Mississippi Department
of Environmental Quality

SHORT COLEMAN SURFACE WATER TREATMENT PLANT – YELLOW CREEK

SOURCE WATER PROTECTION PLAN

Tennessee Valley Authority
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EXECUTIVE SUMMARY

The Tennessee Valley Authority (TVA) constructed the Pickwick Landing Dam in 1938 to help with TVA's integrated management of the Tennessee River to provide water for a wide range of public benefits. These include water supply for drinking, industrial use and agriculture; for generating hydropower and cooling nuclear and fossil power plant components; and for navigation, recreation and sustaining plant and animal life-- wildlife, fisheries, and threatened and endangered species. In addition, t he reservoir system supports economic development. There is some use of streams, rivers, and private reservoirs for municipal and industrial water supply, but it is relatively small.

After the construction of the Pickwick Landing Dam was completed the Pickwick Reservoir was created. It is used primarily for flood control, navigation, and hydrologic power generation. Presently the Pickwick Reservoir is classified as suitable for fish and wildlife, recreation and public water supply. As TVA still controls the reservoir for power generation and flood control, the Short Coleman Surface Water Treatment Plant (SCSWTP) uses the Pickwick Reservoir to treat 200,000 gallons per day serving approximately 1575 people under about 500 contracts. The SCSWTP is part of the Short Coleman Park Association which services the Iuka area. There are two other water treatment plants involved in the association. These are Short Coleman Park Water Association #2 and #3, which are both groundwater treatment plants. These two plants provide twice as much drinking water to Iuka as the SCSWTP. TVA, the Mississippi Department of Environmental Quality (MDEQ), the Mississippi State Department of Health (MSDH), the Short Coleman Water Association (SCWA), and Tishomingo Soil and Water Conservation District (TSWCD) as well as many other resource agencies and local stakeholders, have long recognized the importance of the waters in the state of Mississippi. The

Safe Drinking Water Act (SDWA) Amendments of 1996 (P.L. 104-182) required the State to develop and implement a Source Water Assessment Program (SWAP) and to prepare a Source Water Assessment (SWA) for each of the State's surface-water intakes used for potable water supply. In 1998, MSDH contracted with MDEQ to develop and administer the Mississippi Source Water Assessment Program. EPA approved the State's Source Water Assessment Program Plan in November 1999 after which implementation of the SWAP was initiated. At MDEQ's request, the Tennessee Valley Authority (TVA) prepared the SWA for the Short Coleman surface-water intake in 2004. In 2008, TVA wrote an addendum to the original report that included more of the areas surrounding the Pickwick reservoir and the SCSWTP. While not required by the SDWA, the development and implementation of a Source Water Protection Plan is essential for protecting and preserving a high-quality water supply for luka, Mississippi. This Source Water Protection Plan (SWPP) was developed by representatives from TVA, SCWA, TSWCD and MDEQ. Four elements recommended by the American Water Works Association (AWWA) were used in developing the Source Water Protection Plan:

1. Source water protection program vision statement and goals;

2. Source water characterization;

3. Source water protection action plan;

4. Implementation of the action plan, including periodic evaluation and revision of the entire program.

These are discussed in the following.

1.0 SOURCE WATER PROTECTION VISION AND GOALS

This document was prepared by the Tennessee Valley Authority (TVA) in support of the Mississippi Department of Environmental Quality (MDEQ), Source Water Protection Program. This source water protection plan was prepared based on the Source Water Assessment (and supplement) for the SHORT COLEMAN SURFACE WATER TREATMENT PLANT- PICKWICK INTAKE which was prepared in June 2004 and October 2008.

The information and data used in the preparation of this source water protection plan for the Short Coleman Surface Water Treatment Plant's surface water intake (the Pickwick Intake) on the Yellow Creek embayment at luka, MS were obtained from the Source Water Assessment (and supplement) for the SHORT COLEMAN SURFACE WATER TREATMENT PLANT – PICKWICK INTAKE. A complete listing of the information sources is presented in the Source Water Assessment document in Attachment 1 and the Source Water Assessment Supplement in Attachment 2.

After meetings with MDEQ, TVA, and the Tishomingo SWCD it was determined that there needed to be an action plan to be distributed to potential threats (businesses/industries) so that the water treatment plant would be aware of any possible source of contamination. This source water protection plan consists of six components:

1. A source water protection program vision;
2. A source water characterization;
3. Source water protection goals;
4. A source water protection action plan;
5. Implementation of the action plan; and

6. A periodic evaluation and revision of the entire program.

Based on these components a vision statement was developed:

> *"The Pickwick Reservoir, the Short Coleman Surface Water Treatment facility and citizens of the community shall be tireless in endeavors to serve, empower and strengthen our surface waters through efficient management, improved customer service, and managed rate controls as well as development of increased resources to protect our waters through strong community responsibility."*

The goal of the Short Coleman Surface Water Treatment Plant Protection Program is to ensure that the treatment plant process and water supply is not impacted by the pollutants of any potential source of contaminants. This includes ensuring that businesses and industries that may have potential sources of contaminants included in the protection area are aware of the actions needed in the case of a contaminant spill into the water. Based on the six components of the SWPP, four goals were developed:

1. Manage the land of the watershed using responsible land stewardship practices and sound planning decisions.

2. Improve areas of the watershed that are contributing to drinking water quantity and quality problems.

3. Sustain Pickwick Reservoir so that a safe and reliable source of drinking water will meet the demands of the population.

4. Maintain a healthy watershed to protect the quantity, quality, and cost of the drinking water.

These program goals have been used to develop strategies for the Action Plan described in Section 3.

2.0 SOURCE WATER CHARACTERIZATION

The source water characterization addresses the reservoir and the land area where the source water originates. It identifies the designated uses and current water quality of the reservoir and describes the land use and contaminant sources in the surrounding watershed. The characterization is consistent with the SWPA and the SWPA addendum in Attachments 1 & 2.

2.1 GENERAL DESCRIPTION OF THE WATERSHED AND RESERVOIR

The Yellow Creek embayment of the Tennessee River, located in northeastern Mississippi has a drainage area of approximately 44.7 square miles. The Tennessee River basin lies in a seven-state area in the southeastern United States. Its drainage area covers 40,900 square miles, most of which are in the state of Tennessee. The remainder of the basin lies in Mississippi, Alabama, Georgia, Kentucky, North Carolina and Virginia. The Tennessee River originates in Knoxville, Tennessee, where the French Broad River joins the Holston River. The Tennessee continues westward to Paducah, Kentucky, where it enters the Ohio River 46 miles upstream of the confluence of the Ohio and Mississippi Rivers. In terms of discharge, the Tennessee River is the fifth-largest river in the United States and the seventh-largest in North America.

The Tennessee River basin is composed of two fan-shaped basins connected in the vicinity of Chattanooga, Tennessee by a relatively narrow valley. The 21,400 square mile area upstream, or east of Chattanooga, includes the slopes of the Blue Ridge and Great Smoky Mountains and is dominated by rugged forested areas. The remaining 19,500 square mile area downstream and west of Chattanooga is dominated by relatively flat open fields, woodlands, and rolling hills. Approximately 60 percent of the total watershed is forested, while the remaining 40 percent is primarily open land and pasture.

