam - Deepest	1	4/18/2005	15:10	NH3-N	0.064		mg/L
380620	Sweetbriar Dam - Deepest	1	4/18/2005	15:10	NO3+NO2	*Non-detect	0.02	mg/L
380620	Sweetbriar Dam - Deepest	1	4/18/2005	15:10	P (Total)	0.049		mg/L
380620	Sweetbriar Dam - Deepest	1	4/18/2005	15:10	TKN	0.860		mg/L
380620	Sweetbriar Dam - Deepest	4	4/18/2005	15:25	Diss P	0.026		mg/L
380620	Sweetbriar Dam - Deepest	4	4/18/2005	15:25	N (Total)	0.846		mg/L
380620	Sweetbriar Dam - Deepest	4	4/18/2005	15:25	NH3-N	*Non-detect	0.010	mg/L
380620	Sweetbriar Dam - Deepest	4	4/18/2005	15:25	NO3+NO2	*Non-detect	0.02	mg/L
380620	Sweetbriar Dam - Deepest	4	4/18/2005	15:25	P (Total)	0.052		mg/L
380620	Sweetbriar Dam - Deepest	4	4/18/2005	15:25	TKN	0.826		mg/L
380620	Sweetbriar Dam - Deepest	7	4/18/2005	15:40	Diss P	0.029		mg/L
380620	Sweetbriar Dam - Deepest	7	4/18/2005	15:40	N (Total)	0.827		mg/L
380620	Sweetbriar Dam - Deepest	7	4/18/2005	15:40	NH3-N	*Non-detect	0.010	mg/L
380620	Sweetbriar Dam - Deepest	7	4/18/2005	15:40	NO3+NO2	0.02		mg/L
380620	Sweetbriar Dam - Deepest	7	4/18/2005	15:40	P (Total)	0.062		mg/L
380620	Sweetbriar Dam - Deepest	7	4/18/2005	15:40	TKN	0.807		mg/L
380620	Sweetbriar Dam - Deepest	0.923	5/15/2005	11:30	Chlor A	*Non-detect	12.0	ug/L
380620	Sweetbriar Dam - Deepest	1	5/15/2005	11:30	Diss P	0.044		mg/L
380620	Sweetbriar Dam - Deepest	1	5/15/2005	11:30	N (Total)	0.846		mg/L
380620	Sweetbriar Dam - Deepest	1	5/15/2005	11:30	NH3-N	*Non-detect	0.010	mg/L
380620	Sweetbriar Dam - Deepest	1	5/15/2005	11:30	NO3+NO2	*Non-detect	0.02	mg/L
380620	Sweetbriar Dam - Deepest	1	5/15/2005	11:30	P (Total)	0.059		mg/L
380620	Sweetbriar Dam - Deepest	1	5/15/2005	11:30	TKN	0.826		mg/L
380620	Sweetbriar Dam - Deepest	3	5/15/2005	11:30	Diss P	0.042		mg/L
380620	Sweetbriar Dam - Deepest	3	5/15/2005	11:30	N (Total)	0.857		mg/L
380620	Sweetbriar Dam - Deepest	3	5/15/2005	11:30	NH3-N	*Non-detect	0.010	mg/L
380620	Sweetbriar Dam - Deepest	3	5/15/2005	11:30	NO3+NO2	*Non-detect	0.02	mg/L
380620	Sweetbriar Dam - Deepest	3	5/15/2005	11:30	P (Total)	0.061		mg/L
380620	Sweetbriar Dam - Deepest	3	5/15/2005	11:30	TKN	0.837		mg/L
380620	Sweetbriar Dam - Deepest	7	5/15/2005	11:30	Diss P	0.043		mg/L
380620	Sweetbriar Dam - Deepest	7	5/15/2005	11:30	N (Total)	0.855		mg/L
380620	Sweetbriar Dam - Deepest	7	5/15/2005	11:30	NH3-N	*Non-detect	0.010	mg/L
380620	Sweetbriar Dam - Deepest	7	5/15/2005	11:30	NO3+NO2	*Non-detect	0.02	mg/L
380620	Sweetbriar Dam - Deepest	7	5/15/2005	11:30	P (Total)	0.059		mg/L
380620	Sweetbriar Dam - Deepest	7	5/15/2005	11:30	TKN	0.835		mg/L
380620	Sweetbriar Dam - Deepest	0.923	5/23/2005	18:55	Chlor A	*Non-detect	6.00	ug/L
380620	Sweetbriar Dam - Deepest	1	5/23/2005	18:30	Diss P	0.048		mg/L
380620	Sweetbriar Dam - Deepest	1	5/23/2005	18:30	N (Total)	0.877		mg/L
380620	Sweetbriar Dam - Deepest	1	5/23/2005	18:30	NH3-N	*Non-detect	0.010	mg/L
380620	Sweetbriar Dam - Deepest	1	5/23/2005	18:30	NO3+NO2	0.02		mg/L
380620	Sweetbriar Dam - Deepest	1	5/23/2005	18:30	P (Total)	0.050		mg/L
380620	Sweetbriar Dam - Deepest	1	5/23/2005	18:30	TKN	0.857		mg/L
380620	Sweetbriar Dam - Deepest	4	5/23/2005	18:40	Diss P	0.038		mg/L

SITE ID	LOCATION	DEPTH	DATE COLLECT	TIME COLLECT	ANALYTE NAME	RESULT	DETECT LIMIT	UNIT
380620	Sweetbriar Dam - Deepest	4	5/23/2005	18:40	N (Total)	0.829		mg/L
380620	Sweetbriar Dam - Deepest	4	5/23/2005	18:40	NH3-N	*Non-detect	0.010	mg/L
380620	Sweetbriar Dam - Deepest	4	5/23/2005	18:40	NO3+NO2	*Non-detect	0.02	mg/L
380620	Sweetbriar Dam - Deepest	4	5/23/2005	18:40	P (Total)	0.045		mg/L
380620	Sweetbriar Dam - Deepest	4	5/23/2005	18:40	TKN	0.809		mg/L
380620	Sweetbriar Dam - Deepest	6	5/23/2005	18:50	Diss P	0.037		mg/L
380620	Sweetbriar Dam - Deepest	6	5/23/2005	18:50	N (Total)	0.798		mg/L
380620	Sweetbriar Dam - Deepest	6	5/23/2005	18:50	NH3-N	*Non-detect	0.010	mg/L
380620	Sweetbriar Dam - Deepest	6	5/23/2005	18:50	NO3+NO2	*Non-detect	0.02	mg/L
380620	Sweetbriar Dam - Deepest	6	5/23/2005	18:50	P (Total)	0.052		mg/L
380620	Sweetbriar Dam - Deepest	6	5/23/2005	18:50	TKN	0.778		mg/L
380620	Sweetbriar Dam - Deepest	0.923	6/6/2005	10:20	Chlor A	*Non-detect	4.28	ug/L
380620	Sweetbriar Dam - Deepest	1	6/6/2005	10:30	Diss P	0.055		mg/L
380620	Sweetbriar Dam - Deepest	1	6/6/2005	10:30	N (Total)	0.886		mg/L
380620	Sweetbriar Dam - Deepest	1	6/6/2005	10:30	NH3-N	*Non-detect	0.010	mg/L
380620	Sweetbriar Dam - Deepest	1	6/6/2005	10:30	NO3+NO2	0.02		mg/L
380620	Sweetbriar Dam - Deepest	1	6/6/2005	10:30	P (Total)	0.074		mg/L
380620	Sweetbriar Dam - Deepest	1	6/6/2005	10:30	TKN	0.866		mg/L
380620	Sweetbriar Dam - Deepest	3	6/6/2005	10:40	Diss P	0.057		mg/L
380620	Sweetbriar Dam - Deepest	3	6/6/2005	10:40	N (Total)	0.880		mg/L
380620	Sweetbriar Dam - Deepest	3	6/6/2005	10:40	NH3-N	*Non-detect	0.010	mg/L
380620	Sweetbriar Dam - Deepest	3	6/6/2005	10:40	NO3+NO2	*Non-detect	0.02	mg/L
380620	Sweetbriar Dam - Deepest	3	6/6/2005	10:40	P (Total)	0.078		mg/L
380620	Sweetbriar Dam - Deepest	3	6/6/2005	10:40	TKN	0.860		mg/L
380620	Sweetbriar Dam - Deepest	6	6/6/2005	11:00	Diss P	0.092		mg/L
380620	Sweetbriar Dam - Deepest	6	6/6/2005	11:00	N (Total)	1.09		mg/L
380620	Sweetbriar Dam - Deepest	6	6/6/2005	11:00	NH3-N	0.075		mg/L
380620	Sweetbriar Dam - Deepest	6	6/6/2005	11:00	NO3+NO2	0.02		mg/L
380620	Sweetbriar Dam - Deepest	6	6/6/2005	11:00	P (Total)	0.148		mg/L
380620	Sweetbriar Dam - Deepest	6	6/6/2005	11:00	TKN	1.07		mg/L
380620	Sweetbriar Dam - Deepest	0.923	6/23/2005	10:00	Chlor A	5.60		ug/L
380620	Sweetbriar Dam - Deepest	1	6/23/2005	10:00	Diss P	0.133		mg/L
380620	Sweetbriar Dam - Deepest	1	6/23/2005	10:00	N (Total)	0.891		mg/L
380620	Sweetbriar Dam - Deepest	1	6/23/2005	10:00	NH3-N	*Non-detect	0.010	mg/L
380620	Sweetbriar Dam - Deepest	1	6/23/2005	10:00	NO3+NO2	*Non-detect	0.02	mg/L
380620	Sweetbriar Dam - Deepest	1	6/23/2005	10:00	P (Total)	0.155		mg/L
380620	Sweetbriar Dam - Deepest	1	6/23/2005	10:00	TKN	0.871		mg/L
380620	Sweetbriar Dam - Deepest	3	6/23/2005	10:00	Diss P	0.133		mg/L
380620	Sweetbriar Dam - Deepest	3	6/23/2005	10:00	N (Total)	0.899		mg/L
380620	Sweetbriar Dam - Deepest	3	6/23/2005	10:00	NH3-N	*Non-detect	0.010	mg/L
380620	Sweetbriar Dam - Deepest	3	6/23/2005	10:00	NO3+NO2	0.02		mg/L
380620	Sweetbriar Dam - Deepest	3	6/23/2005	10:00	P (Total)	0.156		mg/L
380620	Sweetbriar Dam - Deepest	3	6/23/2005	10:00	TKN	0.879		mg/L
380620	Sweetbriar Dam - Deepest	6	6/23/2005	10:00	Diss P	0.294		mg/L
380620	Sweetbriar Dam - Deepest	6	6/23/2005	10:00	N (Total)	1.73		mg/L
380620	Sweetbriar Dam - Deepest	6	6/23/2005	10:00	NH3-N	0.236		mg/L
380620	Sweetbriar Dam - Deepest	6	6/23/2005	10:00	NO3+NO2	0.04		mg/L
380620	Sweetbriar Dam - Deepest	6	6/23/2005	10:00	P (Total)	0.347		mg/L
380620	Sweetbriar Dam - Deepest	6	6/23/2005	10:00	TKN	1.69		mg/L
380620	Sweetbriar Dam - Deepest	0.923	7/4/2005	10:00	Chlor A	24.8		ug/L
380620	Sweetbriar Dam - Deepest	1	7/4/2005	9:30	Diss P	0.261		mg/L
380620	Sweetbriar Dam - Deepest	1	7/4/2005	9:30	N (Total)	1.28		mg/L

SITE ID	LOCATION	DEPTH	DATE COLLECT	TIME COLLECT	ANALYTE NAME	RESULT	DETECT LIMIT	UNIT
380620	Sweetbriar Dam - Deepest	1	7/4/2005	9:30	NH3-N	0.033		mg/L
380620	Sweetbriar Dam - Deepest	1	7/4/2005	9:30	NO3+NO2	0.02		mg/L
380620	Sweetbriar Dam - Deepest	1	7/4/2005	9:30	P (Total)	0.322		mg/L
380620	Sweetbriar Dam - Deepest	1	7/4/2005	9:30	TKN	1.26		mg/L
380620	Sweetbriar Dam - Deepest	3	7/4/2005	9:40	Diss P	0.258		mg/L
380620	Sweetbriar Dam - Deepest	3	7/4/2005	9:40	N (Total)	1.32		mg/L
380620	Sweetbriar Dam - Deepest	3	7/4/2005	9:40	NH3-N	0.014		mg/L
380620	Sweetbriar Dam - Deepest	3	7/4/2005	9:40	NO3+NO2	0.02		mg/L
380620	Sweetbriar Dam - Deepest	3	7/4/2005	9:40	P (Total)	0.309		mg/L
380620	Sweetbriar Dam - Deepest	3	7/4/2005	9:40	TKN	1.30		mg/L
380620	Sweetbriar Dam - Deepest	5	7/4/2005	9:50	Diss P	0.253		mg/L
380620	Sweetbriar Dam - Deepest	5	7/4/2005	9:50	N (Total)	1.07		mg/L
380620	Sweetbriar Dam - Deepest	5	7/4/2005	9:50	NH3-N	0.025		mg/L
380620	Sweetbriar Dam - Deepest	5	7/4/2005	9:50	NO3+NO2	0.02		mg/L
380620	Sweetbriar Dam - Deepest	5	7/4/2005	9:50	P (Total)	0.308		mg/L
380620	Sweetbriar Dam - Deepest	5	7/4/2005	9:50	TKN	1.05		mg/L
380620	Sweetbriar Dam - Deepest	0.923	7/12/2005	13:30	Chlor A	46.5		ug/L
380620	Sweetbriar Dam - Deepest	1	7/12/2005	13:40	N (Total)	1.62		mg/L
380620	Sweetbriar Dam - Deepest	1	7/12/2005	13:40	NH3-N	0.030		mg/L
380620	Sweetbriar Dam - Deepest	1	7/12/2005	13:40	NO3+NO2	0.05		mg/L
380620	Sweetbriar Dam - Deepest	1	7/12/2005	13:40	P (Total)	0.239		mg/L
380620	Sweetbriar Dam - Deepest	1	7/12/2005	13:40	TKN	1.57		mg/L
380620	Sweetbriar Dam - Deepest	4	7/12/2005	13:50	N (Total)	1.24		mg/L
380620	Sweetbriar Dam - Deepest	4	7/12/2005	13:50	NH3-N	*Non-detect	0.010	mg/L
380620	Sweetbriar Dam - Deepest	4	7/12/2005	13:50	NO3+NO2	*Non-detect	0.02	mg/L
380620	Sweetbriar Dam - Deepest	4	7/12/2005	13:50	P (Total)	0.208		mg/L
380620	Sweetbriar Dam - Deepest	4	7/12/2005	13:50	TKN	1.22		mg/L
380620	Sweetbriar Dam - Deepest	7	7/12/2005	14:00	N (Total)	1.29		mg/L
380620	Sweetbriar Dam - Deepest	7	7/12/2005	14:00	NH3-N	0.020		mg/L
380620	Sweetbriar Dam - Deepest	7	7/12/2005	14:00	NO3+NO2	*Non-detect	0.02	mg/L
380620	Sweetbriar Dam - Deepest	7	7/12/2005	14:00	P (Total)	0.213		mg/L
380620	Sweetbriar Dam - Deepest	7	7/12/2005	14:00	TKN	1.27		mg/L
380620	Sweetbriar Dam - Deepest	0.923	8/4/2005	11:45	Chlor A	20.8		ug/L
380620	Sweetbriar Dam - Deepest	1	8/4/2005	11:30	Diss P	0.427		mg/L
380620	Sweetbriar Dam - Deepest	1	8/4/2005	11:30	N (Total)	1.68		mg/L
380620	Sweetbriar Dam - Deepest	1	8/4/2005	11:30	NH3-N	0.106		mg/L
380620	Sweetbriar Dam - Deepest	1	8/4/2005	11:30	NO3+NO2	0.02		mg/L
380620	Sweetbriar Dam - Deepest	1	8/4/2005	11:30	P (Total)	0.501		mg/L
380620	Sweetbriar Dam - Deepest	1	8/4/2005	11:30	TKN	1.66		mg/L
380620	Sweetbriar Dam - Deepest	4	8/4/2005	11:45	Diss P	0.433		mg/L
380620	Sweetbriar Dam - Deepest	4	8/4/2005	11:45	N (Total)	1.84		mg/L
380620	Sweetbriar Dam - Deepest	4	8/4/2005	11:45	NH3-N	0.110		mg/L
380620	Sweetbriar Dam - Deepest	4	8/4/2005	11:45	NO3+NO2	*Non-detect	0.02	mg/L
380620	Sweetbriar Dam - Deepest	4	8/4/2005	11:45	P (Total)	0.524		mg/L
380620	Sweetbriar Dam - Deepest	4	8/4/2005	11:45	TKN	1.82		mg/L
380620	Sweetbriar Dam - Deepest	7	8/4/2005	12:00	Diss P	0.497		mg/L
380620	Sweetbriar Dam - Deepest	7	8/4/2005	12:00	N (Total)	1.61		mg/L
380620	Sweetbriar Dam - Deepest	7	8/4/2005	12:00	NH3-N	0.259		mg/L
380620	Sweetbriar Dam - Deepest	7	8/4/2005	12:00	NO3+NO2	*Non-detect	0.02	mg/L
380620	Sweetbriar Dam - Deepest	7	8/4/2005	12:00	P (Total)	0.555		mg/L
380620	Sweetbriar Dam - Deepest	7	8/4/2005	12:00	TKN	1.59		mg/L
380620	Sweetbriar Dam - Deepest	0.923	8/22/2005	12:00	Chlor A	11.5		ug/L