The Tennessee River drainage is one of nine major drainage groups within the state of Mississippi. It drains 181 of 48,434 square miles of Mississippi's area, or less than one-half of one percent of the state. The Tennessee River's average daily flow entering and exiting Mississippi can be approximated by looking at the flows leaving Wilson Dam (Muscle Shoals, AL) and Pickwick Dam (Counce, TN). These two dams are 52.5 sailing miles apart and the portion of the Tennessee River that lies along the Mississippi state line falls between them, providing the two locations nearest the Mississippi border that have regularly monitored flow. Average flows at Wilson and Pickwick Dams, respectively, are 51,082 cubic feet per second (cfs) and 54,797 cfs, an increase of 3,715 cfs. The Tennessee River flowing through Mississippi is impounded by one reservoir: Pickwick, which has a total surface area of 42,790 acres of water at elevation 414, which is normal maximum pool. Flows in the Tennessee River Basin are controlled by an integrated, multipurpose system of dams and reservoirs operated by TVA (Figure 1) Major operating objectives are to provide for navigation, flood control, hydropower generation, recreation, and minimum flows for the maintenance of water quality and aquatic habitat. Additionally, the reservoir system supports fossil and nuclear power generation by providing condenser cooling system water and dissipating thermal waste loads.

The Tennessee River is an integral part of the Interconnected Inland Waterways System of the United States. This system, which extends from the Great Lakes to the Gulf of Mexico, includes the Mississippi, Missouri, Illinois, Ohio, Tennessee and Arkansas River systems. The Inland Waterways System connects the Tennessee River system with 21 other states.

The Tennessee River provides a navigable channel for its entire length of 650 miles from Knoxville, Tennessee to Paducah, Kentucky, through a series of nine locks and dams on the main stem of the river. The minimum channel depth is 11

feet, which provides sufficient depth for vessels with a 9-foot draft. The minimum channel width in dredged cuts is 300 feet with some widening on bends. Most locks in the system are 100 feet by 600 feet, considered a standard for modem barge traffic of low to medium traffic levels. Newer locks, such as the one constructed at Pickwick Dam and planned for Kentucky Dam, are larger measuring in the range of 110 feet by 1,000 feet.

Commercial barge traffic on the Tennessee River reached a total of 54 million tons every year. Commodities originating or terminating on the Tennessee River include sand and gravel, coal, chemicals, petroleum, and ores and minerals. There are five major ports on the Tennessee River: Decatur, Guntersville and Muscle Shoals, Alabama; Chattanooga, Tennessee, and Yellow Creek, Mississippi. Maintenance and operation of the Tennessee River waterway is the joint responsibility of TVA, the U.S. Coast Guard, and the U.S. Army Corps of Engineers.

The state of Mississippi has established water use classifications for its inter- and intrastate waters. Use classifications apply water quality criteria in order to protect existing water quality at the time the classification was implemented, and to upgrade or enhance water quality in the state of Mississippi. Use classifications listed by the state of Mississippi include: public water supply, shellfish harvesting, recreation, fish and wildlife, and ephemeral stream. All state waters that are not specifically classified by the State are assumed to be listed as fish and wildlife.

The Tennessee River, in the vicinity of the Yellow Creek embayment, is classified by the state of Mississippi as suitable for fish and wildlife. The segment of the Tennessee River that flows into the embayment is classified as a public water supply.

2.2 WATER QUALITY IN THE RESERVOIR AND WATERSHED

Overall, the Tennessee River is considered to be a clean river. In general, there is no one pervasive water quality concern in TVA reservoirs, but there are a collection of concerns affecting various uses. Most of these concerns, however, can be related to two major water quality issues. The first issue relates to point and nonpoint pollution, which tends to affect specific reservoirs and specific water uses. A related issue is that of toxic substance, which have been found in sediments and fish in reservoirs with otherwise good water quality. The second primary water quality issue is the occurrence of low dissolved oxygen (DO) levels in the tail water areas below some TVA dams. Low DO levels can stress aquatic life and limit the ability to assimilate wastes.

Nonpoint source pollutants, which can contribute as much as five times more DO-consuming wastes than point sources, are the principal cause of water quality concerns in the Tennessee Valley. Nonpoint source pollution results from a variety of activities in the watershed related to agriculture (runoff from fertilizer and pesticide applications, erosion and animal wastes), mining (sedimentation and acidification from tailings), land development, and urbanization (storm sewers and septic systems).

TVA conducts routine water, sediment, benthos and fish sampling in four areas as part of its Vital Signs Monitoring Program to evaluate the ecological health of Pickwick Reservoir: the inflow area, generally riverine in nature; the transition zone, the mid-reservoir area where water velocity decreases due to increased cross-sectional area; the forebay, the deep, still water in the area near the dam; and the Bear Creek embayment.

Summary / Key Ecological Health Findings for 2006: The overall ecological condition of Pickwick Reservoir was good in 2006 (the last year sampled), with

the score being just below the cut-off for a condition of good. Pickwick has scored about the same every year — either "high fair" or good — depending primarily on chlorophyll concentrations, which are affected by reservoir flows, and by conditions in the Bear Creek embayment, which generally rates lower than at other monitoring locations on the reservoir. The inflow rating, which is based on fish and bottom life, was highest in 2004 and contributed to the overall higher score for the reservoir that year. Conditions in the Bear Creek embayment were poorest, and conditions at the mid-reservoir location were the best of the four sampling locations on Pickwick Reservoir. All assessed stations rated good for fish (number and variety) and sediment quality (amount of PCB's, pesticides and metals in the bottom sediment). The Bear Creek embayment, mid reservoir and forebay all rated good for DO levels. The Bear Creek Embayment was rated as fair for bottom life, with the other three stations rated good. The chlorophyll level was rated poor at the Bear Creek embayment and forebay while the mid-reservoir site rated fair.

Status of Fish Consumption Advisories in 2006: No fish consumption advisories were in effect for Pickwick Reservoir.

Status of Swimming Advisories in 2006: There were no swimming advisories for Pickwick Reservoir. TVA conducted bacteriological sampling at ten swimming areas on Pickwick in 2006. Each site was sampled ten times during the summer, and met water quality criteria for water contact recreation in the state in which they were sampled (Mississippi, Alabama or Tennessee).