SITE ID	LOCATION	DEPTH	DATE COLLECT	TIME COLLECT	ANALYTE NAME	RESULT	DETECT LIMIT	UNIT
380620	Sweetbriar Dam - Deepest	1	8/22/2005	12:00	Diss P	0.540		mg/L
380620	Sweetbriar Dam - Deepest	1	8/22/2005	12:00	N (Total)	1.69		mg/L
380620	Sweetbriar Dam - Deepest	1	8/22/2005	12:00	NH3-N	0.189		mg/L
380620	Sweetbriar Dam - Deepest	1	8/22/2005	12:00	NO3+NO2	0.03		mg/L
380620	Sweetbriar Dam - Deepest	1	8/22/2005	12:00	P (Total)	0.557		mg/L
380620	Sweetbriar Dam - Deepest	1	8/22/2005	12:00	TKN	1.66		mg/L
380620	Sweetbriar Dam - Deepest	3.5	8/22/2005	12:15	Diss P	0.529		mg/L
380620	Sweetbriar Dam - Deepest	3.5	8/22/2005	12:15	N (Total)	1.78		mg/L
380620	Sweetbriar Dam - Deepest	3.5	8/22/2005	12:15	NH3-N	0.202		mg/L
380620	Sweetbriar Dam - Deepest	3.5	8/22/2005	12:15	NO3+NO2	0.02		mg/L
380620	Sweetbriar Dam - Deepest	3.5	8/22/2005	12:15	P (Total)	0.592		mg/L
380620	Sweetbriar Dam - Deepest	3.5	8/22/2005	12:15	TKN	1.76		mg/L
380620	Sweetbriar Dam - Deepest	7	8/22/2005	12:45	Diss P	0.553		mg/L
380620	Sweetbriar Dam - Deepest	7	8/22/2005	12:45	N (Total)	1.95		mg/L
380620	Sweetbriar Dam - Deepest	7	8/22/2005	12:45	NH3-N	0.339		mg/L
380620	Sweetbriar Dam - Deepest	7	8/22/2005	12:45	NO3+NO2	0.02		mg/L
380620	Sweetbriar Dam - Deepest	7	8/22/2005	12:45	P (Total)	0.631		mg/L
380620	Sweetbriar Dam - Deepest	7	8/22/2005	12:45	TKN	1.93		mg/L
380620	Sweetbriar Dam - Deepest	0.923	9/20/2005	10:00	Chlor A	17.4		ug/L
380620	Sweetbriar Dam - Deepest	1	9/20/2005	10:30	Diss P	0.516		mg/L
380620	Sweetbriar Dam - Deepest	1	9/20/2005	10:30	N (Total)	1.64		mg/L
380620	Sweetbriar Dam - Deepest	1	9/20/2005	10:30	NH3-N	0.057		mg/L
380620	Sweetbriar Dam - Deepest	1	9/20/2005	10:30	NO3+NO2	0.02		mg/L
380620	Sweetbriar Dam - Deepest	1	9/20/2005	10:30	P (Total)	0.567		mg/L
380620	Sweetbriar Dam - Deepest	1	9/20/2005	10:30	TKN	1.62		mg/L
380620	Sweetbriar Dam - Deepest	3	9/20/2005	10:45	Diss P	0.518		mg/L
380620	Sweetbriar Dam - Deepest	3	9/20/2005	10:45	N (Total)	1.42		mg/L
380620	Sweetbriar Dam - Deepest	3	9/20/2005	10:45	NH3-N	0.056		mg/L
380620	Sweetbriar Dam - Deepest	3	9/20/2005	10:45	NO3+NO2	0.02		mg/L
380620	Sweetbriar Dam - Deepest	3	9/20/2005	10:45	P (Total)	0.562		mg/L
380620	Sweetbriar Dam - Deepest	3	9/20/2005	10:45	TKN	1.40		mg/L
380620	Sweetbriar Dam - Deepest	6	9/20/2005	11:00	Diss P	0.558		mg/L
380620	Sweetbriar Dam - Deepest	6	9/20/2005	11:00	N (Total)	1.59		mg/L
380620	Sweetbriar Dam - Deepest	6	9/20/2005	11:00	NH3-N	0.046		mg/L
380620	Sweetbriar Dam - Deepest	6	9/20/2005	11:00	NO3+NO2	*Non-detect	0.02	mg/L
380620	Sweetbriar Dam - Deepest	6	9/20/2005	11:00	P (Total)	0.588		mg/L
380620	Sweetbriar Dam - Deepest	6	9/20/2005	11:00	TKN	1.57		mg/L

Sweet Briar Dam (Deepest Area) Secchi Disk Transparency Depth Data for 2004-2005

Date	Depth in meters
10/21/04	2
11/11/04	2.2
12/28/04	4
1/18/05	4
2/8/05	4.5
3/8/05	4
4/18/05	3.75
5/16/05	3.5
6/6/05	3.5
7/17/05	1.5
8/4/05	1
9/20/05	1.5

Sweet Briar Dam Watershed Tributary Data for 2004-2005

SITE ID	LOCATION	DATE COLLECT	TIME COLLECT	ANALYTE NAME	RESULT	DETECT LIMIT	UNITS
385335	Sweet Briar Dam North Tributary	5/23/2005	15:35	Diss P	0.036		mg/L
385335	Sweet Briar Dam North Tributary	5/23/2005	15:35	N (Total)	1.08		mg/L
385335	Sweet Briar Dam North Tributary	5/23/2005	15:35	NH3-N	*Non-detect	0.010	mg/L
385335	Sweet Briar Dam North Tributary	5/23/2005	15:35	NO3+NO2	0.02		mg/L
385335	Sweet Briar Dam North Tributary	5/23/2005	15:35	P (Total)	0.057		mg/L
385335	Sweet Briar Dam North Tributary	5/23/2005	15:35	TKN	1.06		mg/L
385335	Sweet Briar Dam North Tributary	5/23/2005	15:35	TSS	*Non-detect	5.	mg/L
385336	Sweet Briar Dam - Main Branch	3/9/2005	9:30	Diss P	0.034		mg/L
385336	Sweet Briar Dam - Main Branch	3/9/2005	9:30	N (Total)	0.649		mg/L
385336	Sweet Briar Dam - Main Branch	3/9/2005	9:30	NH3-N	*Non-detect	0.010	mg/L
385336	Sweet Briar Dam - Main Branch	3/9/2005	9:30	NO3+NO2	*Non-detect	0.02	mg/L
385336	Sweet Briar Dam - Main Branch	3/9/2005	9:30	P (Total)	0.064		mg/L
385336	Sweet Briar Dam - Main Branch	3/9/2005	9:30	TKN	0.629		mg/L
385336	Sweet Briar Dam - Main Branch	3/9/2005	9:30	TSS	5.		mg/L
385336	Sweet Briar Dam - Main Branch	3/15/2005	12:00	Diss P	0.023		mg/L
385336	Sweet Briar Dam - Main Branch	3/15/2005	12:00	N (Total)	0.652		mg/L
385336	Sweet Briar Dam - Main Branch	3/15/2005	12:00	NH3-N	*Non-detect	0.010	mg/L
385336	Sweet Briar Dam - Main Branch	3/15/2005	12:00	NO3+NO2	0.02		mg/L
385336	Sweet Briar Dam - Main Branch	3/15/2005	12:00	P (Total)	0.045		mg/L
385336	Sweet Briar Dam - Main Branch	3/15/2005	12:00	TKN	0.632		mg/L
385336	Sweet Briar Dam - Main Branch	3/15/2005	12:00	TSS	*Non-detect	5.	mg/L
385336	Sweet Briar Dam - Main Branch	3/18/2005	14:00	Diss P	0.023		mg/L
385336	Sweet Briar Dam - Main Branch	3/18/2005	14:00	N (Total)	0.677		mg/L
385336	Sweet Briar Dam - Main Branch	3/18/2005	14:00	NH3-N	*Non-detect	0.010	mg/L
385336	Sweet Briar Dam - Main Branch	3/18/2005	14:00	NO3+NO2	*Non-detect	0.02	mg/L
385336	Sweet Briar Dam - Main Branch	3/18/2005	14:00	P (Total)	0.051		mg/L
385336	Sweet Briar Dam - Main Branch	3/18/2005	14:00	TKN	0.657		mg/L
385336	Sweet Briar Dam - Main Branch	3/18/2005	14:00	TSS	8.		mg/L
385336	Sweet Briar Dam - Main Branch	3/21/2005	14:50	Diss P	0.021		mg/L
385336	Sweet Briar Dam - Main Branch	3/21/2005	14:50	N (Total)	0.589		mg/L
385336	Sweet Briar Dam - Main Branch	3/21/2005	14:50	NH3-N	*Non-detect	0.010	mg/L
385336	Sweet Briar Dam - Main Branch	3/21/2005	14:50	NO3+NO2	*Non-detect	0.02	mg/L
385336	Sweet Briar Dam - Main Branch	3/21/2005	14:50	P (Total)	0.051		mg/L
385336	Sweet Briar Dam - Main Branch	3/21/2005	14:50	TKN	0.569		mg/L
385336	Sweet Briar Dam - Main Branch	3/21/2005	14:50	TSS	6.		mg/L
385336	Sweet Briar Dam - Main Branch	3/25/2005	12:12	Diss P	0.023		mg/L
385336	Sweet Briar Dam - Main Branch	3/25/2005	12:12	N (Total)	0.624		mg/L
385336	Sweet Briar Dam - Main Branch	3/25/2005	12:12	NH3-N	*Non-detect	0.010	mg/L
385336	Sweet Briar Dam - Main Branch	3/25/2005	12:12	NO3+NO2	0.02		mg/L
385336	Sweet Briar Dam - Main Branch	3/25/2005	12:12	P (Total)	0.056		mg/L
385336	Sweet Briar Dam - Main Branch	3/25/2005	12:12	TKN	0.604		mg/L
385336	Sweet Briar Dam - Main Branch	3/25/2005	12:12	TSS	*Non-detect	5.	mg/L
385336	Sweet Briar Dam - Main Branch	3/27/2005	12:35	Diss P	0.035		mg/L
385336	Sweet Briar Dam - Main Branch	3/27/2005	12:35	N (Total)	0.810		mg/L
385336	Sweet Briar Dam - Main Branch	3/27/2005	12:35	NH3-N	*Non-detect	0.010	mg/L
385336	Sweet Briar Dam - Main Branch	3/27/2005	12:35	NO3+NO2	0.02		mg/L
385336	Sweet Briar Dam - Main Branch	3/27/2005	12:35	P (Total)	0.079		mg/L
385336	Sweet Briar Dam - Main Branch	3/27/2005	12:35	TKN	0.790		mg/L
385336	Sweet Briar Dam - Main Branch	3/27/2005	12:35	TSS	*Non-detect	5.	mg/L
385336	Sweet Briar Dam - Main Branch	4/1/2005	12:52	Diss P	0.037		mg/L
385336	Sweet Briar Dam - Main Branch	4/1/2005	12:52	N (Total)	0.691		mg/L
385336	Sweet Briar Dam - Main Branch	4/1/2005	12:52	NH3-N	*Non-detect	0.010	mg/L

SITE ID	LOCATION	DATE COLLECT	TIME COLLECT	ANALYTE NAME	RESULT	DETECT LIMIT	UNITS
385336	Sweet Briar Dam - Main Branch	4/1/2005	12:52	NO3+NO2	*Non-detect	0.02	mg/L
385336	Sweet Briar Dam - Main Branch	4/1/2005	12:52	P (Total)	0.085		mg/L
385336	Sweet Briar Dam - Main Branch	4/1/2005	12:52	TKN	0.671		mg/L
385336	Sweet Briar Dam - Main Branch	4/1/2005	12:52	TSS	*Non-detect	5.	mg/L
385336	Sweet Briar Dam - Main Branch	4/5/2005	16:15	Diss P	0.045		mg/L
385336	Sweet Briar Dam - Main Branch	4/5/2005	16:15	N (Total)	0.778		mg/L
385336	Sweet Briar Dam - Main Branch	4/5/2005	16:15	NH3-N	*Non-detect	0.010	mg/L
385336	Sweet Briar Dam - Main Branch	4/5/2005	16:15	NO3+NO2	*Non-detect	0.02	mg/L
385336	Sweet Briar Dam - Main Branch	4/5/2005	16:15	P (Total)	0.083		mg/L
385336	Sweet Briar Dam - Main Branch	4/5/2005	16:15	TKN	0.758		mg/L
385336	Sweet Briar Dam - Main Branch	4/5/2005	16:15	TSS	*Non-detect	5.	mg/L
385336	Sweet Briar Dam - Main Branch	4/8/2005	12:50	Diss P	0.054		mg/L
385336	Sweet Briar Dam - Main Branch	4/8/2005	12:50	N (Total)	0.790		mg/L
385336	Sweet Briar Dam - Main Branch	4/8/2005	12:50	NH3-N	*Non-detect	0.010	mg/L
385336	Sweet Briar Dam - Main Branch	4/8/2005	12:50	NO3+NO2	*Non-detect	0.02	mg/L
385336	Sweet Briar Dam - Main Branch	4/8/2005	12:50	P (Total)	0.061		mg/L
385336	Sweet Briar Dam - Main Branch	4/8/2005	12:50	TKN	0.770		mg/L
385336	Sweet Briar Dam - Main Branch	4/8/2005	12:50	TSS	*Non-detect	5.	mg/L
385336	Sweet Briar Dam - Main Branch	4/11/2005	16:30	Diss P	0.040		mg/L
385336	Sweet Briar Dam - Main Branch	4/11/2005	16:30	N (Total)	0.776		mg/L
385336	Sweet Briar Dam - Main Branch	4/11/2005	16:30	NH3-N	*Non-detect	0.010	mg/L
385336	Sweet Briar Dam - Main Branch	4/11/2005	16:30	NO3+NO2	0.02		mg/L
385336	Sweet Briar Dam - Main Branch	4/11/2005	16:30	P (Total)	0.063		mg/L
385336	Sweet Briar Dam - Main Branch	4/11/2005	16:30	TKN	0.756		mg/L
385336	Sweet Briar Dam - Main Branch	4/11/2005	16:30	TSS	5.		mg/L
385336	Sweet Briar Dam - Main Branch	4/14/2005	9:15	Diss P	0.033		mg/L
385336	Sweet Briar Dam - Main Branch	4/14/2005	9:15	N (Total)	0.723		mg/L
385336	Sweet Briar Dam - Main Branch	4/14/2005	9:15	NH3-N	*Non-detect	0.010	mg/L
385336	Sweet Briar Dam - Main Branch	4/14/2005	9:15	NO3+NO2	0.02		mg/L
385336	Sweet Briar Dam - Main Branch	4/14/2005	9:15	P (Total)	0.056		mg/L
385336	Sweet Briar Dam - Main Branch	4/14/2005	9:15	TKN	0.703		mg/L
385336	Sweet Briar Dam - Main Branch	4/14/2005	9:15	TSS	*Non-detect	5.	mg/L
385336	Sweet Briar Dam - Main Branch	4/17/2005	12:10	Diss P	0.039		mg/L
385336	Sweet Briar Dam - Main Branch	4/17/2005	12:10	N (Total)	0.839		mg/L
385336	Sweet Briar Dam - Main Branch	4/17/2005	12:10	NH3-N	*Non-detect	0.010	mg/L
385336	Sweet Briar Dam - Main Branch	4/17/2005	12:10	NO3+NO2	*Non-detect	0.02	mg/L
385336	Sweet Briar Dam - Main Branch	4/17/2005	12:10	P (Total)	0.065		mg/L
385336	Sweet Briar Dam - Main Branch	4/17/2005	12:10	TKN	0.819		mg/L
385336	Sweet Briar Dam - Main Branch	4/17/2005	12:10	TSS	*Non-detect	5.	mg/L
385336	Sweet Briar Dam - Main Branch	4/21/2005	13:10	Diss P	0.046		mg/L
385336	Sweet Briar Dam - Main Branch	4/21/2005	13:10	N (Total)	0.821		mg/L
385336	Sweet Briar Dam - Main Branch	4/21/2005	13:10	NH3-N	*Non-detect	0.010	mg/L
385336	Sweet Briar Dam - Main Branch	4/21/2005	13:10	NO3+NO2	0.02		mg/L
385336	Sweet Briar Dam - Main Branch	4/21/2005	13:10	P (Total)	0.088		mg/L
385336	Sweet Briar Dam - Main Branch	4/21/2005	13:10	TKN	0.801		mg/L
385336	Sweet Briar Dam - Main Branch	4/21/2005	13:10	TSS	*Non-detect	5.	mg/L
385336	Sweet Briar Dam - Main Branch	4/24/2005	10:15	Diss P	0.052		mg/L
385336	Sweet Briar Dam - Main Branch	4/24/2005	10:15	N (Total)	1.40		mg/L
385336	Sweet Briar Dam - Main Branch	4/24/2005	10:15	NH3-N	*Non-detect	0.010	mg/L
385336	Sweet Briar Dam - Main Branch	4/24/2005	10:15	NO3+NO2	0.02		mg/L
385336	Sweet Briar Dam - Main Branch	4/24/2005	10:15	P (Total)	0.079		mg/L
385336	Sweet Briar Dam - Main Branch	4/24/2005	10:15	TKN	1.38		mg/L
385336	Sweet Briar Dam - Main Branch	4/24/2005	10:15	TSS	7.		mg/L

SITE ID	LOCATION	DATE COLLECT	TIME COLLECT	ANALYTE NAME	RESULT	DETECT LIMIT	UNITS
385336	Sweet Briar Dam - Main Branch	4/30/2005	15:45	Diss P	0.046		mg/L
385336	Sweet Briar Dam - Main Branch	4/30/2005	15:45	N (Total)	1.01		mg/L
385336	Sweet Briar Dam - Main Branch	4/30/2005	15:45	NH3-N	*Non-detect	0.010	mg/L
385336	Sweet Briar Dam - Main Branch	4/30/2005	15:45	NO3+NO2	*Non-detect	0.02	mg/L
385336	Sweet Briar Dam - Main Branch	4/30/2005	15:45	P (Total)	0.087		mg/L
385336	Sweet Briar Dam - Main Branch	4/30/2005	15:45	TKN	0.990		mg/L
385336	Sweet Briar Dam - Main Branch	4/30/2005	15:45	TSS	6.		mg/L
385336	Sweet Briar Dam - Main Branch	5/3/2005	12:45	Diss P	0.042		mg/L
385336	Sweet Briar Dam - Main Branch	5/3/2005	12:45	N (Total)	0.972		mg/L
385336	Sweet Briar Dam - Main Branch	5/3/2005	12:45	NH3-N	*Non-detect	0.010	mg/L
385336	Sweet Briar Dam - Main Branch	5/3/2005	12:45	NO3+NO2	0.02		mg/L
385336	Sweet Briar Dam - Main Branch	5/3/2005	12:45	P (Total)	0.079		mg/L
385336	Sweet Briar Dam - Main Branch	5/3/2005	12:45	TKN	0.952		mg/L
385336	Sweet Briar Dam - Main Branch	5/3/2005	12:45	TSS	12.		mg/L
385336	Sweet Briar Dam - Main Branch	5/5/2005	18:40	Diss P	0.048		mg/L
385336	Sweet Briar Dam - Main Branch	5/5/2005	18:40	N (Total)	0.961		mg/L
385336	Sweet Briar Dam - Main Branch	5/5/2005	18:40	NH3-N	*Non-detect	0.010	mg/L
385336	Sweet Briar Dam - Main Branch	5/5/2005	18:40	NO3+NO2	*Non-detect	0.02	mg/L
385336	Sweet Briar Dam - Main Branch	5/5/2005	18:40	P (Total)	0.075		mg/L
385336	Sweet Briar Dam - Main Branch	5/5/2005	18:40	TKN	0.941		mg/L
385336	Sweet Briar Dam - Main Branch	5/5/2005	18:40	TSS	5.		mg/L
385336	Sweet Briar Dam - Main Branch	5/9/2005	11:45	Diss P	0.042		mg/L
385336	Sweet Briar Dam - Main Branch	5/9/2005	11:45	N (Total)	0.849		mg/L
385336	Sweet Briar Dam - Main Branch	5/9/2005	11:45	NH3-N	*Non-detect	0.010	mg/L
385336	Sweet Briar Dam - Main Branch	5/9/2005	11:45	NO3+NO2	*Non-detect	0.02	mg/L
385336	Sweet Briar Dam - Main Branch	5/9/2005	11:45	P (Total)	0.063		mg/L
385336	Sweet Briar Dam - Main Branch	5/9/2005	11:45	TKN	0.829		mg/L
385336	Sweet Briar Dam - Main Branch	5/9/2005	11:45	TSS	6.		mg/L
385336	Sweet Briar Dam - Main Branch	5/13/2005	15:20	Diss P	0.097		mg/L
385336	Sweet Briar Dam - Main Branch	5/13/2005	15:20	N (Total)	1.38		mg/L
385336	Sweet Briar Dam - Main Branch	5/13/2005	15:20	NH3-N	*Non-detect	0.010	mg/L
385336	Sweet Briar Dam - Main Branch	5/13/2005	15:20	NO3+NO2	*Non-detect	0.02	mg/L
385336	Sweet Briar Dam - Main Branch	5/13/2005	15:20	P (Total)	0.129		mg/L
385336	Sweet Briar Dam - Main Branch	5/13/2005	15:20	TKN	1.36		mg/L
385336	Sweet Briar Dam - Main Branch	5/13/2005	15:20	TSS	5.		mg/L
385336	Sweet Briar Dam - Main Branch	5/18/2005	20:15	Diss P	0.046		mg/L
385336	Sweet Briar Dam - Main Branch	5/18/2005	20:15	N (Total)	1.08		mg/L
385336	Sweet Briar Dam - Main Branch	5/18/2005	20:15	NH3-N	*Non-detect	0.010	mg/L
385336	Sweet Briar Dam - Main Branch	5/18/2005	20:15	NO3+NO2	0.02		mg/L
385336	Sweet Briar Dam - Main Branch	5/18/2005	20:15	P (Total)	0.062		mg/L
385336	Sweet Briar Dam - Main Branch	5/18/2005	20:15	TKN	1.06		mg/L
385336	Sweet Briar Dam - Main Branch	5/18/2005	20:15	TSS	5.		mg/L
385336	Sweet Briar Dam - Main Branch	5/27/2005	14:10	Diss P	0.036		mg/L
385336	Sweet Briar Dam - Main Branch	5/27/2005	14:10	N (Total)	0.937		mg/L
385336	Sweet Briar Dam - Main Branch	5/27/2005	14:10	NH3-N	*Non-detect	0.010	mg/L
385336	Sweet Briar Dam - Main Branch	5/27/2005	14:10	NO3+NO2	*Non-detect	0.02	mg/L
385336	Sweet Briar Dam - Main Branch	5/27/2005	14:10	P (Total)	0.054		mg/L
385336	Sweet Briar Dam - Main Branch	5/27/2005	14:10	TKN	0.917		mg/L
385336	Sweet Briar Dam - Main Branch	5/27/2005	14:10	TSS	*Non-detect	5.	mg/L
385336	Sweet Briar Dam - Main Branch	6/1/2005	14:45	Diss P	0.035		mg/L
385336	Sweet Briar Dam - Main Branch	6/1/2005	14:45	N (Total)	0.879		mg/L
385336	Sweet Briar Dam - Main Branch	6/1/2005	14:45	NH3-N	*Non-detect	0.010	mg/L
385336	Sweet Briar Dam - Main Branch	6/1/2005	14:45	NO3+NO2	*Non-detect	0.02	mg/L

SITE ID	LOCATION	DATE COLLECT	TIME COLLECT	ANALYTE NAME	RESULT	DETECT LIMIT	UNITS
385336	Sweet Briar Dam - Main Branch	6/1/2005	14:45	P (Total)	0.045		mg/L
385336	Sweet Briar Dam - Main Branch	6/1/2005	14:45	TKN	0.859		mg/L
385336	Sweet Briar Dam - Main Branch	6/1/2005	14:45	TSS	*Non-detect	5.	mg/L
385336	Sweet Briar Dam - Main Branch	6/3/2005	11:40	Diss P	0.035		mg/L
385336	Sweet Briar Dam - Main Branch	6/3/2005	11:40	N (Total)	0.904		mg/L
385336	Sweet Briar Dam - Main Branch	6/3/2005	11:40	NH3-N	*Non-detect	0.010	mg/L
385336	Sweet Briar Dam - Main Branch	6/3/2005	11:40	NO3+NO2	*Non-detect	0.02	mg/L
385336	Sweet Briar Dam - Main Branch	6/3/2005	11:40	P (Total)	0.048		mg/L
385336	Sweet Briar Dam - Main Branch	6/3/2005	11:40	TKN	0.884		mg/L
385336	Sweet Briar Dam - Main Branch	6/3/2005	11:40	TSS	*Non-detect	5.	mg/L
385336	Sweet Briar Dam - Main Branch	6/6/2005	12:00	Diss P	0.037		mg/L
385336	Sweet Briar Dam - Main Branch	6/6/2005	12:00	N (Total)	0.830		mg/L
385336	Sweet Briar Dam - Main Branch	6/6/2005	12:00	NH3-N	*Non-detect	0.010	mg/L
385336	Sweet Briar Dam - Main Branch	6/6/2005	12:00	NO3+NO2	*Non-detect	0.02	mg/L
385336	Sweet Briar Dam - Main Branch	6/6/2005	12:00	P (Total)	0.048		mg/L
385336	Sweet Briar Dam - Main Branch	6/6/2005	12:00	TKN	0.810		mg/L
385336	Sweet Briar Dam - Main Branch	6/6/2005	12:00	TSS	*Non-detect	5.	mg/L
385336	Sweet Briar Dam - Main Branch	6/9/2005	14:40	Diss P	0.101		mg/L
385336	Sweet Briar Dam - Main Branch	6/9/2005	14:40	N (Total)	0.808		mg/L
385336	Sweet Briar Dam - Main Branch	6/9/2005	14:40	NH3-N	*Non-detect	0.010	mg/L
385336	Sweet Briar Dam - Main Branch	6/9/2005	14:40	NO3+NO2	*Non-detect	0.02	mg/L
385336	Sweet Briar Dam - Main Branch	6/9/2005	14:40	P (Total)	0.133		mg/L
385336	Sweet Briar Dam - Main Branch	6/9/2005	14:40	TKN	0.788		mg/L
385336	Sweet Briar Dam - Main Branch	6/9/2005	14:40	TSS	*Non-detect	5.	mg/L
385336	Sweet Briar Dam - Main Branch	6/14/2005	15:20	Diss P	0.276		mg/L
385336	Sweet Briar Dam - Main Branch	6/14/2005	15:20	N (Total)	1.51		mg/L
385336	Sweet Briar Dam - Main Branch	6/14/2005	15:20	NH3-N	*Non-detect	0.010	mg/L
385336	Sweet Briar Dam - Main Branch	6/14/2005	15:20	NO3+NO2	*Non-detect	0.02	mg/L
385336	Sweet Briar Dam - Main Branch	6/14/2005	15:20	P (Total)	0.286		mg/L
385336	Sweet Briar Dam - Main Branch	6/14/2005	15:20	TKN	1.49		mg/L
385336	Sweet Briar Dam - Main Branch	6/14/2005	15:20	TSS	*Non-detect	5.	mg/L
385336	Sweet Briar Dam - Main Branch	6/17/2005	12:55	Diss P	0.283		mg/L
385336	Sweet Briar Dam - Main Branch	6/17/2005	12:55	N (Total)	1.68		mg/L
385336	Sweet Briar Dam - Main Branch	6/17/2005	12:55	NH3-N	*Non-detect	0.010	mg/L
385336	Sweet Briar Dam - Main Branch	6/17/2005	12:55	NO3+NO2	*Non-detect	0.02	mg/L
385336	Sweet Briar Dam - Main Branch	6/17/2005	12:55	P (Total)	0.324		mg/L
385336	Sweet Briar Dam - Main Branch	6/17/2005	12:55	TKN	1.66		mg/L
385336	Sweet Briar Dam - Main Branch	6/17/2005	12:55	TSS	*Non-detect	5.	mg/L
385336	Sweet Briar Dam - Main Branch	6/23/2005	10:30	Diss P	0.216		mg/L
385336	Sweet Briar Dam - Main Branch	6/23/2005	10:30	N (Total)	1.63		mg/L
385336	Sweet Briar Dam - Main Branch	6/23/2005	10:30	NH3-N	*Non-detect	0.010	mg/L
385336	Sweet Briar Dam - Main Branch	6/23/2005	10:30	NO3+NO2	*Non-detect	0.02	mg/L
385336	Sweet Briar Dam - Main Branch	6/23/2005	10:30	P (Total)	0.286		mg/L
385336	Sweet Briar Dam - Main Branch	6/23/2005	10:30	TKN	1.61		mg/L
385336	Sweet Briar Dam - Main Branch	6/23/2005	10:30	TSS	*Non-detect	5.	mg/L
385336	Sweet Briar Dam - Main Branch	6/28/2005	18:20	Diss P	0.247		mg/L
385336	Sweet Briar Dam - Main Branch	6/28/2005	18:20	N (Total)	1.59		mg/L
385336	Sweet Briar Dam - Main Branch	6/28/2005	18:20	NH3-N	0.040		mg/L
385336	Sweet Briar Dam - Main Branch	6/28/2005	18:20	NO3+NO2	*Non-detect	0.02	mg/L
385336	Sweet Briar Dam - Main Branch	6/28/2005	18:20	P (Total)	0.273		mg/L
385336	Sweet Briar Dam - Main Branch	6/28/2005	18:20	TKN	1.57		mg/L
385336	Sweet Briar Dam - Main Branch	6/28/2005	18:20	TSS	*Non-detect	5.	mg/L
385336	Sweet Briar Dam - Main Branch	7/4/2005	8:50	Diss P	0.261		mg/L

SITE ID	LOCATION	DATE COLLECT	TIME COLLECT	ANALYTE NAME	RESULT	DETECT LIMIT	UNITS
385336	Sweet Briar Dam - Main Branch	7/4/2005	8:50	N (Total)	1.76		mg/L
385336	Sweet Briar Dam - Main Branch	7/4/2005	8:50	NH3-N	0.021		mg/L
385336	Sweet Briar Dam - Main Branch	7/4/2005	8:50	NO3+NO2	*Non-detect	0.02	mg/L
385336	Sweet Briar Dam - Main Branch	7/4/2005	8:50	P (Total)	0.280		mg/L
385336	Sweet Briar Dam - Main Branch	7/4/2005	8:50	TKN	1.74		mg/L
385336	Sweet Briar Dam - Main Branch	7/4/2005	8:50	TSS	*Non-detect	5.	mg/L
385336	Sweet Briar Dam - Main Branch	7/11/2005	12:00	N (Total)	1.73		mg/L
385336	Sweet Briar Dam - Main Branch	7/11/2005	12:00	NH3-N	0.076		mg/L
385336	Sweet Briar Dam - Main Branch	7/11/2005	12:00	NO3+NO2	*Non-detect	0.02	mg/L
385336	Sweet Briar Dam - Main Branch	7/11/2005	12:00	P (Total)	0.422		mg/L
385336	Sweet Briar Dam - Main Branch	7/11/2005	12:00	TKN	1.71		mg/L
385336	Sweet Briar Dam - Main Branch	7/11/2005	12:00	TSS	*Non-detect	5.	mg/L
385336	Sweet Briar Dam - Main Branch	8/1/2005	17:10	Diss P	0.096		mg/L
385336	Sweet Briar Dam - Main Branch	8/1/2005	17:10	N (Total)	1.60		mg/L
385336	Sweet Briar Dam - Main Branch	8/1/2005	17:10	NH3-N	0.036		mg/L
385336	Sweet Briar Dam - Main Branch	8/1/2005	17:10	NO3+NO2	0.02		mg/L
385336	Sweet Briar Dam - Main Branch	8/1/2005	17:10	P (Total)	0.125		mg/L
385336	Sweet Briar Dam - Main Branch	8/1/2005	17:10	TKN	1.58		mg/L
385336	Sweet Briar Dam - Main Branch	8/1/2005	17:10	TSS	11.		mg/L
385336	Sweet Briar Dam - Main Branch	8/4/2005	11:00	Diss P	0.098		mg/L
385336	Sweet Briar Dam - Main Branch	8/4/2005	11:00	N (Total)	1.17		mg/L
385336	Sweet Briar Dam - Main Branch	8/4/2005	11:00	NH3-N	0.016		mg/L
385336	Sweet Briar Dam - Main Branch	8/4/2005	11:00	NO3+NO2	0.04		mg/L
385336	Sweet Briar Dam - Main Branch	8/4/2005	11:00	P (Total)	0.123		mg/L
385336	Sweet Briar Dam - Main Branch	8/4/2005	11:00	TKN	1.13		mg/L
385336	Sweet Briar Dam - Main Branch	8/4/2005	11:00	TSS	*Non-detect	5.	mg/L
385336	Sweet Briar Dam - Main Branch	8/18/2005	13:00	Diss P	0.046		mg/L
385336	Sweet Briar Dam - Main Branch	8/18/2005	13:00	N (Total)	1.47		mg/L
385336	Sweet Briar Dam - Main Branch	8/18/2005	13:00	NH3-N	0.030		mg/L
385336	Sweet Briar Dam - Main Branch	8/18/2005	13:00	NO3+NO2	0.02		mg/L
385336	Sweet Briar Dam - Main Branch	8/18/2005	13:00	P (Total)	0.070		mg/L
385336	Sweet Briar Dam - Main Branch	8/18/2005	13:00	TKN	1.45		mg/L
385336	Sweet Briar Dam - Main Branch	8/18/2005	13:00	TSS	*Non-detect	5.	mg/L
385336	Sweet Briar Dam - Main Branch	8/22/2005	11:45	Diss P	0.058		mg/L
385336	Sweet Briar Dam - Main Branch	8/22/2005	11:45	N (Total)	1.08		mg/L
385336	Sweet Briar Dam - Main Branch	8/22/2005	11:45	NH3-N	*Non-detect	0.010	mg/L
385336	Sweet Briar Dam - Main Branch	8/22/2005	11:45	NO3+NO2	0.03		mg/L
385336	Sweet Briar Dam - Main Branch	8/22/2005	11:45	P (Total)	0.061		mg/L
385336	Sweet Briar Dam - Main Branch	8/22/2005	11:45	TKN	1.05		mg/L
385336	Sweet Briar Dam - Main Branch	8/22/2005	11:45	TSS	*Non-detect	5.	mg/L
385336	Sweet Briar Dam - Main Branch	9/20/2005	12:00	Diss P	0.036		mg/L
385336	Sweet Briar Dam - Main Branch	9/20/2005	12:00	N (Total)	0.757		mg/L
385336	Sweet Briar Dam - Main Branch	9/20/2005	12:00	NH3-N	*Non-detect	0.010	mg/L
385336	Sweet Briar Dam - Main Branch	9/20/2005	12:00	NO3+NO2	*Non-detect	0.02	mg/L
385336	Sweet Briar Dam - Main Branch	9/20/2005	12:00	P (Total)	0.045		mg/L
385336	Sweet Briar Dam - Main Branch	9/20/2005	12:00	TKN	0.737		mg/L
385336	Sweet Briar Dam - Main Branch	9/20/2005	12:00	TSS	*Non-detect	5.	mg/L
385337	Sweet Briar Dam - SW Branch	4/8/2005	13:25	Diss P	0.031		mg/L
385337	Sweet Briar Dam - SW Branch	4/8/2005	13:25	N (Total)	0.794		mg/L
385337	Sweet Briar Dam - SW Branch	4/8/2005	13:25	NH3-N	*Non-detect	0.010	mg/L
385337	Sweet Briar Dam - SW Branch	4/8/2005	13:25	NO3+NO2	0.02		mg/L
385337	Sweet Briar Dam - SW Branch	4/8/2005	13:25	P (Total)	0.076		mg/L
385337	Sweet Briar Dam - SW Branch	4/8/2005	13:25	TKN	0.774		mg/L

SITE ID	LOCATION	DATE COLLECT	TIME COLLECT	ANALYTE NAME	RESULT	DETECT LIMIT	UNITS
385337	Sweet Briar Dam - SW Branch	4/8/2005	13:25	TSS	7.		mg/L
385337	Sweet Briar Dam - SW Branch	4/11/2005	16:00	Diss P	0.091		mg/L
385337	Sweet Briar Dam - SW Branch	4/11/2005	16:00	N (Total)	2.00		mg/L
385337	Sweet Briar Dam - SW Branch	4/11/2005	16:00	NH3-N	*Non-detect	0.010	mg/L
385337	Sweet Briar Dam - SW Branch	4/11/2005	16:00	NO3+NO2	0.04		mg/L
385337	Sweet Briar Dam - SW Branch	4/11/2005	16:00	P (Total)	0.152		mg/L
385337	Sweet Briar Dam - SW Branch	4/11/2005	16:00	TKN	1.96		mg/L
385337	Sweet Briar Dam - SW Branch	4/11/2005	16:00	TSS	37.		mg/L
385337	Sweet Briar Dam - SW Branch	4/14/2005	8:45	Diss P	0.033		mg/L
385337	Sweet Briar Dam - SW Branch	4/14/2005	8:45	N (Total)	0.849		mg/L
385337	Sweet Briar Dam - SW Branch	4/14/2005	8:45	NH3-N	*Non-detect	0.010	mg/L
385337	Sweet Briar Dam - SW Branch	4/14/2005	8:45	NO3+NO2	0.03		mg/L
385337	Sweet Briar Dam - SW Branch	4/14/2005	8:45	P (Total)	0.066		mg/L
385337	Sweet Briar Dam - SW Branch	4/14/2005	8:45	TKN	0.819		mg/L
385337	Sweet Briar Dam - SW Branch	4/14/2005	8:45	TSS	8.		mg/L
385337	Sweet Briar Dam - SW Branch	4/17/2005	11:15	Diss P	0.032		mg/L
385337	Sweet Briar Dam - SW Branch	4/17/2005	11:15	N (Total)	0.881		mg/L
385337	Sweet Briar Dam - SW Branch	4/17/2005	11:15	NH3-N	*Non-detect	0.010	mg/L
385337	Sweet Briar Dam - SW Branch	4/17/2005	11:15	NO3+NO2	0.02		mg/L
385337	Sweet Briar Dam - SW Branch	4/17/2005	11:15	P (Total)	0.071		mg/L
385337	Sweet Briar Dam - SW Branch	4/17/2005	11:15	TKN	0.861		mg/L
385337	Sweet Briar Dam - SW Branch	4/17/2005	11:15	TSS	7.		mg/L
385337	Sweet Briar Dam - SW Branch	4/21/2005	12:45	Diss P	0.038		mg/L
385337	Sweet Briar Dam - SW Branch	4/21/2005	12:45	N (Total)	0.909		mg/L
385337	Sweet Briar Dam - SW Branch	4/21/2005	12:45	NH3-N	0.053		mg/L
385337	Sweet Briar Dam - SW Branch	4/21/2005	12:45	NO3+NO2	0.04		mg/L
385337	Sweet Briar Dam - SW Branch	4/21/2005	12:45	P (Total)	0.075		mg/L
385337	Sweet Briar Dam - SW Branch	4/21/2005	12:45	TKN	0.869		mg/L
385337	Sweet Briar Dam - SW Branch	4/21/2005	12:45	TSS	*Non-detect	5.	mg/L
385337	Sweet Briar Dam - SW Branch	4/24/2005	11:20	Diss P	0.040		mg/L
385337	Sweet Briar Dam - SW Branch	4/24/2005	11:20	N (Total)	0.922		mg/L
385337	Sweet Briar Dam - SW Branch	4/24/2005	11:20	NH3-N	0.056		mg/L
385337	Sweet Briar Dam - SW Branch	4/24/2005	11:20	NO3+NO2	0.02		mg/L
385337	Sweet Briar Dam - SW Branch	4/24/2005	11:20	P (Total)	0.060		mg/L
385337	Sweet Briar Dam - SW Branch	4/24/2005	11:20	TKN	0.902		mg/L
385337	Sweet Briar Dam - SW Branch	4/24/2005	11:20	TSS	34.		mg/L
385337	Sweet Briar Dam - SW Branch	4/30/2005	16:20	Diss P	0.036		mg/L
385337	Sweet Briar Dam - SW Branch	4/30/2005	16:20	N (Total)	1.05		mg/L
385337	Sweet Briar Dam - SW Branch	4/30/2005	16:20	NH3-N	0.033		mg/L
385337	Sweet Briar Dam - SW Branch	4/30/2005	16:20	NO3+NO2	0.03		mg/L
385337	Sweet Briar Dam - SW Branch	4/30/2005	16:20	P (Total)	0.085		mg/L
385337	Sweet Briar Dam - SW Branch	4/30/2005	16:20	TKN	1.02		mg/L
385337	Sweet Briar Dam - SW Branch	4/30/2005	16:20	TSS	12.		mg/L
385337	Sweet Briar Dam - SW Branch	5/3/2005	13:00	Diss P	0.033		mg/L
385337	Sweet Briar Dam - SW Branch	5/3/2005	13:00	N (Total)	1.11		mg/L
385337	Sweet Briar Dam - SW Branch	5/3/2005	13:00	NH3-N	0.052		mg/L
385337	Sweet Briar Dam - SW Branch	5/3/2005	13:00	NO3+NO2	0.03		mg/L
385337	Sweet Briar Dam - SW Branch	5/3/2005	13:00	P (Total)	0.098		mg/L
385337	Sweet Briar Dam - SW Branch	5/3/2005	13:00	TKN	1.08		mg/L
385337	Sweet Briar Dam - SW Branch	5/3/2005	13:00	TSS	10.		mg/L
385337	Sweet Briar Dam - SW Branch	5/5/2005	18:15	Diss P	0.045		mg/L
385337	Sweet Briar Dam - SW Branch	5/5/2005	18:15	N (Total)	0.952		mg/L
385337	Sweet Briar Dam - SW Branch	5/5/2005	18:15	NH3-N	*Non-detect	0.010	mg/L