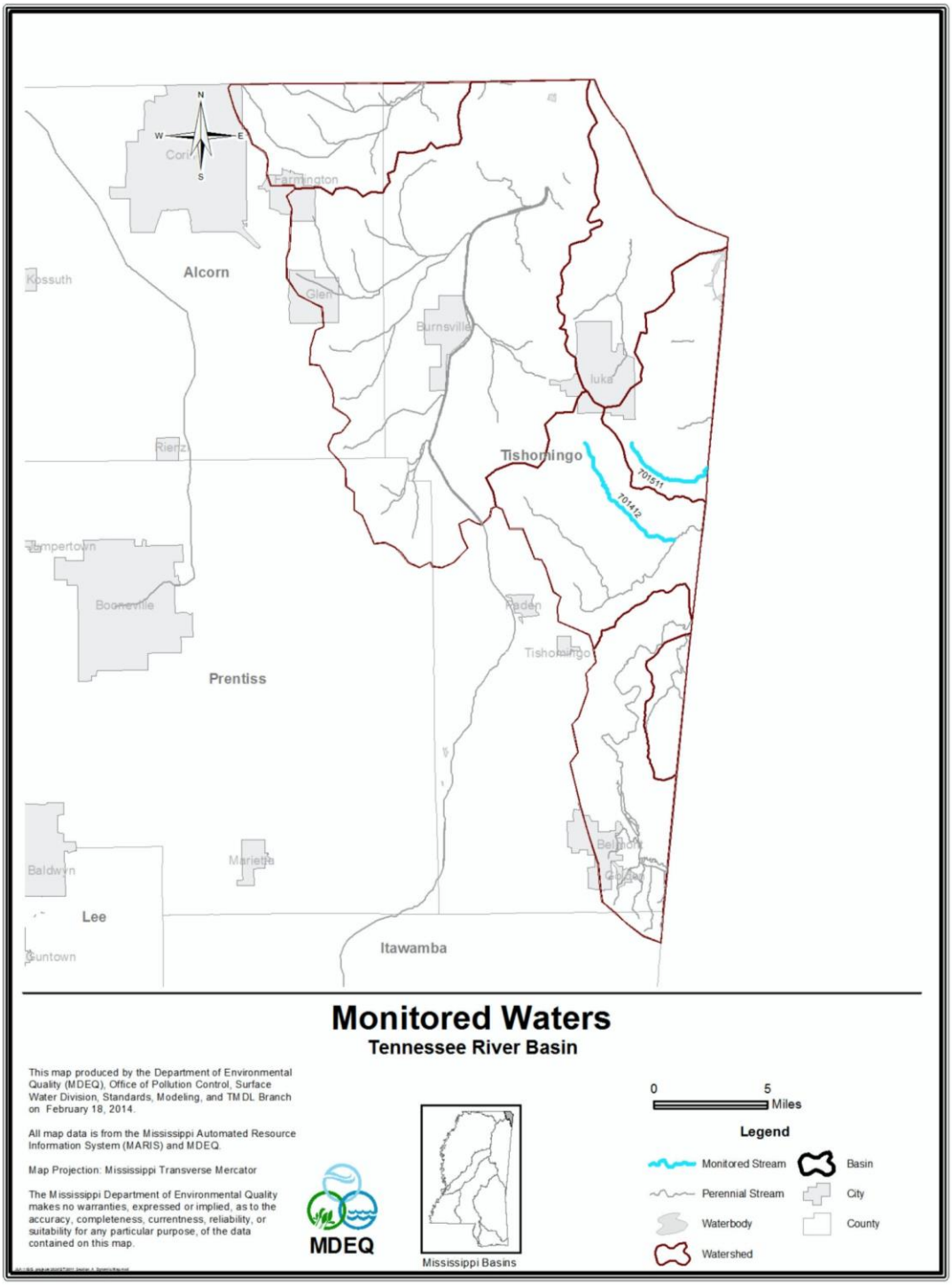
In addition to TVA monitoring, the Mississippi Department of Environmental Quality's Office of Pollution Control conducts a surface water monitoring program in order to develop and maintain an understanding of water quality in the State, to gather the needed data to accurately describe the State's water quality and determine the causes and effects of any changes in the water quality, to support

the State's regulatory water quality programs and to measure how well the State's pollution control programs are working. Mississippi's Surface Water Monitoring Program includes fixed monitoring stations, special studies, regulatory compliance monitoring, volunteer collections, laboratory support, quality assurance/quality control measures, and data sharing, management and reporting.

2.3 **IMPAIRED STREAMS IN THE WATERSHED**

The Tennessee River Basin has four water bodies that are listed in the 2010 Section 303(d) List of Impaired Water Bodies for the state of Mississippi. The impaired bodies are listed in the table below and shown in the following map. Each water body has an impaired use of biological impairment based on sedimentation and turbidity. These streams pose no impact to the SCSWTP.

Water Body Name	Water Body ID	Impaired Use	Location
CANEY CREEK	700312	Biological Impairment	Near luka from the Headwaters to Little Yellow Creek
CRIPPLE DEER CREEK	701411	Biological Impairment	Near luka from Headwaters to the Confluence with Little Cripple Deer Creek
HOLLY BRANCH	701211	Biological Impairment	Near luka from Headwaters to Mouth at Cedar Creek
LITTLE CRIPPLE DEER CREEK	701412	Biological Impairment	Near Tishomingo from Headwaters to Confluence with Cripple Deer Creek



Graphic revised February 18, 2014.

2.4 CONTAMINANT SOURCES

The source water protection area includes both critical and secondary areas. The critical area is the area in which potential hazards pose an immediate threat to the surface water intake on the reservoir. This includes the water surface and a 1000-foot buffer from the water's edge on each side of the river. The secondary area reaches out to 1500 feet where known possible contaminants exist. This area is not as critical, as a spill or contaminant would not likely reach the intake due to its being contained and removed before it reached the water surface.

2.4.1 CRITICAL AREA

A significant spill in the critical area of the reservoir needs an immediate emergency response to ensure that the surface water intake is not compromised. There are several different possible spills that could affect the intake as Short Coleman. However, there would be no way to determine every possible hazard. This is because the intake is in a reservoir that has heavy barge traffic, which would have the highest threat of contamination. Due to the amount of traffic, there are many mooring cells where the barges can be staged.

Below is a list of possible hazards that pose a threat to the SCSWTP. These hazards can be reference in Attachments 1 and 2.

- Mooring Cells
- Bridges
- Underground Storage Tanks
- Above Ground Storage Tanks
- Sewage Pipelines
- NPDES Permitted Discharges
- Hazardous Waste Discharges

- Residential/Commercial
-Agricultural
- Boats Ramps
-Marinas

Potential contaminants from this list include petroleum products, bacteria, hazardous waste from permitted industries, and herbicides and pesticides. These contaminants can harm the surface water intake if the intake unknowingly pumped the water to the treatment plant.

3.0 SOURCE WATER PROTECTION

3.1 SOURCE WATER PROTECTION GOALS

Goals and implementation strategies serve a valuable purpose and provide direction for further source water protection objectives. An effective implementation strategy can help focus available resources, both financial and human, for maximum efficiency. The strategy considers the source water protection program and current threats (informed by the SWAP).

Source water protection starts at the local, public water supplier level and ideally, can be linked to local land use and zoning. Efforts to enlist local support for drinking water protection involve continued and active participation of Tishomingo SWCD, Mississippi Rural Water Association, MDEQ and the EPA. Source water protection programs have a variety of ways to motivate and assist local source water protection implementation. Land use controls are one of the means communities can use to help manage the siting of future potential contamination sources that present a risk to drinking water sources. In addition, the management of land and water resources to protect water quality from nonpoint source pollution, such as agricultural pesticide applications, is essential to source

water protection. The effectiveness of any of these methods can often be increased or maximized by using it in combination with one or more other items. The general idea is to provide incentives for action and data/information about the kinds of actions that are needed.

The goals of the Source Water Protection Plan are simple. Ensure that the potential sources of contaminations that are outlined in the SHORT COLEMAN SURFACE WATER TREATMENT PLANT and Supplement – PICKWICK INTAKE Source Water Assessment are aware of the procedures to take if there is a potential contamination that reaches the waters in the source water protection area.

3.2 SOURCE WATER PROTECTION ACTION PLAN AND IMPLEMENTATION

By developing an action plan for the Short Coleman Water Treatment Plant, the treatment plant can continue to provide clean drinking water for the public if there is any potential contamination to the surface water intake in the Pickwick Lake. This development plan will outline the steps to be taken to ensure continuity of the treatment plant. To be able to implement this plan, steps will be needed by the TSWCD, Mississippi Rural Water Association, MDEQ, SCWA, SCSWTP, and MSDH. Below are the strategies to ensure that the vision of SCSWTP is achieved.