SITE ID	LOCATION	DATE COLLECT	TIME COLLECT	ANALYTE NAME	RESULT	DETECT LIMIT	UNITS
385337	Sweet Briar Dam - SW Branch	5/5/2005	18:15	NO3+NO2	0.02		mg/L
385337	Sweet Briar Dam - SW Branch	5/5/2005	18:15	P (Total)	0.073		mg/L
385337	Sweet Briar Dam - SW Branch	5/5/2005	18:15	TKN	0.932		mg/L
385337	Sweet Briar Dam - SW Branch	5/5/2005	18:15	TSS	*Non-detect	5.	mg/L
385337	Sweet Briar Dam - SW Branch	5/9/2005	11:20	Diss P	0.048		mg/L
385337	Sweet Briar Dam - SW Branch	5/9/2005	11:20	N (Total)	1.34		mg/L
385337	Sweet Briar Dam - SW Branch	5/9/2005	11:20	NH3-N	0.258		mg/L
385337	Sweet Briar Dam - SW Branch	5/9/2005	11:20	NO3+NO2	0.03		mg/L
385337	Sweet Briar Dam - SW Branch	5/9/2005	11:20	P (Total)	0.087		mg/L
385337	Sweet Briar Dam - SW Branch	5/9/2005	11:20	TKN	1.31		mg/L
385337	Sweet Briar Dam - SW Branch	5/9/2005	11:20	TSS	8.		mg/L
385337	Sweet Briar Dam - SW Branch	5/13/2005	15:05	Diss P	0.041		mg/L
385337	Sweet Briar Dam - SW Branch	5/13/2005	15:05	N (Total)	1.51		mg/L
385337	Sweet Briar Dam - SW Branch	5/13/2005	15:05	NH3-N	0.355		mg/L
385337	Sweet Briar Dam - SW Branch	5/13/2005	15:05	NO3+NO2	0.03		mg/L
385337	Sweet Briar Dam - SW Branch	5/13/2005	15:05	P (Total)	0.106		mg/L
385337	Sweet Briar Dam - SW Branch	5/13/2005	15:05	TKN	1.48		mg/L
385337	Sweet Briar Dam - SW Branch	5/13/2005	15:05	TSS	12.		mg/L
385337	Sweet Briar Dam - SW Branch	5/18/2005	18:40	Diss P	0.035		mg/L
385337	Sweet Briar Dam - SW Branch	5/18/2005	18:40	N (Total)	1.00		mg/L
385337	Sweet Briar Dam - SW Branch	5/18/2005	18:40	NH3-N	0.175		mg/L
385337	Sweet Briar Dam - SW Branch	5/18/2005	18:40	NO3+NO2	0.05		mg/L
385337	Sweet Briar Dam - SW Branch	5/18/2005	18:40	P (Total)	0.061		mg/L
385337	Sweet Briar Dam - SW Branch	5/18/2005	18:40	TKN	0.950		mg/L
385337	Sweet Briar Dam - SW Branch	5/18/2005	18:40	TSS	8.		mg/L
385337	Sweet Briar Dam - SW Branch	5/23/2005	15:10	Diss P	0.037		mg/L
385337	Sweet Briar Dam - SW Branch	5/23/2005	15:10	N (Total)	1.05		mg/L
385337	Sweet Briar Dam - SW Branch	5/23/2005	15:10	NH3-N	0.037		mg/L
385337	Sweet Briar Dam - SW Branch	5/23/2005	15:10	NO3+NO2	0.02		mg/L
385337	Sweet Briar Dam - SW Branch	5/23/2005	15:10	P (Total)	0.056		mg/L
385337	Sweet Briar Dam - SW Branch	5/23/2005	15:10	TKN	1.03		mg/L
385337	Sweet Briar Dam - SW Branch	5/23/2005	15:10	TSS	6.		mg/L
385337	Sweet Briar Dam - SW Branch	5/27/2005	14:00	Diss P	0.038		mg/L
385337	Sweet Briar Dam - SW Branch	5/27/2005	14:00	N (Total)	1.48		mg/L
385337	Sweet Briar Dam - SW Branch	5/27/2005	14:00	NH3-N	0.038		mg/L
385337	Sweet Briar Dam - SW Branch	5/27/2005	14:00	NO3+NO2	0.02		mg/L
385337	Sweet Briar Dam - SW Branch	5/27/2005	14:00	P (Total)	0.100		mg/L
385337	Sweet Briar Dam - SW Branch	5/27/2005	14:00	TKN	1.46		mg/L
385337	Sweet Briar Dam - SW Branch	5/27/2005	14:00	TSS	6.		mg/L
385337	Sweet Briar Dam - SW Branch	6/1/2005	14:15	Diss P	0.033		mg/L
385337	Sweet Briar Dam - SW Branch	6/1/2005	14:15	N (Total)	1.26		mg/L
385337	Sweet Briar Dam - SW Branch	6/1/2005	14:15	NH3-N	*Non-detect	0.010	mg/L
385337	Sweet Briar Dam - SW Branch	6/1/2005	14:15	NO3+NO2	0.02		mg/L
385337	Sweet Briar Dam - SW Branch	6/1/2005	14:15	P (Total)	0.073		mg/L
385337	Sweet Briar Dam - SW Branch	6/1/2005	14:15	TKN	1.24		mg/L
385337	Sweet Briar Dam - SW Branch	6/1/2005	14:15	TSS	*Non-detect	5.	mg/L
385337	Sweet Briar Dam - SW Branch	6/3/2005	11:15	Diss P	0.032		mg/L
385337	Sweet Briar Dam - SW Branch	6/3/2005	11:15	N (Total)	1.25		mg/L
385337	Sweet Briar Dam - SW Branch	6/3/2005	11:15	NH3-N	*Non-detect	0.010	mg/L
385337	Sweet Briar Dam - SW Branch	6/3/2005	11:15	NO3+NO2	*Non-detect	0.02	mg/L
385337	Sweet Briar Dam - SW Branch	6/3/2005	11:15	P (Total)	0.075		mg/L
385337	Sweet Briar Dam - SW Branch	6/3/2005	11:15	TKN	1.23		mg/L
385337	Sweet Briar Dam - SW Branch	6/3/2005	11:15	TSS	6.		mg/L

SITE ID	LOCATION	DATE COLLECT	TIME COLLECT	ANALYTE NAME	RESULT	DETECT LIMIT	UNITS
385337	Sweet Briar Dam - SW Branch	6/6/2005	12:40	Diss P	0.041		mg/L
385337	Sweet Briar Dam - SW Branch	6/6/2005	12:40	N (Total)	1.29		mg/L
385337	Sweet Briar Dam - SW Branch	6/6/2005	12:40	NH3-N	*Non-detect	0.010	mg/L
385337	Sweet Briar Dam - SW Branch	6/6/2005	12:40	NO3+NO2	*Non-detect	0.02	mg/L
385337	Sweet Briar Dam - SW Branch	6/6/2005	12:40	P (Total)	0.098		mg/L
385337	Sweet Briar Dam - SW Branch	6/6/2005	12:40	TKN	1.27		mg/L
385337	Sweet Briar Dam - SW Branch	6/6/2005	12:40	TSS	8.		mg/L
385337	Sweet Briar Dam - SW Branch	6/9/2005	15:15	Diss P	0.040		mg/L
385337	Sweet Briar Dam - SW Branch	6/9/2005	15:15	N (Total)	1.01		mg/L
385337	Sweet Briar Dam - SW Branch	6/9/2005	15:15	NH3-N	*Non-detect	0.010	mg/L
385337	Sweet Briar Dam - SW Branch	6/9/2005	15:15	NO3+NO2	*Non-detect	0.02	mg/L
385337	Sweet Briar Dam - SW Branch	6/9/2005	15:15	P (Total)	0.067		mg/L
385337	Sweet Briar Dam - SW Branch	6/9/2005	15:15	TKN	0.990		mg/L
385337	Sweet Briar Dam - SW Branch	6/9/2005	15:15	TSS	*Non-detect	5.	mg/L
385337	Sweet Briar Dam - SW Branch	6/14/2005	14:40	Diss P	0.182		mg/L
385337	Sweet Briar Dam - SW Branch	6/14/2005	14:40	N (Total)	1.52		mg/L
385337	Sweet Briar Dam - SW Branch	6/14/2005	14:40	NH3-N	*Non-detect	0.010	mg/L
385337	Sweet Briar Dam - SW Branch	6/14/2005	14:40	NO3+NO2	*Non-detect	0.02	mg/L
385337	Sweet Briar Dam - SW Branch	6/14/2005	14:40	P (Total)	0.205		mg/L
385337	Sweet Briar Dam - SW Branch	6/14/2005	14:40	TKN	1.50		mg/L
385337	Sweet Briar Dam - SW Branch	6/14/2005	14:40	TSS	*Non-detect	5.	mg/L
385337	Sweet Briar Dam - SW Branch	6/17/2005	12:30	Diss P	0.177		mg/L
385337	Sweet Briar Dam - SW Branch	6/17/2005	12:30	N (Total)	1.47		mg/L
385337	Sweet Briar Dam - SW Branch	6/17/2005	12:30	NH3-N	*Non-detect	0.010	mg/L
385337	Sweet Briar Dam - SW Branch	6/17/2005	12:30	NO3+NO2	*Non-detect	0.02	mg/L
385337	Sweet Briar Dam - SW Branch	6/17/2005	12:30	P (Total)	0.202		mg/L
385337	Sweet Briar Dam - SW Branch	6/17/2005	12:30	TKN	1.45		mg/L
385337	Sweet Briar Dam - SW Branch	6/17/2005	12:30	TSS	*Non-detect	5.	mg/L
385337	Sweet Briar Dam - SW Branch	6/23/2005	11:00	Diss P	0.142		mg/L
385337	Sweet Briar Dam - SW Branch	6/23/2005	11:00	N (Total)	1.49		mg/L
385337	Sweet Briar Dam - SW Branch	6/23/2005	11:00	NH3-N	*Non-detect	0.010	mg/L
385337	Sweet Briar Dam - SW Branch	6/23/2005	11:00	NO3+NO2	0.02		mg/L
385337	Sweet Briar Dam - SW Branch	6/23/2005	11:00	P (Total)	0.174		mg/L
385337	Sweet Briar Dam - SW Branch	6/23/2005	11:00	TKN	1.47		mg/L
385337	Sweet Briar Dam - SW Branch	6/23/2005	11:00	TSS	*Non-detect	5.	mg/L
385337	Sweet Briar Dam - SW Branch	6/28/2005	18:05	Diss P	0.262		mg/L
385337	Sweet Briar Dam - SW Branch	6/28/2005	18:05	N (Total)	1.17		mg/L
385337	Sweet Briar Dam - SW Branch	6/28/2005	18:05	NH3-N	0.180		mg/L
385337	Sweet Briar Dam - SW Branch	6/28/2005	18:05	NO3+NO2	0.04		mg/L
385337	Sweet Briar Dam - SW Branch	6/28/2005	18:05	P (Total)	0.306		mg/L
385337	Sweet Briar Dam - SW Branch	6/28/2005	18:05	TKN	1.13		mg/L
385337	Sweet Briar Dam - SW Branch	6/28/2005	18:05	TSS	9.		mg/L
385337	Sweet Briar Dam - SW Branch	7/4/2005	8:40	Diss P	0.083		mg/L
385337	Sweet Briar Dam - SW Branch	7/4/2005	8:40	N (Total)	1.38		mg/L
385337	Sweet Briar Dam - SW Branch	7/4/2005	8:40	NH3-N	0.017		mg/L
385337	Sweet Briar Dam - SW Branch	7/4/2005	8:40	NO3+NO2	*Non-detect	0.02	mg/L
385337	Sweet Briar Dam - SW Branch	7/4/2005	8:40	P (Total)	0.107		mg/L
385337	Sweet Briar Dam - SW Branch	7/4/2005	8:40	TKN	1.36		mg/L
385337	Sweet Briar Dam - SW Branch	7/4/2005	8:40	TSS	*Non-detect	5.	mg/L
385337	Sweet Briar Dam - SW Branch	7/11/2005	11:41	N (Total)	1.70		mg/L
385337	Sweet Briar Dam - SW Branch	7/11/2005	11:41	NH3-N	0.044		mg/L
385337	Sweet Briar Dam - SW Branch	7/11/2005	11:41	NO3+NO2	0.02		mg/L
385337	Sweet Briar Dam - SW Branch	7/11/2005	11:41	P (Total)	0.152		mg/L

SITE ID	LOCATION	DATE COLLECT	TIME COLLECT	ANALYTE NAME	RESULT	DETECT LIMIT	UNITS
385337	Sweet Briar Dam - SW Branch	7/11/2005	11:41	TKN	1.68		mg/L
385337	Sweet Briar Dam - SW Branch	7/11/2005	11:41	TSS	28.		mg/L
385338	Sweet Briar Dam - NE Branch	3/9/2005	10:00	Diss P	0.275		mg/L
385338	Sweet Briar Dam - NE Branch	3/9/2005	10:00	N (Total)	1.97		mg/L
385338	Sweet Briar Dam - NE Branch	3/9/2005	10:00	NH3-N	0.178		mg/L
385338	Sweet Briar Dam - NE Branch	3/9/2005	10:00	NO3+NO2	0.18		mg/L
385338	Sweet Briar Dam - NE Branch	3/9/2005	10:00	P (Total)	0.272		mg/L
385338	Sweet Briar Dam - NE Branch	3/9/2005	10:00	TKN	1.79		mg/L
385338	Sweet Briar Dam - NE Branch	3/9/2005	10:00	TSS	*Non-detect	5.	mg/L
385338	Sweet Briar Dam - NE Branch	3/15/2005	11:45	Diss P	0.113		mg/L
385338	Sweet Briar Dam - NE Branch	3/15/2005	11:45	N (Total)	1.55		mg/L
385338	Sweet Briar Dam - NE Branch	3/15/2005	11:45	NH3-N	*Non-detect	0.010	mg/L
385338	Sweet Briar Dam - NE Branch	3/15/2005	11:45	NO3+NO2	0.04		mg/L
385338	Sweet Briar Dam - NE Branch	3/15/2005	11:45	P (Total)	0.169		mg/L
385338	Sweet Briar Dam - NE Branch	3/15/2005	11:45	TKN	1.51		mg/L
385338	Sweet Briar Dam - NE Branch	3/15/2005	11:45	TSS	40.		mg/L
385338	Sweet Briar Dam - NE Branch	3/18/2005	13:40	Diss P	0.168		mg/L
385338	Sweet Briar Dam - NE Branch	3/18/2005	13:40	N (Total)	1.88		mg/L
385338	Sweet Briar Dam - NE Branch	3/18/2005	13:40	NH3-N	0.058		mg/L
385338	Sweet Briar Dam - NE Branch	3/18/2005	13:40	NO3+NO2	0.10		mg/L
385338	Sweet Briar Dam - NE Branch	3/18/2005	13:40	P (Total)	0.264		mg/L
385338	Sweet Briar Dam - NE Branch	3/18/2005	13:40	TKN	1.78		mg/L
385338	Sweet Briar Dam - NE Branch	3/18/2005	13:40	TSS	256.		mg/L
385338	Sweet Briar Dam - NE Branch	3/21/2005	15:10	Diss P	0.101		mg/L
385338	Sweet Briar Dam - NE Branch	3/21/2005	15:10	N (Total)	1.57		mg/L
385338	Sweet Briar Dam - NE Branch	3/21/2005	15:10	NH3-N	*Non-detect	0.010	mg/L
385338	Sweet Briar Dam - NE Branch	3/21/2005	15:10	NO3+NO2	0.04		mg/L
385338	Sweet Briar Dam - NE Branch	3/21/2005	15:10	P (Total)	0.138		mg/L
385338	Sweet Briar Dam - NE Branch	3/21/2005	15:10	TKN	1.53		mg/L
385338	Sweet Briar Dam - NE Branch	3/21/2005	15:10	TSS	*Non-detect	5.	mg/L
385338	Sweet Briar Dam - NE Branch	3/25/2005	12:35	Diss P	0.098		mg/L
385338	Sweet Briar Dam - NE Branch	3/25/2005	12:35	N (Total)	1.67		mg/L
385338	Sweet Briar Dam - NE Branch	3/25/2005	12:35	NH3-N	*Non-detect	0.010	mg/L
385338	Sweet Briar Dam - NE Branch	3/25/2005	12:35	NO3+NO2	0.04		mg/L
385338	Sweet Briar Dam - NE Branch	3/25/2005	12:35	P (Total)	0.141		mg/L
385338	Sweet Briar Dam - NE Branch	3/25/2005	12:35	TKN	1.63		mg/L
385338	Sweet Briar Dam - NE Branch	3/25/2005	12:35	TSS	*Non-detect	5.	mg/L
385338	Sweet Briar Dam - NE Branch	3/27/2005	12:00	Diss P	0.085		mg/L
385338	Sweet Briar Dam - NE Branch	3/27/2005	12:00	N (Total)	1.50		mg/L
385338	Sweet Briar Dam - NE Branch	3/27/2005	12:00	NH3-N	0.026		mg/L
385338	Sweet Briar Dam - NE Branch	3/27/2005	12:00	NO3+NO2	0.02		mg/L
385338	Sweet Briar Dam - NE Branch	3/27/2005	12:00	P (Total)	0.127		mg/L
385338	Sweet Briar Dam - NE Branch	3/27/2005	12:00	TKN	1.48		mg/L
385338	Sweet Briar Dam - NE Branch	3/27/2005	12:00	TSS	*Non-detect	5.	mg/L
385338	Sweet Briar Dam - NE Branch	4/1/2005	12:22	Diss P	0.087		mg/L
385338	Sweet Briar Dam - NE Branch	4/1/2005	12:22	N (Total)	1.58		mg/L
385338	Sweet Briar Dam - NE Branch	4/1/2005	12:22	NH3-N	0.077		mg/L
385338	Sweet Briar Dam - NE Branch	4/1/2005	12:22	NO3+NO2	0.02		mg/L
385338	Sweet Briar Dam - NE Branch	4/1/2005	12:22	P (Total)	0.123		mg/L
385338	Sweet Briar Dam - NE Branch	4/1/2005	12:22	TKN	1.56		mg/L
385338	Sweet Briar Dam - NE Branch	4/1/2005	12:22	TSS	*Non-detect	5.	mg/L
385338	Sweet Briar Dam - NE Branch	4/5/2005	15:45	Diss P	0.087		mg/L
385338	Sweet Briar Dam - NE Branch	4/5/2005	15:45	N (Total)	1.69		mg/L

SITE ID	LOCATION	DATE COLLECT	TIME COLLECT	ANALYTE NAME	RESULT	DETECT LIMIT	UNITS
385338	Sweet Briar Dam - NE Branch	4/5/2005	15:45	NH3-N	0.025		mg/L
385338	Sweet Briar Dam - NE Branch	4/5/2005	15:45	NO3+NO2	*Non-detect	0.02	mg/L
385338	Sweet Briar Dam - NE Branch	4/5/2005	15:45	P (Total)	0.139		mg/L
385338	Sweet Briar Dam - NE Branch	4/5/2005	15:45	TKN	1.67		mg/L
385338	Sweet Briar Dam - NE Branch	4/5/2005	15:45	TSS	6.		mg/L
385338	Sweet Briar Dam - NE Branch	4/8/2005	13:10	Diss P	0.078		mg/L
385338	Sweet Briar Dam - NE Branch	4/8/2005	13:10	N (Total)	1.49		mg/L
385338	Sweet Briar Dam - NE Branch	4/8/2005	13:10	NH3-N	*Non-detect	0.010	mg/L
385338	Sweet Briar Dam - NE Branch	4/8/2005	13:10	NO3+NO2	0.02		mg/L
385338	Sweet Briar Dam - NE Branch	4/8/2005	13:10	P (Total)	0.098		mg/L
385338	Sweet Briar Dam - NE Branch	4/8/2005	13:10	TKN	1.47		mg/L
385338	Sweet Briar Dam - NE Branch	4/8/2005	13:10	TSS	10.		mg/L
385338	Sweet Briar Dam - NE Branch	4/11/2005	16:15	Diss P	0.026		mg/L
385338	Sweet Briar Dam - NE Branch	4/11/2005	16:15	N (Total)	0.857		mg/L
385338	Sweet Briar Dam - NE Branch	4/11/2005	16:15	NH3-N	*Non-detect	0.010	mg/L
385338	Sweet Briar Dam - NE Branch	4/11/2005	16:15	NO3+NO2	*Non-detect	0.02	mg/L
385338	Sweet Briar Dam - NE Branch	4/11/2005	16:15	P (Total)	0.043		mg/L
385338	Sweet Briar Dam - NE Branch	4/11/2005	16:15	TKN	0.837		mg/L
385338	Sweet Briar Dam - NE Branch	4/11/2005	16:15	TSS	*Non-detect	5.	mg/L
385338	Sweet Briar Dam - NE Branch	4/14/2005	8:55	Diss P	0.115		mg/L
385338	Sweet Briar Dam - NE Branch	4/14/2005	8:55	N (Total)	2.47		mg/L
385338	Sweet Briar Dam - NE Branch	4/14/2005	8:55	NH3-N	*Non-detect	0.010	mg/L
385338	Sweet Briar Dam - NE Branch	4/14/2005	8:55	NO3+NO2	0.02		mg/L
385338	Sweet Briar Dam - NE Branch	4/14/2005	8:55	P (Total)	0.141		mg/L
385338	Sweet Briar Dam - NE Branch	4/14/2005	8:55	TKN	2.45		mg/L
385338	Sweet Briar Dam - NE Branch	4/14/2005	8:55	TSS	9.		mg/L
385338	Sweet Briar Dam - NE Branch	4/17/2005	11:30	Diss P	0.084		mg/L
385338	Sweet Briar Dam - NE Branch	4/17/2005	11:30	N (Total)	2.47		mg/L
385338	Sweet Briar Dam - NE Branch	4/17/2005	11:30	NH3-N	*Non-detect	0.010	mg/L
385338	Sweet Briar Dam - NE Branch	4/17/2005	11:30	NO3+NO2	0.03		mg/L
385338	Sweet Briar Dam - NE Branch	4/17/2005	11:30	P (Total)	0.138		mg/L
385338	Sweet Briar Dam - NE Branch	4/17/2005	11:30	TKN	2.44		mg/L
385338	Sweet Briar Dam - NE Branch	4/17/2005	11:30	TSS	18.		mg/L
385338	Sweet Briar Dam - NE Branch	4/21/2005	12:55	Diss P	0.092		mg/L
385338	Sweet Briar Dam - NE Branch	4/21/2005	12:55	N (Total)	2.11		mg/L
385338	Sweet Briar Dam - NE Branch	4/21/2005	12:55	NH3-N	*Non-detect	0.010	mg/L
385338	Sweet Briar Dam - NE Branch	4/21/2005	12:55	NO3+NO2	0.04		mg/L
385338	Sweet Briar Dam - NE Branch	4/21/2005	12:55	P (Total)	0.168		mg/L
385338	Sweet Briar Dam - NE Branch	4/21/2005	12:55	TKN	2.07		mg/L
385338	Sweet Briar Dam - NE Branch	4/21/2005	12:55	TSS	9.		mg/L
385338	Sweet Briar Dam - NE Branch	5/9/2005	11:30	Diss P	0.228		mg/L
385338	Sweet Briar Dam - NE Branch	5/9/2005	11:30	N (Total)	3.22		mg/L
385338	Sweet Briar Dam - NE Branch	5/9/2005	11:30	NH3-N	0.020		mg/L
385338	Sweet Briar Dam - NE Branch	5/9/2005	11:30	NO3+NO2	0.06		mg/L
385338	Sweet Briar Dam - NE Branch	5/9/2005	11:30	P (Total)	0.284		mg/L
385338	Sweet Briar Dam - NE Branch	5/9/2005	11:30	TKN	3.16		mg/L
385338	Sweet Briar Dam - NE Branch	5/9/2005	11:30	TSS	13.		mg/L
385338	Sweet Briar Dam - NE Branch	5/13/2005	15:35	Diss P	0.136		mg/L
385338	Sweet Briar Dam - NE Branch	5/13/2005	15:35	N (Total)	2.29		mg/L
385338	Sweet Briar Dam - NE Branch	5/13/2005	15:35	NH3-N	0.015		mg/L
385338	Sweet Briar Dam - NE Branch	5/13/2005	15:35	NO3+NO2	0.02		mg/L
385338	Sweet Briar Dam - NE Branch	5/13/2005	15:35	P (Total)	0.162		mg/L
385338	Sweet Briar Dam - NE Branch	5/13/2005	15:35	TKN	2.27		mg/L

SITE ID	LOCATION	DATE COLLECT	TIME COLLECT	ANALYTE NAME	RESULT	DETECT LIMIT	UNITS
385338	Sweet Briar Dam - NE Branch	5/13/2005	15:35	TSS	8.		mg/L
385338	Sweet Briar Dam - NE Branch	5/15/2005	14:30	Diss P	0.123		mg/L
385338	Sweet Briar Dam - NE Branch	5/15/2005	14:30	N (Total)	2.55		mg/L
385338	Sweet Briar Dam - NE Branch	5/15/2005	14:30	NH3-N	0.011		mg/L
385338	Sweet Briar Dam - NE Branch	5/15/2005	14:30	NO3+NO2	*Non-detect	0.02	mg/L
385338	Sweet Briar Dam - NE Branch	5/15/2005	14:30	P (Total)	0.166		mg/L
385338	Sweet Briar Dam - NE Branch	5/15/2005	14:30	TKN	2.53		mg/L
385338	Sweet Briar Dam - NE Branch	5/15/2005	14:30	TSS	12.		mg/L
385338	Sweet Briar Dam - NE Branch	5/18/2005	18:30	Diss P	0.098		mg/L
385338	Sweet Briar Dam - NE Branch	5/18/2005	18:30	N (Total)	2.55		mg/L
385338	Sweet Briar Dam - NE Branch	5/18/2005	18:30	NH3-N	*Non-detect	0.010	mg/L
385338	Sweet Briar Dam - NE Branch	5/18/2005	18:30	NO3+NO2	0.02		mg/L
385338	Sweet Briar Dam - NE Branch	5/18/2005	18:30	P (Total)	0.142		mg/L
385338	Sweet Briar Dam - NE Branch	5/18/2005	18:30	TKN	2.53		mg/L
385338	Sweet Briar Dam - NE Branch	5/18/2005	18:30	TSS	15.		mg/L
385338	Sweet Briar Dam - NE Branch	5/23/2005	15:15	Diss P	0.141		mg/L
385338	Sweet Briar Dam - NE Branch	5/23/2005	15:15	N (Total)	2.65		mg/L
385338	Sweet Briar Dam - NE Branch	5/23/2005	15:15	NH3-N	*Non-detect	0.010	mg/L
385338	Sweet Briar Dam - NE Branch	5/23/2005	15:15	NO3+NO2	*Non-detect	0.02	mg/L
385338	Sweet Briar Dam - NE Branch	5/23/2005	15:15	P (Total)	0.172		mg/L
385338	Sweet Briar Dam - NE Branch	5/23/2005	15:15	TKN	2.63		mg/L
385338	Sweet Briar Dam - NE Branch	5/23/2005	15:15	TSS	13.		mg/L
385338	Sweet Briar Dam - NE Branch	5/27/2005	14:25	Diss P	0.043		mg/L
385338	Sweet Briar Dam - NE Branch	5/27/2005	14:25	N (Total)	2.13		mg/L
385338	Sweet Briar Dam - NE Branch	5/27/2005	14:25	NH3-N	*Non-detect	0.010	mg/L
385338	Sweet Briar Dam - NE Branch	5/27/2005	14:25	NO3+NO2	0.02		mg/L
385338	Sweet Briar Dam - NE Branch	5/27/2005	14:25	P (Total)	0.126		mg/L
385338	Sweet Briar Dam - NE Branch	5/27/2005	14:25	TKN	2.11		mg/L
385338	Sweet Briar Dam - NE Branch	5/27/2005	14:25	TSS	241.		mg/L
385338	Sweet Briar Dam - NE Branch	6/1/2005	14:30	Diss P	0.047		mg/L
385338	Sweet Briar Dam - NE Branch	6/1/2005	14:30	N (Total)	2.00		mg/L
385338	Sweet Briar Dam - NE Branch	6/1/2005	14:30	NH3-N	*Non-detect	0.010	mg/L
385338	Sweet Briar Dam - NE Branch	6/1/2005	14:30	NO3+NO2	0.02		mg/L
385338	Sweet Briar Dam - NE Branch	6/1/2005	14:30	P (Total)	0.091		mg/L
385338	Sweet Briar Dam - NE Branch	6/1/2005	14:30	TKN	1.98		mg/L
385338	Sweet Briar Dam - NE Branch	6/1/2005	14:30	TSS	30.		mg/L
385338	Sweet Briar Dam - NE Branch	6/3/2005	11:25	Diss P	0.183		mg/L
385338	Sweet Briar Dam - NE Branch	6/3/2005	11:25	N (Total)	2.94		mg/L
385338	Sweet Briar Dam - NE Branch	6/3/2005	11:25	NH3-N	*Non-detect	0.010	mg/L
385338	Sweet Briar Dam - NE Branch	6/3/2005	11:25	NO3+NO2	*Non-detect	0.02	mg/L
385338	Sweet Briar Dam - NE Branch	6/3/2005	11:25	P (Total)	0.237		mg/L
385338	Sweet Briar Dam - NE Branch	6/3/2005	11:25	TKN	2.92		mg/L
385338	Sweet Briar Dam - NE Branch	6/3/2005	11:25	TSS	*Non-detect	5.	mg/L
385338	Sweet Briar Dam - NE Branch	6/9/2005	15:00	Diss P	0.385		mg/L
385338	Sweet Briar Dam - NE Branch	6/9/2005	15:00	N (Total)	3.12		mg/L
385338	Sweet Briar Dam - NE Branch	6/9/2005	15:00	NH3-N	0.028		mg/L
385338	Sweet Briar Dam - NE Branch	6/9/2005	15:00	NO3+NO2	0.03		mg/L
385338	Sweet Briar Dam - NE Branch	6/9/2005	15:00	P (Total)	0.437		mg/L
385338	Sweet Briar Dam - NE Branch	6/9/2005	15:00	TKN	3.09		mg/L
385338	Sweet Briar Dam - NE Branch	6/9/2005	15:00	TSS	*Non-detect	5.	mg/L
385338	Sweet Briar Dam - NE Branch	6/14/2005	14:25	Diss P	0.284		mg/L
385338	Sweet Briar Dam - NE Branch	6/14/2005	14:25	N (Total)	3.42		mg/L
385338	Sweet Briar Dam - NE Branch	6/14/2005	14:25	NH3-N	0.097		mg/L

SITE ID	LOCATION	DATE COLLECT	TIME COLLECT	ANALYTE NAME	RESULT	DETECT LIMIT	UNITS
385338	Sweet Briar Dam - NE Branch	6/14/2005	14:25	NO3+NO2	0.03		mg/L
385338	Sweet Briar Dam - NE Branch	6/14/2005	14:25	P (Total)	0.525		mg/L
385338	Sweet Briar Dam - NE Branch	6/14/2005	14:25	TKN	3.39		mg/L
385338	Sweet Briar Dam - NE Branch	6/14/2005	14:25	TSS	17.		mg/L
385338	Sweet Briar Dam - NE Branch	7/4/2005	9:00	Diss P	0.306		mg/L
385338	Sweet Briar Dam - NE Branch	7/4/2005	9:00	N (Total)	2.91		mg/L
385338	Sweet Briar Dam - NE Branch	7/4/2005	9:00	NH3-N	0.018		mg/L
385338	Sweet Briar Dam - NE Branch	7/4/2005	9:00	NO3+NO2	0.15		mg/L
385338	Sweet Briar Dam - NE Branch	7/4/2005	9:00	P (Total)	0.380		mg/L
385338	Sweet Briar Dam - NE Branch	7/4/2005	9:00	TKN	2.76		mg/L
385338	Sweet Briar Dam - NE Branch	7/4/2005	9:00	TSS	9.		mg/L
385338	Sweet Briar Dam - NE Branch	7/11/2005	12:16	N (Total)	26.8		mg/L
385338	Sweet Briar Dam - NE Branch	7/11/2005	12:16	NH3-N	17.2		mg/L
385338	Sweet Briar Dam - NE Branch	7/11/2005	12:16	NO3+NO2	0.03		mg/L
385338	Sweet Briar Dam - NE Branch	7/11/2005	12:16	P (Total)	3.78		mg/L
385338	Sweet Briar Dam - NE Branch	7/11/2005	12:16	TKN	26.8		mg/L
385338	Sweet Briar Dam - NE Branch	7/11/2005	12:16	TSS	56.		mg/L