1. Oversee a group to promote and manage the SWPP.

2. Coordinate and encourage local and state entities to become involved in the implementation of best management practices. Ensure BMP's are used in the critical zone.

3. Make the public aware that not only is the Pickwick Reservoir a source of recreation, but also a source of drinking water.

4. Ensure each of the potential contaminators know the steps to take if there is a spill or potential concern for the water treatment plant that could affect the operations for distributing safe drinking water.

5. Members of MDEQ, TVA, TSWCD, Mississippi Rural Water Association, MSDH and the employees of the Short Coleman Water Treatment Plant must stay in constant communication to ensure that any potential sources of contamination that might not take the gravity of the water treatment plant to heart are constantly monitored either through phone calls or site visit.

6. Coordinate with TVA's Emergency Response and Tishomingo County Emergency Management Association in the event there is a threat to the Short Coleman water intake and treatment plant.

Below is a list of actions needed to help achieve each strategy.

Strategy	Action	Groups Involved	Obstacles	Timetable
Oversee a group to promote and manage the SWPP	Make available notices to the public to make aware the SWA and SWPP	MDEQ, TVA, SCSWTP	No interest from public	Immediate
	Meetings to improve SWPP	MDEQ, TVA, SCSWTP	Money available and scheduling	Bi-annually
	Update SWA	MDEQ	Money available	Every 5 years
Coordinate and encourage local and state entities to become involved in the implementation of best management practices.	Determine programs available for Source Water Protection	MDEQ, TVA, SCSWTP	Money available and changing of programs	Annually
	Update plans in accordance with state and federal BMP for erosion control	MDEQ, SCWA, SCSWTP	Money available and coordination between groups	Annually
	Meet with local community to make aware BMP's	MDEQ, SCWA, SCSWTP, TSWCD	Scheduling	Bi-annually
	Update SWA	MDEQ, SCWA, SCSWTP, TSWCD	Money available	2013
	Develop AST inventory program	EPA, MDEQ, MS Dept. of Ag	No responsible party	Prior to SWA update (2013)
	Update UST inventory	EPA, MDEQ	None Foreseen	Prior to SWA update (2013)
	Promote Riparian Buffers by encouraging public to visit TVA website	TVA, MDEQ, SCWA, TSWCD	None foreseen	Immediate

Make the public aware of waters being source of drinking water.	Post fliers indicating surface water intake (see App. A)	MDEQ, TVA, SCSWTP	Money and resources available	Bi-annually
	Post in newspaper the importance of surface waters	MDEQ, SCWA, TSWCD	Money and resources available	Annually
	Outreach events	MDEQ, TVA, SCWA, TSWCD, SCSWTP	Scheduling and resources available	Annually
Ensure each of the potential contaminators know the steps to take if there is a spill	Meetings with each entity of the Potential Contaminators of the SWA	SCWA, TSWCD, SCSWTP, MDEQ, Potential Contaminators	Interest of Potential contaminators	Bi-annually
	Incorporate calls to SCSWTP into emergency measures of Potential contaminators	SCWA, TSWCD, MDEQ, Potential Contaminators	Interest of Potential contaminators	Bi-annually
	Constant communication between potential sources of contamination that are unconcerned	SCWA, TSWCD, MDEQ, Potential Contaminators	Potential Contaminators	Monthly
Coordination of Emergency Response	Coordination and drills for emergencies	TVA, MDEQ, SCSWTP	Scheduling	Annually

3.3 EXISTING PROGRAMS

For a SWPP to be successful, it must promote cooperation and coordination among local governments, state and federal agencies, the community, and the stakeholders located in the Source Water Protection Area.

3.3.1 NATURAL RESOURCES CONSERVATION SERVICE

The Natural Resources Conservation Service (NRCS), an agency of the U.S. Department of Agriculture, provides technical assistance, information, and advice

to citizens in their efforts to conserve soil, water, plant, animal, and air resources on private lands.

Performance & Results Measurement System (PRMS) is a Web-based database application providing USDA Natural Resources Conservation Service, conservation partners, and the public fast and easy access to accomplishments and progress toward strategies and performance. The PRMS may be viewed at http://prms.nrcs.usda.gov/prms.

The data can be used to determine broad distribution trends in service provided to customers by NRCS conservation partnerships. These data do not show sufficient detail to enable evaluation of site-specific conditions (e.g., privately-owned farms and ranches) and are intended to reflect general trends.

3.3.2 UNITED STATES GEOLOGICAL SURVEY WATER RESOURCES PROGRAMS

The U.S. Geological Survey (USGS) provides relevant and objective scientific studies and information for public use to evaluate the quantity, quality, and use of the nation's water resources. In addition to providing national assessments, the USGS also conducts hydrologic studies in cooperation with numerous federal, state, and local agencies to address issues of national, regional, and local concern.

The USGS collects hydrologic data to document current conditions and provide a basis for understanding hydrologic systems and solving hydrologic problems. The USGS records stream flow continuously at gauging stations equipped with recorders and makes instantaneous measurements of stream flow at many other locations. Ground-water levels are monitored statewide, and the physical, chemical, and biologic characteristics of surface and ground waters are analyzed. USGS activities also include the annual compilation of water-use

records and collection of data for national baseline and water-quality networks. National programs conducted by the USGS include the National Atmospheric Deposition Program (http://bqs.usgs.gov/acidrainl), National Stream Quality Accounting Network (http://water.usgs.gov/nasqanl), and the National Water-Quality Assessment Program (http://water.usgs.gov/nawqal). Real-time and historical stream flow, water levels, and water-quality data at sites operated by the Mississippi District can be accessed at http://waterdata.usgs.gov/ms/nwis/nwis.

3.3.3 U.S. FISH AND WILDLIFE SERVICES

The mission of the U.S. Fish and Wildlife Services working with others to conserve, protect, and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people. Sustaining our nation's fish and wildlife resources is a task that can be accomplished only through the combined efforts of governments, businesses, and private citizens. The U.S. Fish and Wildlife Service (Service) works with state and federal agencies and tribal governments, helps corporate and private landowners conserve habitat, and cooperates with other nations to halt illegal wildlife trade. The Service also administers a federal aid program that distributes funds annually to states for fish and wildlife restoration, boating access, hunter education, and related projects across America. The funds come from federal excise taxes on fishing, hunting, and boating equipment.

Endangered Species Program: Through the Endangered Species Program, the Service consults with other federal agencies concerning their program activities and their effects on endangered and threatened species. Other Service activities under the Endangered Species Program include the listing of rare species under the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended: 16 U.S.C. 1531 et seq.) and the recovery of listed species. Once

listed, a species is afforded the full range of protections available under the ESA, including prohibitions on killing, harming or otherwise taking a species.

3.3.4 TENNESSEE VALLEY AUTHORITY

Tennessee Valley Authority's (TVA) goals for the 21st century are to generate prosperity for the Tennessee Valley by promoting economic development, supplying low-cost, reliable power, and supporting a thriving river system. TVA is committed to the sustainable development of the region and is engaged in a wide range of watershed protection activities. TVA formed 11 multi-disciplinary Watershed Teams to help communities across the Tennessee Valley actively develop and implement protection and restoration activities in their local watersheds. These teams work in partnership with business, industry, government agencies, and community groups to manage, protect, and improve the quality of the Tennessee River and its tributaries. TVA also operates a comprehensive monitoring program to provide real-time information to the Watershed Teams and other entities about the conditions of these resources. The following is a summary of TVA's resource stewardship activities in the Pickwick watershed.