Sweet Briar Dam Outlet Site Data for 2004-2005

SITE ID	LOCATION	DATE COLLECT	TIME COLLECT	ANALYTE NAME	RESULT	DETECT LIMIT	UNITS
385334	Sweet Briar Dam - Outlet	10/21/2004	10:30	Diss P	0.042		mg/L
385334	Sweet Briar Dam - Outlet	10/21/2004	10:30	N (Total)	0.933		mg/L
385334	Sweet Briar Dam - Outlet	10/21/2004	10:30	NH3-N	0.102		mg/L
385334	Sweet Briar Dam - Outlet	10/21/2004	10:30	NO3+NO2	0.25		mg/L
385334	Sweet Briar Dam - Outlet	10/21/2004	10:30	P (Total)	0.067		mg/L
385334	Sweet Briar Dam - Outlet	10/21/2004	10:30	TKN	0.683		mg/L
385334	Sweet Briar Dam - Outlet	10/21/2004	10:30	TSS	*Non-detect	5.	mg/L
385334	Sweet Briar Dam - Outlet	11/11/2004	9:30	Diss P	0.029		mg/L
385334	Sweet Briar Dam - Outlet	11/11/2004	9:30	N (Total)	1.79		mg/L
385334	Sweet Briar Dam - Outlet	11/11/2004	9:30	NH3-N	0.504		mg/L
385334	Sweet Briar Dam - Outlet	11/11/2004	9:30	NO3+NO2	0.80		mg/L
385334	Sweet Briar Dam - Outlet	11/11/2004	9:30	P (Total)	0.064		mg/L
385334	Sweet Briar Dam - Outlet	11/11/2004	9:30	TKN	0.990		mg/L
385334	Sweet Briar Dam - Outlet	11/11/2004	9:30	TSS	*Non-detect	5.	mg/L
385334	Sweet Briar Dam - Outlet	1/7/2005	10:30	Diss P	0.063		mg/L
385334	Sweet Briar Dam - Outlet	1/7/2005	10:30	N (Total)	1.13		mg/L
385334	Sweet Briar Dam - Outlet	1/7/2005	10:30	NH3-N	0.041		mg/L
385334	Sweet Briar Dam - Outlet	1/7/2005	10:30	NO3+NO2	0.10		mg/L
385334	Sweet Briar Dam - Outlet	1/7/2005	10:30	P (Total)	0.086		mg/L
385334	Sweet Briar Dam - Outlet	1/7/2005	10:30	TKN	1.03		mg/L
385334	Sweet Briar Dam - Outlet	1/7/2005	10:30	TSS	48.		mg/L
385334	Sweet Briar Dam - Outlet	1/10/2005	15:45	Diss P	0.064		mg/L
385334	Sweet Briar Dam - Outlet	1/10/2005	15:45	N (Total)	1.53		mg/L
385334	Sweet Briar Dam - Outlet	1/10/2005	15:45	NH3-N	0.029		mg/L
385334	Sweet Briar Dam - Outlet	1/10/2005	15:45	NO3+NO2	0.07		mg/L
385334	Sweet Briar Dam - Outlet	1/10/2005	15:45	P (Total)	0.079		mg/L
385334	Sweet Briar Dam - Outlet	1/10/2005	15:45	TKN	1.46		mg/L
385334	Sweet Briar Dam - Outlet	1/10/2005	15:45	TSS	45.		mg/L
385334	Sweet Briar Dam - Outlet	1/12/2005	10:50	Diss P	0.065		mg/L
385334	Sweet Briar Dam - Outlet	1/12/2005	10:50	N (Total)	1.33		mg/L
385334	Sweet Briar Dam - Outlet	1/12/2005	10:50	NH3-N	0.023		mg/L
385334	Sweet Briar Dam - Outlet	1/12/2005	10:50	NO3+NO2	0.06		mg/L
385334	Sweet Briar Dam - Outlet	1/12/2005	10:50	P (Total)	0.082		mg/L
385334	Sweet Briar Dam - Outlet	1/12/2005	10:50	TKN	1.27		mg/L
385334	Sweet Briar Dam - Outlet	1/12/2005	10:50	TSS	49.		mg/L
385334	Sweet Briar Dam - Outlet	1/18/2005	10:00	Diss P	0.056		mg/L
385334	Sweet Briar Dam - Outlet	1/18/2005	10:00	N (Total)	1.15		mg/L
385334	Sweet Briar Dam - Outlet	1/18/2005	10:00	NH3-N	0.091		mg/L
385334	Sweet Briar Dam - Outlet	1/18/2005	10:00	NO3+NO2	0.07		mg/L
385334	Sweet Briar Dam - Outlet	1/18/2005	10:00	P (Total)	0.079		mg/L
385334	Sweet Briar Dam - Outlet	1/18/2005	10:00	TKN	1.08		mg/L
385334	Sweet Briar Dam - Outlet	1/18/2005	10:00	TSS	6.		mg/L
385334	Sweet Briar Dam - Outlet	1/21/2005	12:30	Diss P	0.055		mg/L
385334	Sweet Briar Dam - Outlet	1/21/2005	12:30	N (Total)	1.36		mg/L
385334	Sweet Briar Dam - Outlet	1/21/2005	12:30	NH3-N	*Non-detect	0.010	mg/L
385334	Sweet Briar Dam - Outlet	1/21/2005	12:30	NO3+NO2	0.10		mg/L
385334	Sweet Briar Dam - Outlet	1/21/2005	12:30	P (Total)	0.070		mg/L

SITE ID	LOCATION	DATE COLLECT	TIME COLLECT	ANALYTE NAME	RESULT	DETECT LIMIT	UNITS
385334	Sweet Briar Dam - Outlet	1/21/2005	12:30	TKN	1.26		mg/L
385334	Sweet Briar Dam - Outlet	1/21/2005	12:30	TSS	*Non-detect	5.	mg/L
385334	Sweet Briar Dam - Outlet	1/24/2005	14:30	Diss P	0.061		mg/L
385334	Sweet Briar Dam - Outlet	1/24/2005	14:30	N (Total)	1.75		mg/L
385334	Sweet Briar Dam - Outlet	1/24/2005	14:30	NH3-N	*Non-detect	0.010	mg/L
385334	Sweet Briar Dam - Outlet	1/24/2005	14:30	NO3+NO2	0.07		mg/L
385334	Sweet Briar Dam - Outlet	1/24/2005	14:30	P (Total)	0.083		mg/L
385334	Sweet Briar Dam - Outlet	1/24/2005	14:30	TKN	1.68		mg/L
385334	Sweet Briar Dam - Outlet	1/24/2005	14:30	TSS	*Non-detect	5.	mg/L
385334	Sweet Briar Dam - Outlet	1/27/2005	17:45	Diss P	0.062		mg/L
385334	Sweet Briar Dam - Outlet	1/27/2005	17:45	N (Total)	1.47		mg/L
385334	Sweet Briar Dam - Outlet	1/27/2005	17:45	NH3-N	*Non-detect	0.010	mg/L
385334	Sweet Briar Dam - Outlet	1/27/2005	17:45	NO3+NO2	0.06		mg/L
385334	Sweet Briar Dam - Outlet	1/27/2005	17:45	P (Total)	0.074		mg/L
385334	Sweet Briar Dam - Outlet	1/27/2005	17:45	TKN	1.41		mg/L
385334	Sweet Briar Dam - Outlet	1/27/2005	17:45	TSS	*Non-detect	5.	mg/L
385334	Sweet Briar Dam - Outlet	2/1/2005	15:45	Diss P	0.051		mg/L
385334	Sweet Briar Dam - Outlet	2/1/2005	15:45	N (Total)	1.71		mg/L
385334	Sweet Briar Dam - Outlet	2/1/2005	15:45	NH3-N	*Non-detect	0.010	mg/L
385334	Sweet Briar Dam - Outlet	2/1/2005	15:45	NO3+NO2	0.05		mg/L
385334	Sweet Briar Dam - Outlet	2/1/2005	15:45	P (Total)	0.067		mg/L
385334	Sweet Briar Dam - Outlet	2/1/2005	15:45	TKN	1.66		mg/L
385334	Sweet Briar Dam - Outlet	2/1/2005	15:45	TSS	*Non-detect	5.	mg/L
385334	Sweet Briar Dam - Outlet	2/5/2005	15:00	Diss P	0.063		mg/L
385334	Sweet Briar Dam - Outlet	2/5/2005	15:00	N (Total)	1.14		mg/L
385334	Sweet Briar Dam - Outlet	2/5/2005	15:00	NH3-N	*Non-detect	0.010	mg/L
385334	Sweet Briar Dam - Outlet	2/5/2005	15:00	NO3+NO2	0.06		mg/L
385334	Sweet Briar Dam - Outlet	2/5/2005	15:00	P (Total)	0.089		mg/L
385334	Sweet Briar Dam - Outlet	2/5/2005	15:00	TKN	1.08		mg/L
385334	Sweet Briar Dam - Outlet	2/5/2005	15:00	TSS	*Non-detect	5.	mg/L
385334	Sweet Briar Dam - Outlet	2/7/2005	15:15	Diss P	0.055		mg/L
385334	Sweet Briar Dam - Outlet	2/7/2005	15:15	N (Total)	1.04		mg/L
385334	Sweet Briar Dam - Outlet	2/7/2005	15:15	NH3-N	*Non-detect	0.010	mg/L
385334	Sweet Briar Dam - Outlet	2/7/2005	15:15	NO3+NO2	0.06		mg/L
385334	Sweet Briar Dam - Outlet	2/7/2005	15:15	P (Total)	0.082		mg/L
385334	Sweet Briar Dam - Outlet	2/7/2005	15:15	TKN	0.980		mg/L
385334	Sweet Briar Dam - Outlet	2/7/2005	15:15	TSS	*Non-detect	5.	mg/L
385334	Sweet Briar Dam - Outlet	2/8/2005	13:00	Diss P	0.070		mg/L
385334	Sweet Briar Dam - Outlet	2/8/2005	13:00	N (Total)	1.16		mg/L
385334	Sweet Briar Dam - Outlet	2/8/2005	13:00	NH3-N	*Non-detect	0.010	mg/L
385334	Sweet Briar Dam - Outlet	2/8/2005	13:00	NO3+NO2	0.19		mg/L
385334	Sweet Briar Dam - Outlet	2/8/2005	13:00	P (Total)	0.083		mg/L
385334	Sweet Briar Dam - Outlet	2/8/2005	13:00	TKN	0.970		mg/L
385334	Sweet Briar Dam - Outlet	2/8/2005	13:00	TSS	*Non-detect	5.	mg/L
385334	Sweet Briar Dam - Outlet	2/14/2005	14:00	Diss P	0.042		mg/L
385334	Sweet Briar Dam - Outlet	2/14/2005	14:00	N (Total)	1.02		mg/L
385334	Sweet Briar Dam - Outlet	2/14/2005	14:00	NH3-N	*Non-detect	0.010	mg/L
385334	Sweet Briar Dam - Outlet	2/14/2005	14:00	NO3+NO2	0.09		mg/L

SITE ID	LOCATION	DATE COLLECT	TIME COLLECT	ANALYTE NAME	RESULT	DETECT LIMIT	UNITS
385334	Sweet Briar Dam - Outlet	2/14/2005	14:00	P (Total)	0.060		mg/L
385334	Sweet Briar Dam - Outlet	2/14/2005	14:00	TKN	0.930		mg/L
385334	Sweet Briar Dam - Outlet	2/14/2005	14:00	TSS	6.		mg/L
385334	Sweet Briar Dam - Outlet	2/17/2005	14:30	Diss P	0.034		mg/L
385334	Sweet Briar Dam - Outlet	2/17/2005	14:30	N (Total)	0.943		mg/L
385334	Sweet Briar Dam - Outlet	2/17/2005	14:30	NH3-N	*Non-detect	0.010	mg/L
385334	Sweet Briar Dam - Outlet	2/17/2005	14:30	NO3+NO2	0.04		mg/L
385334	Sweet Briar Dam - Outlet	2/17/2005	14:30	P (Total)	0.059		mg/L
385334	Sweet Briar Dam - Outlet	2/17/2005	14:30	TKN	0.903		mg/L
385334	Sweet Briar Dam - Outlet	2/17/2005	14:30	TSS	*Non-detect	5.	mg/L
385334	Sweet Briar Dam - Outlet	2/21/2005	16:45	Diss P	0.038		mg/L
385334	Sweet Briar Dam - Outlet	2/21/2005	16:45	N (Total)	0.921		mg/L
385334	Sweet Briar Dam - Outlet	2/21/2005	16:45	NH3-N	*Non-detect	0.010	mg/L
385334	Sweet Briar Dam - Outlet	2/21/2005	16:45	NO3+NO2	0.03		mg/L
385334	Sweet Briar Dam - Outlet	2/21/2005	16:45	P (Total)	0.056		mg/L
385334	Sweet Briar Dam - Outlet	2/21/2005	16:45	TKN	0.891		mg/L
385334	Sweet Briar Dam - Outlet	2/21/2005	16:45	TSS	*Non-detect	5.	mg/L
385334	Sweet Briar Dam - Outlet	2/24/2005	15:15	Diss P	0.056		mg/L
385334	Sweet Briar Dam - Outlet	2/24/2005	15:15	N (Total)	1.26		mg/L
385334	Sweet Briar Dam - Outlet	2/24/2005	15:15	NH3-N	*Non-detect	0.010	mg/L
385334	Sweet Briar Dam - Outlet	2/24/2005	15:15	NO3+NO2	0.02		mg/L
385334	Sweet Briar Dam - Outlet	2/24/2005	15:15	P (Total)	0.067		mg/L
385334	Sweet Briar Dam - Outlet	2/24/2005	15:15	TKN	1.24		mg/L
385334	Sweet Briar Dam - Outlet	2/24/2005	15:15	TSS	*Non-detect	5.	mg/L
385334	Sweet Briar Dam - Outlet	2/28/2005	10:00	Diss P	0.042		mg/L
385334	Sweet Briar Dam - Outlet	2/28/2005	10:00	N (Total)	1.04		mg/L
385334	Sweet Briar Dam - Outlet	2/28/2005	10:00	NH3-N	*Non-detect	0.010	mg/L
385334	Sweet Briar Dam - Outlet	2/28/2005	10:00	NO3+NO2	0.03		mg/L
385334	Sweet Briar Dam - Outlet	2/28/2005	10:00	P (Total)	0.077		mg/L
385334	Sweet Briar Dam - Outlet	2/28/2005	10:00	TKN	1.01		mg/L
385334	Sweet Briar Dam - Outlet	2/28/2005	10:00	TSS	*Non-detect	5.	mg/L
385334	Sweet Briar Dam - Outlet	3/3/2005	12:00	Diss P	0.044		mg/L
385334	Sweet Briar Dam - Outlet	3/3/2005	12:00	N (Total)	1.11		mg/L
385334	Sweet Briar Dam - Outlet	3/3/2005	12:00	NH3-N	*Non-detect	0.010	mg/L
385334	Sweet Briar Dam - Outlet	3/3/2005	12:00	NO3+NO2	0.05		mg/L
385334	Sweet Briar Dam - Outlet	3/3/2005	12:00	P (Total)	0.079		mg/L
385334	Sweet Briar Dam - Outlet	3/3/2005	12:00	TKN	1.06		mg/L
385334	Sweet Briar Dam - Outlet	3/3/2005	12:00	TSS	*Non-detect	5.	mg/L
385334	Sweet Briar Dam - Outlet	3/7/2005	15:00	Diss P	0.039		mg/L
385334	Sweet Briar Dam - Outlet	3/7/2005	15:00	N (Total)	0.955		mg/L
385334	Sweet Briar Dam - Outlet	3/7/2005	15:00	NH3-N	*Non-detect	0.010	mg/L
385334	Sweet Briar Dam - Outlet	3/7/2005	15:00	NO3+NO2	0.03		mg/L
385334	Sweet Briar Dam - Outlet	3/7/2005	15:00	P (Total)	0.070		mg/L
385334	Sweet Briar Dam - Outlet	3/7/2005	15:00	TKN	0.925		mg/L
385334	Sweet Briar Dam - Outlet	3/7/2005	15:00	TSS	*Non-detect	5.	mg/L
385334	Sweet Briar Dam - Outlet	3/9/2005	9:00	Diss P	0.050		mg/L
385334	Sweet Briar Dam - Outlet	3/9/2005	9:00	N (Total)	0.942		mg/L
385334	Sweet Briar Dam - Outlet	3/9/2005	9:00	NH3-N	*Non-detect	0.010	mg/L

SITE ID	LOCATION	DATE COLLECT	TIME COLLECT	ANALYTE NAME	RESULT	DETECT LIMIT	UNITS
385334	Sweet Briar Dam - Outlet	3/9/2005	9:00	NO3+NO2	0.02		mg/L
385334	Sweet Briar Dam - Outlet	3/9/2005	9:00	P (Total)	0.076		mg/L
385334	Sweet Briar Dam - Outlet	3/9/2005	9:00	TKN	0.922		mg/L
385334	Sweet Briar Dam - Outlet	3/9/2005	9:00	TSS	*Non-detect	5.	mg/L
385334	Sweet Briar Dam - Outlet	3/15/2005	11:30	Diss P	0.038		mg/L
385334	Sweet Briar Dam - Outlet	3/15/2005	11:30	N (Total)	1.02		mg/L
385334	Sweet Briar Dam - Outlet	3/15/2005	11:30	NH3-N	*Non-detect	0.010	mg/L
385334	Sweet Briar Dam - Outlet	3/15/2005	11:30	NO3+NO2	0.03		mg/L
385334	Sweet Briar Dam - Outlet	3/15/2005	11:30	P (Total)	0.061		mg/L
385334	Sweet Briar Dam - Outlet	3/15/2005	11:30	TKN	0.990		mg/L
385334	Sweet Briar Dam - Outlet	3/15/2005	11:30	TSS	7.		mg/L
385334	Sweet Briar Dam - Outlet	3/18/2005	13:20	Diss P	0.035		mg/L
385334	Sweet Briar Dam - Outlet	3/18/2005	13:20	N (Total)	0.495		mg/L
385334	Sweet Briar Dam - Outlet	3/18/2005	13:20	NH3-N	*Non-detect	0.010	mg/L
385334	Sweet Briar Dam - Outlet	3/18/2005	13:20	NO3+NO2	0.03		mg/L
385334	Sweet Briar Dam - Outlet	3/18/2005	13:20	P (Total)	0.069		mg/L
385334	Sweet Briar Dam - Outlet	3/18/2005	13:20	TKN	0.465		mg/L
385334	Sweet Briar Dam - Outlet	3/18/2005	13:20	TSS	*Non-detect	5.	mg/L
385334	Sweet Briar Dam - Outlet	3/21/2005	14:30	Diss P	0.035		mg/L
385334	Sweet Briar Dam - Outlet	3/21/2005	14:30	N (Total)	0.970		mg/L
385334	Sweet Briar Dam - Outlet	3/21/2005	14:30	NH3-N	0.055		mg/L
385334	Sweet Briar Dam - Outlet	3/21/2005	14:30	NO3+NO2	0.03		mg/L
385334	Sweet Briar Dam - Outlet	3/21/2005	14:30	P (Total)	0.063		mg/L
385334	Sweet Briar Dam - Outlet	3/21/2005	14:30	TKN	0.940		mg/L
385334	Sweet Briar Dam - Outlet	3/21/2005	14:30	TSS	*Non-detect	5.	mg/L
385334	Sweet Briar Dam - Outlet	3/25/2005	11:50	Diss P	0.037		mg/L
385334	Sweet Briar Dam - Outlet	3/25/2005	11:50	N (Total)	0.968		mg/L
385334	Sweet Briar Dam - Outlet	3/25/2005	11:50	NH3-N	0.068		mg/L
385334	Sweet Briar Dam - Outlet	3/25/2005	11:50	NO3+NO2	0.03		mg/L
385334	Sweet Briar Dam - Outlet	3/25/2005	11:50	P (Total)	0.051		mg/L
385334	Sweet Briar Dam - Outlet	3/25/2005	11:50	TKN	0.938		mg/L
385334	Sweet Briar Dam - Outlet	3/25/2005	11:50	TSS	*Non-detect	5.	mg/L
385334	Sweet Briar Dam - Outlet	3/27/2005	11:30	Diss P	0.034		mg/L
385334	Sweet Briar Dam - Outlet	3/27/2005	11:30	N (Total)	0.961		mg/L
385334	Sweet Briar Dam - Outlet	3/27/2005	11:30	NH3-N	0.120		mg/L
385334	Sweet Briar Dam - Outlet	3/27/2005	11:30	NO3+NO2	0.04		mg/L
385334	Sweet Briar Dam - Outlet	3/27/2005	11:30	P (Total)	0.055		mg/L
385334	Sweet Briar Dam - Outlet	3/27/2005	11:30	TKN	0.921		mg/L
385334	Sweet Briar Dam - Outlet	3/27/2005	11:30	TSS	*Non-detect	5.	mg/L
385334	Sweet Briar Dam - Outlet	4/1/2005	11:50	Diss P	0.030		mg/L
385334	Sweet Briar Dam - Outlet	4/1/2005	11:50	N (Total)	0.854		mg/L
385334	Sweet Briar Dam - Outlet	4/1/2005	11:50	NH3-N	*Non-detect	0.010	mg/L
385334	Sweet Briar Dam - Outlet	4/1/2005	11:50	NO3+NO2	0.03		mg/L
385334	Sweet Briar Dam - Outlet	4/1/2005	11:50	P (Total)	0.055		mg/L
385334	Sweet Briar Dam - Outlet	4/1/2005	11:50	TKN	0.824		mg/L
385334	Sweet Briar Dam - Outlet	4/1/2005	11:50	TSS	7.		mg/L
385334	Sweet Briar Dam - Outlet	4/5/2005	15:20	Diss P	0.031		mg/L
385334	Sweet Briar Dam - Outlet	4/5/2005	15:20	N (Total)	0.822		mg/L

SITE ID	LOCATION	DATE COLLECT	TIME COLLECT	ANALYTE NAME	RESULT	DETECT LIMIT	UNITS
385334	Sweet Briar Dam - Outlet	4/5/2005	15:20	NH3-N	0.052		mg/L
385334	Sweet Briar Dam - Outlet	4/5/2005	15:20	NO3+NO2	*Non-detect	0.02	mg/L
385334	Sweet Briar Dam - Outlet	4/5/2005	15:20	P (Total)	0.048		mg/L
385334	Sweet Briar Dam - Outlet	4/5/2005	15:20	TKN	0.802		mg/L
385334	Sweet Briar Dam - Outlet	4/5/2005	15:20	TSS	*Non-detect	5.	mg/L
385334	Sweet Briar Dam - Outlet	4/8/2005	12:40	Diss P	0.048		mg/L
385334	Sweet Briar Dam - Outlet	4/8/2005	12:40	N (Total)	0.840		mg/L
385334	Sweet Briar Dam - Outlet	4/8/2005	12:40	NH3-N	*Non-detect	0.010	mg/L
385334	Sweet Briar Dam - Outlet	4/8/2005	12:40	NO3+NO2	*Non-detect	0.02	mg/L
385334	Sweet Briar Dam - Outlet	4/8/2005	12:40	P (Total)	0.048		mg/L
385334	Sweet Briar Dam - Outlet	4/8/2005	12:40	TKN	0.820		mg/L
385334	Sweet Briar Dam - Outlet	4/8/2005	12:40	TSS	*Non-detect	5.	mg/L
385334	Sweet Briar Dam - Outlet	4/11/2005	15:45	Diss P	0.034		mg/L
385334	Sweet Briar Dam - Outlet	4/11/2005	15:45	N (Total)	0.812		mg/L
385334	Sweet Briar Dam - Outlet	4/11/2005	15:45	NH3-N	*Non-detect	0.010	mg/L
385334	Sweet Briar Dam - Outlet	4/11/2005	15:45	NO3+NO2	*Non-detect	0.02	mg/L
385334	Sweet Briar Dam - Outlet	4/11/2005	15:45	P (Total)	0.064		mg/L
385334	Sweet Briar Dam - Outlet	4/11/2005	15:45	TKN	0.792		mg/L
385334	Sweet Briar Dam - Outlet	4/11/2005	15:45	TSS	6.		mg/L
385334	Sweet Briar Dam - Outlet	4/14/2005	8:30	Diss P	0.028		mg/L
385334	Sweet Briar Dam - Outlet	4/14/2005	8:30	N (Total)	0.885		mg/L
385334	Sweet Briar Dam - Outlet	4/14/2005	8:30	NH3-N	0.018		mg/L
385334	Sweet Briar Dam - Outlet	4/14/2005	8:30	NO3+NO2	0.07		mg/L
385334	Sweet Briar Dam - Outlet	4/14/2005	8:30	P (Total)	0.039		mg/L
385334	Sweet Briar Dam - Outlet	4/14/2005	8:30	TKN	0.815		mg/L
385334	Sweet Briar Dam - Outlet	4/14/2005	8:30	TSS	*Non-detect	5.	mg/L
385334	Sweet Briar Dam - Outlet	4/17/2005	11:00	Diss P	0.027		mg/L
385334	Sweet Briar Dam - Outlet	4/17/2005	11:00	N (Total)	0.896		mg/L
385334	Sweet Briar Dam - Outlet	4/17/2005	11:00	NH3-N	*Non-detect	0.010	mg/L
385334	Sweet Briar Dam - Outlet	4/17/2005	11:00	NO3+NO2	0.06		mg/L
385334	Sweet Briar Dam - Outlet	4/17/2005	11:00	P (Total)	0.041		mg/L
385334	Sweet Briar Dam - Outlet	4/17/2005	11:00	TKN	0.836		mg/L
385334	Sweet Briar Dam - Outlet	4/17/2005	11:00	TSS	*Non-detect	5.	mg/L
385334	Sweet Briar Dam - Outlet	4/21/2005	12:30	Diss P	0.038		mg/L
385334	Sweet Briar Dam - Outlet	4/21/2005	12:30	N (Total)	0.753		mg/L
385334	Sweet Briar Dam - Outlet	4/21/2005	12:30	NH3-N	*Non-detect	0.010	mg/L
385334	Sweet Briar Dam - Outlet	4/21/2005	12:30	NO3+NO2	0.02		mg/L
385334	Sweet Briar Dam - Outlet	4/21/2005	12:30	P (Total)	0.044		mg/L
385334	Sweet Briar Dam - Outlet	4/21/2005	12:30	TKN	0.733		mg/L
385334	Sweet Briar Dam - Outlet	4/21/2005	12:30	TSS	*Non-detect	5.	mg/L
385334	Sweet Briar Dam - Outlet	4/24/2005	9:45	Diss P	0.034		mg/L
385334	Sweet Briar Dam - Outlet	4/24/2005	9:45	N (Total)	0.829		mg/L
385334	Sweet Briar Dam - Outlet	4/24/2005	9:45	NH3-N	*Non-detect	0.010	mg/L
385334	Sweet Briar Dam - Outlet	4/24/2005	9:45	NO3+NO2	0.02		mg/L
385334	Sweet Briar Dam - Outlet	4/24/2005	9:45	P (Total)	0.041		mg/L
385334	Sweet Briar Dam - Outlet	4/24/2005	9:45	TKN	0.809		mg/L
385334	Sweet Briar Dam - Outlet	4/24/2005	9:45	TSS	7.		mg/L
385334	Sweet Briar Dam - Outlet	4/30/2005	15:20	Diss P	0.030		mg/L

SITE ID	LOCATION	DATE COLLECT	TIME COLLECT	ANALYTE NAME	RESULT	DETECT LIMIT	UNITS
385334	Sweet Briar Dam - Outlet	4/30/2005	15:20	N (Total)	0.878		mg/L
385334	Sweet Briar Dam - Outlet	4/30/2005	15:20	NH3-N	*Non-detect	0.010	mg/L
385334	Sweet Briar Dam - Outlet	4/30/2005	15:20	NO3+NO2	*Non-detect	0.02	mg/L
385334	Sweet Briar Dam - Outlet	4/30/2005	15:20	P (Total)	0.048		mg/L
385334	Sweet Briar Dam - Outlet	4/30/2005	15:20	TKN	0.858		mg/L
385334	Sweet Briar Dam - Outlet	4/30/2005	15:20	TSS	8.		mg/L
385334	Sweet Briar Dam - Outlet	5/3/2005	12:25	Diss P	0.026		mg/L
385334	Sweet Briar Dam - Outlet	5/3/2005	12:25	N (Total)	0.839		mg/L
385334	Sweet Briar Dam - Outlet	5/3/2005	12:25	NH3-N	*Non-detect	0.010	mg/L
385334	Sweet Briar Dam - Outlet	5/3/2005	12:25	NO3+NO2	*Non-detect	0.02	mg/L
385334	Sweet Briar Dam - Outlet	5/3/2005	12:25	P (Total)	0.041		mg/L
385334	Sweet Briar Dam - Outlet	5/3/2005	12:25	TKN	0.819		mg/L
385334	Sweet Briar Dam - Outlet	5/3/2005	12:25	TSS	*Non-detect	5.	mg/L
385334	Sweet Briar Dam - Outlet	5/5/2005	18:05	Diss P	0.030		mg/L
385334	Sweet Briar Dam - Outlet	5/5/2005	18:05	N (Total)	0.822		mg/L
385334	Sweet Briar Dam - Outlet	5/5/2005	18:05	NH3-N	*Non-detect	0.010	mg/L
385334	Sweet Briar Dam - Outlet	5/5/2005	18:05	NO3+NO2	*Non-detect	0.02	mg/L
385334	Sweet Briar Dam - Outlet	5/5/2005	18:05	P (Total)	0.065		mg/L
385334	Sweet Briar Dam - Outlet	5/5/2005	18:05	TKN	0.802		mg/L
385334	Sweet Briar Dam - Outlet	5/5/2005	18:05	TSS	*Non-detect	5.	mg/L
385334	Sweet Briar Dam - Outlet	5/9/2005	11:05	Diss P	0.030		mg/L
385334	Sweet Briar Dam - Outlet	5/9/2005	11:05	N (Total)	0.841		mg/L
385334	Sweet Briar Dam - Outlet	5/9/2005	11:05	NH3-N	*Non-detect	0.010	mg/L
385334	Sweet Briar Dam - Outlet	5/9/2005	11:05	NO3+NO2	0.02		mg/L
385334	Sweet Briar Dam - Outlet	5/9/2005	11:05	P (Total)	0.036		mg/L
385334	Sweet Briar Dam - Outlet	5/9/2005	11:05	TKN	0.821		mg/L
385334	Sweet Briar Dam - Outlet	5/9/2005	11:05	TSS	*Non-detect	5.	mg/L
385334	Sweet Briar Dam - Outlet	5/13/2005	15:00	Diss P	0.034		mg/L
385334	Sweet Briar Dam - Outlet	5/13/2005	15:00	N (Total)	0.832		mg/L
385334	Sweet Briar Dam - Outlet	5/13/2005	15:00	NH3-N	*Non-detect	0.010	mg/L
385334	Sweet Briar Dam - Outlet	5/13/2005	15:00	NO3+NO2	*Non-detect	0.02	mg/L
385334	Sweet Briar Dam - Outlet	5/13/2005	15:00	P (Total)	0.052		mg/L
385334	Sweet Briar Dam - Outlet	5/13/2005	15:00	TKN	0.812		mg/L
385334	Sweet Briar Dam - Outlet	5/13/2005	15:00	TSS	5.		mg/L
385334	Sweet Briar Dam - Outlet	5/16/2005	12:50	Diss P	0.033		mg/L
385334	Sweet Briar Dam - Outlet	5/16/2005	12:50	N (Total)	0.823		mg/L
385334	Sweet Briar Dam - Outlet	5/16/2005	12:50	NH3-N	0.011		mg/L
385334	Sweet Briar Dam - Outlet	5/16/2005	12:50	NO3+NO2	0.02		mg/L
385334	Sweet Briar Dam - Outlet	5/16/2005	12:50	P (Total)	0.047		mg/L
385334	Sweet Briar Dam - Outlet	5/16/2005	12:50	TKN	0.803		mg/L
385334	Sweet Briar Dam - Outlet	5/16/2005	12:50	TSS	*Non-detect	5.	mg/L
385334	Sweet Briar Dam - Outlet	5/18/2005	17:00	Diss P	0.035		mg/L
385334	Sweet Briar Dam - Outlet	5/18/2005	17:00	N (Total)	0.846		mg/L
385334	Sweet Briar Dam - Outlet	5/18/2005	17:00	NH3-N	*Non-detect	0.010	mg/L
385334	Sweet Briar Dam - Outlet	5/18/2005	17:00	NO3+NO2	0.04		mg/L
385334	Sweet Briar Dam - Outlet	5/18/2005	17:00	P (Total)	0.056		mg/L
385334	Sweet Briar Dam - Outlet	5/18/2005	17:00	TKN	0.806		mg/L
385334	Sweet Briar Dam - Outlet	5/18/2005	17:00	TSS	*Non-detect	5.	mg/L

SITE ID	LOCATION	DATE COLLECT	TIME COLLECT	ANALYTE NAME	RESULT	DETECT LIMIT	UNITS
385334	Sweet Briar Dam - Outlet	5/23/2005	15:00	Diss P	0.043		mg/L
385334	Sweet Briar Dam - Outlet	5/23/2005	15:00	N (Total)	0.915		mg/L
385334	Sweet Briar Dam - Outlet	5/23/2005	15:00	NH3-N	0.036		mg/L
385334	Sweet Briar Dam - Outlet	5/23/2005	15:00	NO3+NO2	0.03		mg/L
385334	Sweet Briar Dam - Outlet	5/23/2005	15:00	P (Total)	0.058		mg/L
385334	Sweet Briar Dam - Outlet	5/23/2005	15:00	TKN	0.885		mg/L
385334	Sweet Briar Dam - Outlet	5/23/2005	15:00	TSS	*Non-detect	5.	mg/L
385334	Sweet Briar Dam - Outlet	5/27/2005	13:20	Diss P	0.043		mg/L
385334	Sweet Briar Dam - Outlet	5/27/2005	13:20	N (Total)	0.920		mg/L
385334	Sweet Briar Dam - Outlet	5/27/2005	13:20	NH3-N	*Non-detect	0.010	mg/L
385334	Sweet Briar Dam - Outlet	5/27/2005	13:20	NO3+NO2	0.03		mg/L
385334	Sweet Briar Dam - Outlet	5/27/2005	13:20	P (Total)	0.068		mg/L
385334	Sweet Briar Dam - Outlet	5/27/2005	13:20	TKN	0.890		mg/L
385334	Sweet Briar Dam - Outlet	5/27/2005	13:20	TSS	*Non-detect	5.	mg/L
385334	Sweet Briar Dam - Outlet	6/1/2005	14:05	Diss P	0.068		mg/L
385334	Sweet Briar Dam - Outlet	6/1/2005	14:05	N (Total)	1.06		mg/L
385334	Sweet Briar Dam - Outlet	6/1/2005	14:05	NH3-N	0.085		mg/L
385334	Sweet Briar Dam - Outlet	6/1/2005	14:05	NO3+NO2	0.05		mg/L
385334	Sweet Briar Dam - Outlet	6/1/2005	14:05	P (Total)	0.101		mg/L
385334	Sweet Briar Dam - Outlet	6/1/2005	14:05	TKN	1.01		mg/L
385334	Sweet Briar Dam - Outlet	6/1/2005	14:05	TSS	5.		mg/L
385334	Sweet Briar Dam - Outlet	6/3/2005	11:05	Diss P	0.062		mg/L
385334	Sweet Briar Dam - Outlet	6/3/2005	11:05	N (Total)	0.942		mg/L
385334	Sweet Briar Dam - Outlet	6/3/2005	11:05	NH3-N	0.019		mg/L
385334	Sweet Briar Dam - Outlet	6/3/2005	11:05	NO3+NO2	0.04		mg/L
385334	Sweet Briar Dam - Outlet	6/3/2005	11:05	P (Total)	0.082		mg/L
385334	Sweet Briar Dam - Outlet	6/3/2005	11:05	TKN	0.902		mg/L
385334	Sweet Briar Dam - Outlet	6/3/2005	11:05	TSS	*Non-detect	5.	mg/L
385334	Sweet Briar Dam - Outlet	6/6/2005	10:00	Diss P	0.095		mg/L
385334	Sweet Briar Dam - Outlet	6/6/2005	10:00	N (Total)	1.23		mg/L
385334	Sweet Briar Dam - Outlet	6/6/2005	10:00	NH3-N	0.080		mg/L
385334	Sweet Briar Dam - Outlet	6/6/2005	10:00	NO3+NO2	0.03		mg/L
385334	Sweet Briar Dam - Outlet	6/6/2005	10:00	P (Total)	0.120		mg/L
385334	Sweet Briar Dam - Outlet	6/6/2005	10:00	TKN	1.20		mg/L
385334	Sweet Briar Dam - Outlet	6/6/2005	10:00	TSS	9.		mg/L
385334	Sweet Briar Dam - Outlet	6/9/2005	15:25	Diss P	0.111		mg/L
385334	Sweet Briar Dam - Outlet	6/9/2005	15:25	N (Total)	1.22		mg/L
385334	Sweet Briar Dam - Outlet	6/9/2005	15:25	NH3-N	0.172		mg/L
385334	Sweet Briar Dam - Outlet	6/9/2005	15:25	NO3+NO2	0.22		mg/L
385334	Sweet Briar Dam - Outlet	6/9/2005	15:25	P (Total)	0.156		mg/L
385334	Sweet Briar Dam - Outlet	6/9/2005	15:25	TKN	1.00		mg/L
385334	Sweet Briar Dam - Outlet	6/9/2005	15:25	TSS	5.		mg/L
385334	Sweet Briar Dam - Outlet	6/14/2005	14:15	Diss P	0.126		mg/L
385334	Sweet Briar Dam - Outlet	6/14/2005	14:15	N (Total)	0.966		mg/L
385334	Sweet Briar Dam - Outlet	6/14/2005	14:15	NH3-N	0.060		mg/L
385334	Sweet Briar Dam - Outlet	6/14/2005	14:15	NO3+NO2	0.03		mg/L
385334	Sweet Briar Dam - Outlet	6/14/2005	14:15	P (Total)	0.151		mg/L
385334	Sweet Briar Dam - Outlet	6/14/2005	14:15	TKN	0.936		mg/L