3.3.4.1 MONITORING

Reservoir Monitoring: TVA has monitored the quality of water resources of Pickwick Reservoir regularly as part of its Vital Signs Monitoring effort since 1991. Physical, chemical, and biological indicators (dissolved oxygen, chlorophyll, sediment chemistry, benthos, and fish) provide information from various habitats on the ecological health of the reservoir. These parameters are sampled at the forebay station near Pickwick Dam (TRM 207.3), at mid-reservoir (TRM 230.0), and at the inflow station downstream of Wilson Dam (TRM 253). TVA has also monitored conditions in the Bear Creek embayment (AL and MS)

since 1993 at BCM 8.4. Samples were collected annually from 1991 to 1994 and semiannually since. Only the forebay station is located in Tennessee.

Numeric ratings are given to all of the indicators sampled at each station. The lowest possible rating for any indicator is 1 (poorest condition) while the highest rating is 5 (best condition). Sediment chemistry is an exception; 0.5 is the lowest rating, 2.5 the highest. This information is used to evaluate conditions at each location as well as to develop an ecological health score for the reservoir. To obtain this score, ratings from all locations are summed and divided by total possible points for the reservoir. The result is then multiplied by 100. The lowest possible score is 20, the highest is 100.

Overall ecological health rating was fair. High chlorophyll concentration and lower ratings in the Bear Creek embayment contributed to lower ratings. Dissolved oxygen, fish and benthos at the forebay station typically rates good each year. Sediment analysis has indicated no elevated levels of chemicals of concern.

Bacteriological sampling: Two sites on Pickwick Reservoir in Tennessee were sampled ten times each for fecal coliform bacteria in 2002. Both sites met Tennessee's bacteriological criteria for water contact recreation. Tennessee's criteria for water contact recreation requires the collection of at least 10 fecal coliform samples within a 30 day period, with a geometric mean less than 200 fecal coliform colonies per 100 milliliters of water. Samples were collected at the Pickwick Landing State Park Beach at TRM 209 L and Bruton Branch State Recreation Area Beach TRM 208 R. Swimming beaches are sampled every year.

Stream Bioassessment: Condition of water resources in Pickwick watershed streams is measured using three independent methods; Index of Biotic Integrity

(IBI), number of mayfly, stonefly, and caddisfly taxa (EPT), and Habitat Assessment. Not all of these tools were used at each stream sample site.

IBI: The index of biotic integrity (IBI) assesses the quality of water resources in flowing water by examining a stream's fish assemblage. Fish are useful in determining long-term (several years) effects and broad habitat conditions because they are relatively long-lived and mobile. Twelve metrics address species richness and composition, trophic structure (structure of the food chain), fish abundance, and fish health. Each metric reflects the condition of one aspect of the fish assemblage and is scored against reference streams in the region known to be of very high quality. Potential scores for each of the twelve metrics are 1-poor, 3-intermediate, or 5-the best to be expected.

EPT: The number and types of aquatic insects, like fish, are indicative of the general quality of the environment in which they live. Unlike fish, aquatic insects are useful in determining short-term and localized impacts because they are short-lived and have limited mobility. The method TVA uses involves only qualitative sampling and field identification of mayflies (Ephemeroptera), stoneflies (Plecoptera), and caddisflies (Trichoptera) to the family taxonomic level (EPT). The score for each site is simply the number of EPT families. The higher EPT scores are indicative of high quality streams because these insect larvae are intolerant of poor water quality.

Habitat Assessment: The quality and quantity of habitat (physical structure) directly affect aquatic communities. Habitat assessments are done at most stream sampling sites to help interpret IBI and EPT results. If habitat quality at a site is similar to that found at a good reference site, any impacts identified by IBI and EPT scores can reasonably be attributed to water quality problems. However, if habitat at the sample site differs considerably from that at a reference

site, lower than expected IBI and EPT scores might be due to degraded habitat rather than water quality impacts.

The habitat assessment method used by TVA (modified EPA protocol) compares observed instream, channel, and bank characteristics at a sample site to those expected at a similar high-quality stream in the region. Each of the stream attributes listed below is given a score of 1 (poorest condition) to 4 (best condition). The habitat score for the sample site is simply the sum of these attributes. Scores can range from a low of 10 to a high of 40.

1. lnstream cover (fish)
2. Epifaunal substrate
3. Embeddedness
4. Channel Alteration
5. Sediment Deposition
6. Frequency of Riffle
7. Channel Flow Status
8. Bank Vegetation Protection --Left bank and right bank, separately
9. Bank Stability --Left bank and right bank, separately
10. Riparian Vegetation Zone Width--Left bank and right bank, separately

Sample Site Selection: EPT sampling and fish community assessment (IBI) are conducted at the same sites. Site selection is governed primarily by study objectives, stream physical features, and stream access. TVA's objective is to characterize the quality of water resources within a sub-watershed (12-digit hydrologic unit). Sites are typically located in the lower end of sub-watersheds and at intervals on the mainstem to integrate the effects of land use.

Only 4 sites are routinely sampled in the Tennessee portion of the Pickwick watershed: Second Creek at TN Hwy. 69, Dry Creek above the mouth, Little

Cypress Creek at Whitten School Road, and North Fork Cypress Creek along Natchez Trace Parkway.

These sites are typically sampled every five years to keep a current picture of watershed condition.

3.3.4.2 WATERSHED ASSISTANCE

Citizen Based Organizations: Citizen based watershed organizations can play a critical role in watershed protection. TVA's watershed teams work to strengthen these organizations by providing assistance in the areas of understanding the local watershed, its conditions, impacts, and threats; developing and implementing strategies to protect or improve resource quality; fundraising; river issues; and organizational development. In 1999, TVA initiated a series of workshops for watershed organizations. Past workshops have covered, state and federal water quality protection programs, grant writing, fund raising, communication/outreach, and strategic planning.

Inter-agency Partnerships: The benefits of watershed partnerships are well documented. No one unit of government, agency, group or individual has all the knowledge, expertise or resources to address all watershed issues. Partnerships can tap a diversity of energy, talent, and ideas. Watershed partnerships can also promote a more efficient use of limited financial and human resources and can identify innovative and efficient means of improving or protecting water quality.

National Clean Boating Campaign: The National Clean Boating Campaign is a partnership program which highlights the importance of clean water so boating will continue to be fun and safe for future generations. The program demonstrates how boaters can be good stewards of their water environment through best boating and marina practices.

Clean Marina Initiative: The Tennessee Valley Clean Marina Initiative is an effort by TVA to promote environmentally-responsible marina practices. This voluntary program, established in support of the National Clean Boating Campaign, helps marina operators protect the resource that provides them with their livelihood.

Promote Best Management Practices: TVA provides funding and technical expertise to assist with installation of best management practices (BMPs) that will reduce non-point pollution. TVA also works with partners to promote use of BMPs.

Shoreline Stabilization: In September 2000, the Pickwick Watershed Team partnered with Pickwick Landing State Park to successfully stabilized approximately 500 feet of critically eroding reservoir shoreline in the Bruton Branch Recreational Area. In addition, the team provides technical assistance to stakeholders through individual landowner meetings and public workshops for those interested in stabilization on private shoreline areas.

Riparian Buffers: An effective line of water quality protection is maintaining the vegetative plant cover along waterbodies. TVA encourages waterfront property owners to maintain or establish vegetated riparian buffers by providing information and materials to the riparian property owner. In 2002, TVA partnered with the Bruton Branch Homeowners Association to sponsor a riparian buffer workshop. Packages of native riparian plant seedlings were distributed to riparian property owners in the Bruton/Pompeys Branch watershed. TVA has also developed a series of 11 fact sheets (http://www.tva.com/river/landandshore/index.htm) that will enable riparian property owners to restore, manage, and be better stewards of riparian land.

4.0 PERIODIC EVALUATION AND REVISION

An evaluation and revision of the Source Water Assessment and the Source Water Protection Plan needs to be done every 5 years The Source Water Assessment indicates the possible contaminant sources that would affect the water treatment plant. Since there is always a possibility for new businesses and industries to build in the assessed area it is important to add them to the Assessment. All potential contaminant sources must be listed in the assessment so the Source Water Protection Plan can adequately direct how to protect the source water intake.

5.0 REFERENCES

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Appendix A

YOUR DRINKING WATER IS IMPORTANT

If there is potential water contamination, contact the Short Coleman Water Treatment Plant Immediately!

(662) 423-2715

Dear Valued Customer,

You live in an area that has been defined by the Mississippi Department of Environmental Quality that could impose a threat to your water treatment facility. If there is a possible accident or release of a potential contamination that could pose a threat to your water treatment facility, it is vital that you contact the Short Coleman Water Treatment Plant at (662) 423-2715.

Your potable water is very important so we encourage you to contact your facility no matter how large or small the potential threat. By contacting your water treatment facility, you are doing your part to ensure that everyone in the area will receive safe drinking water.

Thank you so much for your diligence to keeping Short Coleman Water Treatment Plant aware of any situation that could affect the plant's operation of treating water from the Pickwick Reservoir.

Appendix B

MISSISSIPPI STATE DEPARTMENT OF HEALTH
BUREAU OF PUBLIC WATER SUPPLY

CALENDAR YEAR 2009 CONSUMER CONFIDENCE REPORT CERTIFICATION FORM

Tishomingo County Water District
Public Water Supply Name

0710004
PWS ID#(s) (List ID #s for all Water Systems Covered by This CCR)

The Federal Safe Drinking Water Act requires each community public water system to develop and distribute a consumer confidence report (CCR) to its customers each year. Depending on the population served by the public water system, this CCR must be mailed to the customers, published in a newspaper of local circulation, or provided to the customers upon request.

Please Answer the Following Questions Regarding the Consumer Confidence Report

[X] Customers were informed of availability of CCR by:

- [ ] Advertisement in local paper
- [X] On water bills
- [ ] Other

Date customers were informed: 5/28/10

[ ] CCR was distributed by mail or other direct delivery. Specify other direct delivery methods:

Date Mailed/Distributed: ____/____/____

[X] CCR was published in local newspaper.(Attach copy of published CCR & proof of publication)

Name of Newspaper: Tishomingo County Vidette

Date Published: 5/27/10

[ ] CCR was posted in public places. (Attach list of locations)

Date Posted: ____/____/____

[ ] CCR was posted on a publicly accessible internet site at the address:

www. _____

CERTIFICATION

I hereby certify that a consumer confidence report (CCR) has been distributed to the customers of this public water system in the form and manner identified above. I further certify that the information included in this CCR is true and correct and is consistent with the water quality monitoring data provided to the public water system official by the Mississippi State Department of Health, Bureau of Water Supply.

Kirk Brown, Chairman
Name/Title (President, Mayor, Owner, etc.) Please type/print)

Kirk Brown
Signature

6/8/10
Date

Mail Completed Form to: Bureau of Public Water Supply/P.O. Box 1700/Jackson, MS 39215
Phone: 601-576-7518

2009 Annual Drinking Water Quality Report
Tishomingo County Water District
PWS ID #0710004

Is my water safe?
Last year, as in year's past, we conducted tests for contaminants. We only detected 11 of those contaminants, and found only 1 at a higher level that the Environmental Protection Agency (EPA) allows. Local Water vigilantly safeguards its water supplies and as we told you at the time, our water temporarily exceeded drinking water standards. For more information, see the paragraph marked Violations at the bottom of this report. This report is a snapshot of last year's water quality. The table shows that our system uncovered some problems this year. We corrected this by pulling additional samples and sending them to the MS State Department of Health for testing. All the additional samples tested good. Apparently, the bad samples were the result of a poor sampling procedure. This report shows the results for our monitoring period of January 1st to December 31st, 2009. Included are details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. We are committed to providing you with information because informed customers are our best allies.

Do I need to take special precautions?
Some people may be more vulnerable to contaminants in drinking water that the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their heath care providers. EPA/Centers guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline at 1-800-426-4791.

Where does my water come from?
Our water is purchased from the City of Iuka which consists of four (4) wells; three that draws from the Paleozoic Aquifer and one drawing from the Fort Payne Chert Aquifer.

Source water assessment and its availability:
The source water assessment has been completed for our public water system to determine the overall susceptibility of its drinking water supply to identify potential sources of contamination. A report containing detailed information on how the susceptibility determinations were made has been furnished to our public water system and is available for viewing at our office upon request. Listed below are the ratings for the wells of the City of Iuka where Tishomingo County Water District purchases water.

Well # 710006-01 – moderate rating on source water assessment
Well # 710006-02 – higher rating on source water assessment
Well # 710006-04 – moderate rating on source water assessment
Well # 710006-05 – lower rating on source water assessment

Why are there contaminants in my drinking water?
All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants. It's important to remember that the presence of these contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791). The sources of drinking water (both tap water and bottled water) include rivers, lakes streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity; microbial contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife; inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, or farming; pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses; organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems; and radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities. In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

How can I get involved?
We encourage all customers with concerns or questions to meet with us. Our Association meets monthly on the second Tuesday night of every month at 6:30 P.M. at the water office

FOR MORE INFORMATION CONTACT:

Tishomingo County Water District
ATTN: Kirk Brown, Chairman
Po Box 354; 117 E Eastport Street
Iuka, MS 38852
Phone: 662-423-3211

Additional Information for Lead
If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Tishomingo County Water District is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead. The Mississippi State Department of Health Public Health Laboratory offers lead testing for $10 per sample. Please contact 601.576.7582 if you wish to have your water tested.

Monitoring and reporting of compliance data violations
We are required to monitor your drinking water for specific constituents on a monthly basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. Beginning January 1, 2004, the Mississippi State Department of Health (MSDH) required public water systems that use chlorine as a primary disinfectant to monitor/test for chlorine residuals as required by the Stage 1 Disinfection By-Products Rule. Our water system passed all of these monitoring requirements. We did complete the monitoring requirements for bacteriological sampling. In an effort to ensure systems complete all monitoring requirements, MSDH now notifies systems of any missing samples prior to the end of the compliance period.

The table below list all the drinking water contaminants that we detected during the calendar year of this report. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. The EPA and the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently.