SITE ID	LOCATION	DATE COLLECT	TIME COLLECT	ANALYTE NAME	RESULT	DETECT LIMIT	UNITS
385334	Sweet Briar Dam - Outlet	6/14/2005	14:15	TSS	*Non-detect	5.	mg/L
385334	Sweet Briar Dam - Outlet	6/17/2005	12:20	Diss P	0.188		mg/L
385334	Sweet Briar Dam - Outlet	6/17/2005	12:20	N (Total)	1.03		mg/L
385334	Sweet Briar Dam - Outlet	6/17/2005	12:20	NH3-N	0.146		mg/L
385334	Sweet Briar Dam - Outlet	6/17/2005	12:20	NO3+NO2	0.03		mg/L
385334	Sweet Briar Dam - Outlet	6/17/2005	12:20	P (Total)	0.217		mg/L
385334	Sweet Briar Dam - Outlet	6/17/2005	12:20	TKN	1.00		mg/L
385334	Sweet Briar Dam - Outlet	6/17/2005	12:20	TSS	*Non-detect	5.	mg/L
385334	Sweet Briar Dam - Outlet	6/23/2005	11:20	Diss P	0.305		mg/L
385334	Sweet Briar Dam - Outlet	6/23/2005	11:20	N (Total)	1.22		mg/L
385334	Sweet Briar Dam - Outlet	6/23/2005	11:20	NH3-N	0.236		mg/L
385334	Sweet Briar Dam - Outlet	6/23/2005	11:20	NO3+NO2	0.04		mg/L
385334	Sweet Briar Dam - Outlet	6/23/2005	11:20	P (Total)	0.341		mg/L
385334	Sweet Briar Dam - Outlet	6/23/2005	11:20	TKN	1.18		mg/L
385334	Sweet Briar Dam - Outlet	6/23/2005	11:20	TSS	7.		mg/L
385334	Sweet Briar Dam - Outlet	6/28/2005	19:00	Diss P	0.134		mg/L
385334	Sweet Briar Dam - Outlet	6/28/2005	19:00	N (Total)	1.53		mg/L
385334	Sweet Briar Dam - Outlet	6/28/2005	19:00	NH3-N	0.026		mg/L
385334	Sweet Briar Dam - Outlet	6/28/2005	19:00	NO3+NO2	0.02		mg/L
385334	Sweet Briar Dam - Outlet	6/28/2005	19:00	P (Total)	0.394		mg/L
385334	Sweet Briar Dam - Outlet	6/28/2005	19:00	TKN	1.51		mg/L
385334	Sweet Briar Dam - Outlet	6/28/2005	19:00	TSS	213.		mg/L
385334	Sweet Briar Dam - Outlet	7/4/2005	8:30	Diss P	0.252		mg/L
385334	Sweet Briar Dam - Outlet	7/4/2005	8:30	N (Total)	1.08		mg/L
385334	Sweet Briar Dam - Outlet	7/4/2005	8:30	NH3-N	0.020		mg/L
385334	Sweet Briar Dam - Outlet	7/4/2005	8:30	NO3+NO2	0.02		mg/L
385334	Sweet Briar Dam - Outlet	7/4/2005	8:30	P (Total)	0.291		mg/L
385334	Sweet Briar Dam - Outlet	7/4/2005	8:30	TKN	1.06		mg/L
385334	Sweet Briar Dam - Outlet	7/4/2005	8:30	TSS	14.		mg/L
385334	Sweet Briar Dam - Outlet	7/11/2005	11:10	N (Total)	0.586		mg/L
385334	Sweet Briar Dam - Outlet	7/11/2005	11:10	NH3-N	0.021		mg/L
385334	Sweet Briar Dam - Outlet	7/11/2005	11:10	NO3+NO2	0.13		mg/L
385334	Sweet Briar Dam - Outlet	7/11/2005	11:10	P (Total)	0.055		mg/L
385334	Sweet Briar Dam - Outlet	7/11/2005	11:10	TKN	0.456		mg/L
385334	Sweet Briar Dam - Outlet	7/11/2005	11:10	TSS	63.		mg/L
385334	Sweet Briar Dam - Outlet	8/1/2005	16:40	Diss P	0.673		mg/L
385334	Sweet Briar Dam - Outlet	8/1/2005	16:40	N (Total)	2.45		mg/L
385334	Sweet Briar Dam - Outlet	8/1/2005	16:40	NH3-N	0.516		mg/L
385334	Sweet Briar Dam - Outlet	8/1/2005	16:40	NO3+NO2	0.04		mg/L
385334	Sweet Briar Dam - Outlet	8/1/2005	16:40	P (Total)	0.683		mg/L
385334	Sweet Briar Dam - Outlet	8/1/2005	16:40	TKN	2.41		mg/L
385334	Sweet Briar Dam - Outlet	8/1/2005	16:40	TSS	*Non-detect	5.	mg/L
385334	Sweet Briar Dam - Outlet	8/4/2005	11:00	Diss P	0.623		mg/L
385334	Sweet Briar Dam - Outlet	8/4/2005	11:00	N (Total)	1.91		mg/L
385334	Sweet Briar Dam - Outlet	8/4/2005	11:00	NH3-N	0.438		mg/L
385334	Sweet Briar Dam - Outlet	8/4/2005	11:00	NO3+NO2	0.04		mg/L
385334	Sweet Briar Dam - Outlet	8/4/2005	11:00	P (Total)	0.728		mg/L
385334	Sweet Briar Dam - Outlet	8/4/2005	11:00	TKN	1.87		mg/L

SITE ID	LOCATION	DATE COLLECT	TIME COLLECT	ANALYTE NAME	RESULT	DETECT LIMIT	UNITS
385334	Sweet Briar Dam - Outlet	8/4/2005	11:00	TSS	*Non-detect	5.	mg/L
385334	Sweet Briar Dam - Outlet	8/18/2005	12:40	Diss P	0.709		mg/L
385334	Sweet Briar Dam - Outlet	8/18/2005	12:40	N (Total)	2.07		mg/L
385334	Sweet Briar Dam - Outlet	8/18/2005	12:40	NH3-N	0.455		mg/L
385334	Sweet Briar Dam - Outlet	8/18/2005	12:40	NO3+NO2	0.03		mg/L
385334	Sweet Briar Dam - Outlet	8/18/2005	12:40	P (Total)	0.738		mg/L
385334	Sweet Briar Dam - Outlet	8/18/2005	12:40	TKN	2.04		mg/L
385334	Sweet Briar Dam - Outlet	8/18/2005	12:40	TSS	*Non-detect	5.	mg/L
385334	Sweet Briar Dam - Outlet	8/22/2005	11:30	Diss P	0.583		mg/L
385334	Sweet Briar Dam - Outlet	8/22/2005	11:30	N (Total)	1.73		mg/L
385334	Sweet Briar Dam - Outlet	8/22/2005	11:30	NH3-N	0.299		mg/L
385334	Sweet Briar Dam - Outlet	8/22/2005	11:30	NO3+NO2	0.05		mg/L
385334	Sweet Briar Dam - Outlet	8/22/2005	11:30	P (Total)	0.592		mg/L
385334	Sweet Briar Dam - Outlet	8/22/2005	11:30	TKN	1.68		mg/L
385334	Sweet Briar Dam - Outlet	8/22/2005	11:30	TSS	*Non-detect	5.	mg/L
385334	Sweet Briar Dam - Outlet	9/20/2005	10:00	Diss P	0.582		mg/L
385334	Sweet Briar Dam - Outlet	9/20/2005	10:00	N (Total)	1.56		mg/L
385334	Sweet Briar Dam - Outlet	9/20/2005	10:00	NH3-N	0.062		mg/L
385334	Sweet Briar Dam - Outlet	9/20/2005	10:00	NO3+NO2	0.02		mg/L
385334	Sweet Briar Dam - Outlet	9/20/2005	10:00	P (Total)	0.577		mg/L
385334	Sweet Briar Dam - Outlet	9/20/2005	10:00	TKN	1.54		mg/L
385334	Sweet Briar Dam - Outlet	9/20/2005	10:00	TSS	10.		mg/L

Appendix D
County Occurrence of Endangered, Threatened and Candidate Species and Designated Critical Habitat in North Dakota (March 2006)

County Occurrence of Endangered, Threatened and Candidate Species and Designated Critical Habitat in North Dakota (March 2006)

Species	Adams	Barnes	Benson	Billings	Bottineau	Bowman	Burke	Burleigh	Cass	Cavalier	Dickey	Divide	Dunn	Eddy	Emmons	Foster	Go. Valley	Gr. Forks	Grant	Griggs	Hettinger	Kidder	Lamoure	Logan	McHenry	McIntosh	McKenzie
Interior Least Tern - E								X					X		X												X
Whooping Crane - E	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X
Black-footed Ferret - E	X			X		X							X				X		X		X						X
Pallid Sturgeon - E								X					X		X												X
Gray Wolf - E					X		X		X	X	X	X	X					X							X	X	X
Bald Eagle - T	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Piping Plover - T			X				X	X				X	X	X	X	X						X		X	X	X	X
Western Prairie Fringed Orchid - T																											
Dakota Skipper - C							X							X											X		X
Designated Critical Habitat																											
Piping Plover			X				X	X				X	X	X	X							X		X	X	X	X

E - Endangered T - Threatened C - Candidate

County Occurrence of Endangered, Threatened and Candidate Species and Designated Critical Habitat in North Dakota March 2006

Species	McLean	Mercer	Morton	Mountrail	Nelson	Oliver	Pembina	Pierce	Ramsey	Ransom	Renville	Richland	Rolette	Sargent	Sheridan	Sioux	Slope	Stark	Steele	Stutsman	Towner	Traill	Walsh	Ward	Wells	Williams
Interior Least Tern - E	X	X	X	X		X										X										X
Whooping Crane - E	X	X	X	X		X		X			X		X		X	X	X	X		X	X			X	X	X
Black-footed Ferret - E		X	X			X										X	X	X								
Pallid Sturgeon - E	X	X	X	X		X										X										X
Gray Wolf - E	X		X	X	X		X	X	X		X	X	X	X	X						X		X	X		X
Bald Eagle - T	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Piping Plover - T	X	X	X	X		X		X			X				X	X				X				X	X	X
W. P. Fringed Orchid - T										X		X														
Dakota Skipper - C										X		X	X	X						X				X	X	
Designated Critical Habitat																										
Piping Plover	X	X	X	X		X		X			X				X	X				X				X		X

E - Endangered T - Threatened C – Candidate

Appendix E
Review Comments Provided by the US EPA Region 8

-----Original Message-----
From: Berry.Vern@epamail.epa.gov [mailto:Berry.Vern@epamail.epa.gov]
Sent: Thursday, October 16, 2008 3:20 PM
To: Ell, Mike J.
Subject: EPA Comments on Sweetbriar Dam and Crown Butte Dam TMDLs

Mike,

Thanks for the couple of extra days to review these TMDLs. They look pretty good - just a few comments to make them ready for final approval.

Thanks,
Vern

==========
Sweetbriar Dam Nutrient TMDL

Section 1.5, Page 8, Nutrients subsection: It says that the reservoir is nitrogen limited based on the TN to TP ratio of 6:1. However, in Section 3.1, page 12 (bottom of page) it says that phosphorus is the limiting nutrient in Sweetbriar Dam. Please make the necessary revisions so that these two sections are consistent with the available data.

Section 3.1, Page 12: It is not clear which data was used to derive the TSI values for chlorophyll-a, total phosphorus and total nitrogen, shown in Table 9. The Secchi disk data and TSI summary on page 9 seems to indicate that the Secchi depth values were taken at the deepest site, and the SD TSI value was derived from that data. We could assume that the TSI values for chl-a, TP and TN were derived by using the average values taken from the deepest site (reservoir site) from Oct 2004-Sept
2005 for each parameter, and using the TSI equations to calculate the average TSI values. However, it also seems possible that the TSI values in Table 9 came from the BATHTUB modeling (Appendix A). Note: the "observed" TSI values in Appendix A, Table 2, and those in Appendix C do not match those shown in Table 9, page 12.

Our new TMDL review form says that the TMDL document should be accompanied by the data set utilized during the TMDL analysis.
Currently, the Sweetbriar Dam TMDL only includes the data set for the deepest site (i.e., Appendix C). Was that the only data set evaluated (we assume that the other sites were used to put into the FLUX program)?
If not, please provide the data set for the other sites in one of the appendices. If so, please explain why the data from the other sites was not included in the analysis.

Section 5.2, Table 11: The Observed TSI values for chlorophyll-a and Secchi disk in Table 11 do not match the values in the BATHTUB model results in Appendix A, Table 2. Please revise as necessary to make them consistent, or explain why they are different.

Section 6.1, MOS: We suggest stating the MOS used in this TMDL in the MOS section rather than just providing the definition of a MOS.

Appendix F
Letter of Support Provided by the Morton County Soil Conservation District

MORTON COUNTY SOIL
CONSERVATION DISTRICT
2540 OVERLOOK LANE
MANDAN, ND 58554
701-667-1163 - Ext. 3

September 23, 2008

Mr. Mike Ell
ND Dept. of Health
Division of Water Quality
Gold Seal Center
918 E Divide Ave., 4th Floor
Bismarck, ND 58501-1947

Dear Mike:

We congratulate the Department of Health on a well written Nutrient TMDL for Sweet Briar Dam, which succinctly defines the problem. Further, improving water quality to maintain a warm water fishery is important, reasonable and obtainable. A good recreation site near an urban population will continue to be heavily used.

Most of the surplus nutrients in the water come from the surrounding land upstream in the watershed. These watersheds are primarily agricultural, although there is considerable land use change due to urban sprawl including "equine slums." We are concerned with haphazard changes in land use.

The Morton County SCD currently has a watershed coordinator assigned to help keep concentrated animal feeding operation (feedlots) from discharging surplus nutrients into the watershed. We are trying to get agricultural producers to use improved methods such as those listed as source controls on page 19. Riparian barriers between agricultural land and waterways may also be useful. We believe achieving the goals of improving water quality will require cooperation of many county, state and federal agencies.

Sincerely,

Ted Becker sb

Ted Becker
Supervisor

All programs and services of the Morton County Soil Conservation District are offered on a nondiscriminatory basis, without regard to race, color, national origin, religion, sex, age, marital status, or handicap.

Appendix G
Department Response to Public Comments

Department Response to Comments

During the 30 day public notice soliciting comment and participation for the Sweet Briar Dam Nutrient TMDL, the North Dakota Department of Health received comments from the US EPA (see Appendix E) and from Scott Elstad with the North Dakota Game and Fish Department. Below is a summary of the comments provided by Mr. Elstad and the US EPA and the departments' response.

Comment from Mr. Elstad: "Sweetbriar Dam should be Sweet Briar Dam. NDDoT, SWC and NDGF all have Sweet Briar Dam as the official name.".

NDDoH Response: The name has been changed throughout the report.

Comment from Mr. Elstad: In Section 4.2 the report states "Best management practices will be implemented…..these lands." "This sounds like an absolute, who is implementing these BMP's and where?"

NDDoH Response: The sentence at the end of the paragraph in Section 4.2 has been changes to read "Implementation of best management practices by producers in the watershed will be necessary in order to address loadings from these lands."

Comment from Mr. Elstad: Reduction of 75% of NPS an obtainable (financially or otherwise) goal?"

NDDoH Response: By definition and rule, the pollutant reduction goal of the TMDL is set so the waterbody will meet water quality standards. The TMDL goal and accompanying pollutant reduction targets do not have to be achievable. If it is determined that the current water quality standards and beneficial use designations can not be met based on achievable pollutant load reductions, then the department must do a use attainability determination and change the standard(s) for the waterbody.

Comment from Mr. Elstad: "A question, mostly. At what point will critical cells and/or BMPs be identified (3.1)? These reports are very lengthy to simply say 'the lake is impaired, and a reduction of 75% will bring it down to a eutrophic state' (3.1). But these reports would be much more useful if they identified, or at least suggested, what the next step should be. You mention that you found x-number of critical cells in the Sweet Briar watershed – where are they located? What makes them critical? What is the recommended BMP to treat them? Which sub-watershed should efforts be concentrated – above which sampling site, etc? Can an individual/organization request these identified areas – have a jpg produced? The same questions for the Crown Butte TMDL (all TMDLs) in Section 8.0 (among others) where are these cells so that efforts & obligations can be made to correct these problem areas.

NDDoH Response: The Sweet Briar Dam, as well as the Crown Butte Dam TMDLs (both located in Morton County), were unique in that a private contractor (HPC, Inc.) was hired by the Morton County SCD to conduct the sampling, modeling, analysis and report writing for these TMDLs. Typically, the results of the AGNPS or AnnAGPS modeling includes a map depicting critical cells that when treated will result in the nutrient reduction necessary to meet the TMDL target. In the case of the Sweet Briar Dam TMDL, a map depicting the critical cells was not made available by the contractor. A narrative description of the AGNPS model results was,

however, provided. This narrative description, including the definition of critical cells is provided in Sectiom 5.3, AGNPS Watershed Model. In general, critical cells were based on percent cover on cropland and pasture/range conditions determined through the landuse assessment. These criteria were used to determine the C-factor for each cell in the model. The initial model was run using current conditions determined during the land use assessment. A 25 yr/24 hr storm event (4.10 inches) in Morton County was applied to the model to evaluate relative pollutant yields from each 160-acre cell. Each quarter of land was given a cell number. A total of 107,040 acres were input into the program, representing 669 cells. Cells with sediment phosphorous levels above 0.10 lbs/ac or cells with soluble phosphorous runoff concentrations above 0.15 ppm were identified as critical. The model identified 158 cells in the watershed (14,880 acres of cropland and 10,400 acres of pasture/rangeland) as being "critical". The critical cells comprise 24 percent of the watershed area.

The Department also recognizes that a map depicting critical cells will be necessary in order to carry out any Watershed Restoration Project. In order to address this need additional language has been added to Section 11.0, TMDL Implementation Strategy, which reads:

> "It is recognized that significant land use changes may have or will have taken place in the watershed by the time a Watershed Restoration Project is undertaken. Therefore, it is recommended that as the first step in a Watershed Restoration Project the original AGNPS watershed model (or AnnAGNPS model) be updated and re-run with current land use conditions. Results of this model output should then be used to direct BMP implementation in the watershed."

Comment from US EPA: "Section 1.5, Page 8, Nutrients subsection: It says that the reservoir is nitrogen limited based on the TN to TP ratio of 6:1. However, in Section 3.1, page 12 (bottom of page) it says that phosphorus is the limiting nutrient in Sweetbriar Dam. Please make the necessary revisions so that these two sections are consistent with the available data."

NDDoH Response: Based on the N:P ratio of 6:1, Sweet Briar Dam is considered nitrogen limited. This conclusion is believed to be due to more of an excess of phosphorus in the reservoir than to a limitation in nitrogen. Therefore the conclusion of this TMDL remains the same and that is to reduce phosphorus loading. Working in section 3.1 has been modified to clarifiy this conclusion.

Comment from US EPA: "Section 3.1, Page 12: It is not clear which data was used to derive the TSI values for chlorophyll-a, total phosphorus and total nitrogen, shown in Table 9. The Secchi disk data and TSI summary on page 9 seems to indicate that the Secchi depth values were taken at the deepest site, and the SD TSI value was derived from that data. We could assume that the TSI values for chl-a, TP and TN were derived by using the average values taken from the deepest site (reservoir site) from Oct 2004-Sept 2005 for each parameter, and using the TSI equations to calculate the average TSI values. However, it also seems possible that the TSI values in Table 9 came from the BATHTUB modeling (Appendix A). Note: the "observed" TSI values in Appendix A, Table 2, and those in Appendix C do not match those shown in Table 9, page 12."

NDDoH Response: The Secchi Disk Transparency TSI of 44.41 reported in Section 3.1 was derived from the mean of the 12 individual Secchi Disk Transparency measurements taken from the deepest area of the reservoir and reported in Figure 9. The chlorophyll-a, total phosphorus and total nitrogen TSI values of 57.84, 80.04 and 56.62, respectively, were based on the mean

concentrations calculated from samples collected between October 2004 and September 2005 at the 1-meter depth interval. These concentrations are reported in Table 3 and were used as input into the BATHTUB model.

Comment from US EPA: "Our new TMDL review form says that the TMDL document should be accompanied by the data set utilized during the TMDL analysis. Currently, the Sweetbriar Dam TMDL only includes the data set for the deepest site (i.e., Appendix C). Was that the only data set evaluated (we assume that the other sites were used to put into the FLUX program)? If not, please provide the data set for the other sites in one of the appendices. If so, please explain why the data from the other sites was not included in the analysis."

NDDoH Response: All of the in-lake, tributary and outlet data collected during 2004 and 2005 for the Sweet Briar Dam TMDL development project has been included in Appendix C. Data from the NE tributary (385338), the SW tributary (385337), main tributary (385336) and the outlet (385334) were entered into the FLUX program and results used as input into the BATHTUB model.

Comment from US EPA: "Section 6.1, MOS: We suggest stating the MOS used in this TMDL in the MOS section rather than just providing the definition of a MOS."

NDDoH Response: Additional language has been added to Section 6.1 describing how the 10 percent explicit margin of safety that has been used for this TMDL was calculated and the values used.