Tishomingo County Water District

PWS ID # 0710004

2009 WATER QUALITY DATA TABLE

Contaminants (units)	MCLG or MRDLG	MCL, TT, or MRDL	Your Water	Range Low	Range High	Sample Date	Violation	Typical Source
Microbiological Contaminants								
Total Coliform Bacteria	0	presence of coliform bacteria in 5% of monthly samples	2	N/A	N/A	October 2009 - 2	Yes	Naturally present in the environment
Disinfectants & Disinfection By-Products								
Chlorine (ppm)	4	4	1.10	0.97	1.10	2008	No	Water additive used to control microbes
HAA5 {Haloacetic Acids} (ppb)	0	60	6.0	N/A	N/A	2008	No	By Product of drinking water chlorination
Inorganic Contaminants								
Barium (ppm)	2	2	0.009	N/A	N/A	2006	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Cadmium (ppm)	0.005	0.005	0.0003	N/A	N/A	2005	No	Corrosion of galvanized pipes; Erosion of natural deposits; Discharge from metal refineries runoff from waste batteries & paints
Chromium (ppm)	0.1	0.1	0.001	N/A	N/A	2005	No	Discharge from steel and pulp mills; Erosion of natural deposits.
Nitrate {measured as Nitrogen} (ppm)	10	10	0.20	N/A	N/A	2009	No	Runoff from fertilizer user; Leaching from septic tanks, sewage; Erosion of natural deposits
Nitrite {measured as Nitrogen} (ppm)	1	1	0.05	N/A	N/A	2009	No	Runoff from fertilizer user; Leaching from septic tanks, sewage; Erosion of natural deposits
Selenium (ppb)	50	50	0.05	N/A	N/A	2005	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines

Contaminants (units)	MCLG	AL	Your Water	# Samples Exceeding AL	Exceeds AL	Sample Date	Typical Source
Inorganic Contaminants (Lead and Copper)							
Copper (ppm)	1.3	1.3	0.4	0	No	2008	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	0	15	7	0	No	2008	Corrosion of household plumbing systems; Erosion of natural deposits

Important Drinking Water Definitions	
MCLG - Maximum Contaminant Level Goal	The level of a contaminant in drinking water below which there is no know or expected risk to health. MCLGs allow for a margin of safety.
MCL - Maximum Contaminant Level	The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
AL - Action Level	The concentration of a contaminant which, if exceeded, triggers a treatment or other requirements which a water system must follow.
TT-Treatment Technique	A required process intended to reduce the level of a contaminant in drinking water.
MRDLG - Maximum Residual Disinfection Level Goal	The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial microbial contaminants.
MRDL - Maximum Residual Disinfection Level	The highest level of a disinfectant allowed in drinking water. Ther is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
MNR - Monitored Not Regulated	
MPL - State Assigned Maximum Permissible Level	

Unit Descriptions	
ppb - Parts per billion, or micrograms per liter (ug/l)	ppm - Parts per million, or milligrams per liter (mg/l)
pCi/L - Picocuries per liter (a measure of radioactivity)	NA - not applicable
ND - Not detected	NR - Moitoring not required, but recommeded

Violations

Total Coliform. Coliforms are bacteria that are naturally present in the environment and are used as as indicator that other, potentially-harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.

PROOF OF PUBLICATION

STATE OF MISSISSIPPI,
TISHOMINGO COUNTY.

Personally appeared before me, the undersigned, Notary Public court, in and for said county, John H. Biggs, of the Tishomingo County News, a newspaper published in the Town of Iuka, in said county, who being duly sworn, deposes and says that the "notice," a copy of which is hereto attached, was published in said newspaper for One consecutive weeks, to wit:

In Vol. 126	No. 42	Dated May 27,	20 10
In Vol.	No.	Dated	20
In Vol.	No.	Dated	20
In Vol.	No.	Dated	20
In Vol.	No.	Dated	20
In Vol.	No.	Dated	20
In Vol.	No.	Dated	20
In Vol.	No.	Dated	20
In Vol.	No.	Dated	20
In Vol.	No.	Dated	20

John H. Biggs, Publisher

Sworn to and subscribed before me this 2nd day of June, A.D., 20 10

Charlotte B. McWay
Notary Public

My Commission Expires
March 4, 2013

Fees

Water Quality Report CCR STATEMENT

Publishing ____ words, 12 cents first insertion ..... $ 150.00

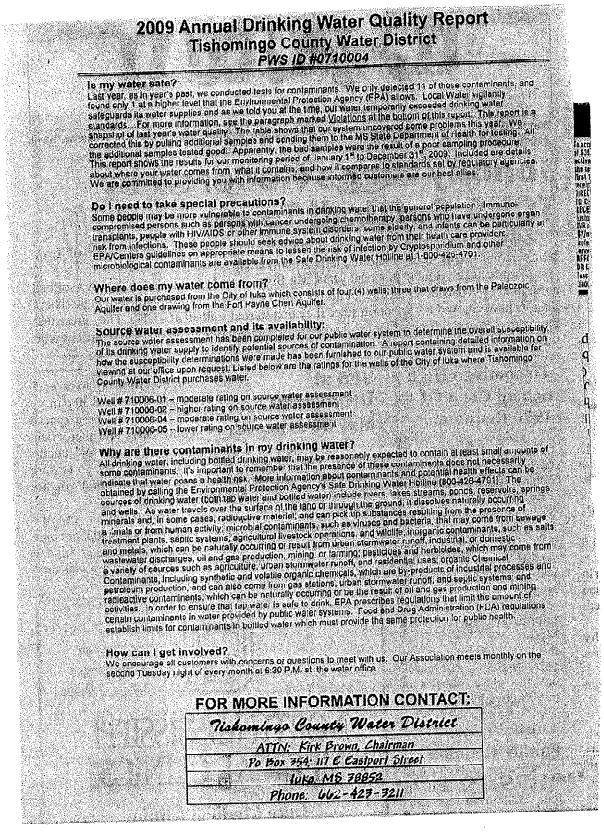
Publishing ____ words, 10 cents for each subsequent insertion ..... $

..... $

Making proof of publication ..... $ 3.00

$

Total ..... $ 153.00



2009 Annual Drinking Water Quality Report
Tishomingo County Water District
PWS ID #0710004

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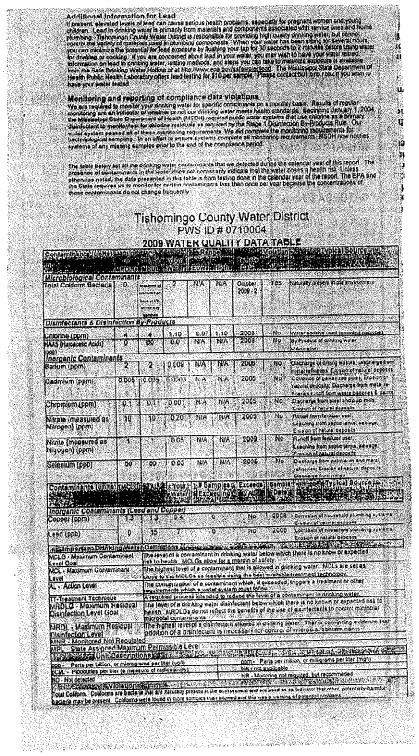

Tishomingo County Water District
PWS ID # 0710004

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Tishomingo Co Water Distr
P.O. Box 354
Iuka, MS 38852-0000
(662)423-3211 ( ) -
12330 DORVELL L. BUGG

TYPE OF SERVICE	METER READING PRESENT	METER READING PREVIOUS	USED	CHARGES
WA	4674	4661	33	1870

METER READ	NET DUE	AFTER THIS DATE	PAY GROSS
052510	1870	061510	2057

2009 CCR report is available for viewing in water office.

IUKA 38852 TCWD

First Class Mail
U.S. POSTAGE
Paid 1 oz.
PERMIT NO. 4

RETURN THIS PORTION WITH PAYMENT

06 15 10 1870 2057

-PRE AUTHORIZED DRAFT-

PRESORTED 1 2330

RETURN SERVICE REQUESTED

DORVELL L. BUGG

74 COUNTY RD 257
IUKA, MS 38852

Tishomingo Co Water Distr
P.O. Box 354
Iuka, MS 38852-0000
(662)423-3211 ( ) -
14840 DALE TAPP

TYPE OF SERVICE	METER READING PRESENT	METER READING PREVIOUS	USED	CHARGES
DUE	FROM PREVIOUS			-6750
WA	3064	3060	4	1350

METER READ	NET DUE	AFTER THIS DATE	PAY GROSS
052510	-5400	061510	-5400

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Tishomingo Co Water Distr
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(662)423-3211 ( ) -
13390 JOYCE JONES

TYPE OF SERVICE	METER READING PRESENT	METER READING PREVIOUS	USED	CHARGES
WA	2989	2972	17	1350

METER READ	NET DUE	AFTER THIS DATE	PAY GROSS
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Attachment 1

Mississippi Department
of Environmental Quality

SHORT COLEMAN SURFACE WATER TREATMENT PLANT – PICKWICK INTAKE

IUKA, MISSISSIPPI

SOURCE WATER ASSESSMENT

Tennessee Valley Authority
Chattanooga, Tennessee
June 2004

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INTRODUCTION

This document and accompanying maps, compact disk, and supporting report were prepared by the Tennessee Valley Authority (TVA) in support of the Mississippi Department of Environmental Quality (MDEQ), Source Water Assessment Program. This source water assessment package was prepared to comply with the U.S. Safe Drinking Water Act Amendments of 1996 (P.L. 104-182) and the subsequent guidance document prepared by the U.S. Environmental Protection Agency (EPA).

The information and data used in the preparation of this source water assessment for the Short Coleman Surface Water Treatment Plant's surface water intake (the Pickwick Intake) on the Yellow Creek embayment at Iuka, MS were obtained from existing sources and databases, relying heavily on EPA's Envirofacts website, Office of Management and Budget (OMB) and the Center for Public Data Access' Right-to-Know website, MDEQ's databases, TVA's databases, and the U.S. Department of Agriculture's electronic information system. A complete listing of these information sources is presented at the end of the document.

This source water assessment consists of five components: 1) this document, the purpose of which is to integrate all of the components; 2) a geographic information system (GIS) produced 7.5 minute topographic map of the source water protection area (SWPA); 3) a map delineating the Yellow Creek embayment's watershed; 4) a compact disc containing the GIS ArcView project file used to produce the SWPA; and 5) a report on the methodology used to determine the hydraulic time of water travel for the Yellow Creek embayment. The specifics and how to use each of these components are presented later in this document.

THE YELLOW CREEK EMBAYMENT OF THE TENNESSEE RIVER

The Yellow Creek embayment of the Tennessee River is located in northeastern Mississippi. Its drainage area is approximately 44.7 square miles. The Tennessee River basin lies in a seven-state area in the southeastern United States. Its drainage area covers 40,900 square miles, most of which are in the state of Tennessee. The remainder of the basin lies in Mississippi, Alabama, Georgia, Kentucky, North Carolina and Virginia. The Tennessee River originates in Knoxville, Tennessee, where the French Broad River joins the Holston River. The Tennessee continues westward to Paducah, Kentucky, where it enters the Ohio River, 46 miles upstream of the confluence of the Ohio and Mississippi Rivers. In terms of discharge, the Tennessee River is the fifth-largest river in the United States and the seventh-largest in North America.

The Tennessee River basin is composed of two fan-shaped basins connected in the vicinity of Chattanooga, Tennessee by a relatively narrow valley. The 21,400 square mile area upstream, or east of Chattanooga, includes the slopes of the Blue Ridge and Great Smoky Mountains and is dominated by rugged forested areas. The remaining 19,500 square mile area downstream, and west of Chattanooga, is dominated by relatively flatter, open fields, woodlands, and rolling hills. Approximately 60 percent of the total watershed is forested, while the remaining 40 percent is open land and pasture.

The Tennessee River drainage is one of nine major drainage groups within the state of Mississippi. It drains 181 of 48,434 square miles of Mississippi's area, or less than one-half of one percent of the state. The Tennessee River's average daily flow entering and exiting Mississippi can be approximated by looking at the flows leaving Wilson Dam (Muscle Shoals, AL) and Pickwick Dam (Counce, TN). These two dams are 52.5 sailing miles apart and the portion of the Tennessee River that lies along the Mississippi state line falls between them, providing the two locations nearest the Mississippi border that have regularly monitored flow. The flows at Wilson and Pickwick Dams, respectively, are 51,082 cubic feet per second (cfs) and 54,797 cfs, an increase of 3,715 cfs. The TVA manages the Tennessee River for navigation, flood control, to generate electric power, and for recreation. The Tennessee River flowing through Mississippi is

impounded by one reservoir: Pickwick, which has a total surface area of 42,790 acres of water at elevation 414, which is normal maximum pool.

Hydrologic Overview

The Tennessee River Basin is one of the wettest regions in the United States. The Gulf of Mexico and the Caribbean Sea, located only a short distance to the south, are major sources of moisture. As there is no significant barrier between the Basin and the Gulf, prevailing winds from the south and west bring this moisture across the Basin. The Tennessee River Basin is also subject to heavy rainfall from dissipating hurricanes moving across the southeastern United States.

The long-term (1894-1993) average annual precipitation for the Tennessee River Basin is 51 inches per year. The heaviest rainfall concentrations occur in the mountainous highlands of the eastern region, where annual precipitation often exceeds 90 inches. Approximately half of the annual rainfall is received in winter and early spring, from December until mid-April. March is typically the wettest month, while the driest months are normally September and October. Monthly average rainfall ranges from 3 to 5.6 inches.

Flood Potential

The high rainfall and runoff rates in the Tennessee Valley have rendered the area vulnerable to flooding. In general, flood-producing storms occur in an area within the Tennessee River Basin on the average of about once every two years. The major flood season in the Valley is December through mid-April, with the highest frequency of storms occurring in March. Widespread cyclonic storms with heavy persistent rainfall occur more frequently during the winter season. Dormant vegetation and ground conditions favor a high rate of runoff during the same period. The worst winter storms can cover the entire Valley for several days. It is not unusual for one large winter storm to be followed by another, even larger storm, three to five days later. Conversely, the worst summer storms tend to be short, intense, and relatively localized, resulting from thunderstorms or decadent tropical storms that have moved inland. These summer storms generally affect a smaller portion of the Valley, with heavy rains typically covering an area of 3,000 square miles.

Reservoir System and Uses

The Tennessee River Basin is controlled by a system of dams operated by TVA. The TVA reservoir system is operated as an integrated, multipurpose system. (A schematic of the TVA's river system is shown in Figure 1.) Major objectives are to provide for navigation, flood control, hydropower generation, summer recreation levels, and minimum flows for the maintenance of water quality and aquatic habitat. Additionally, the reservoir system supports fossil and nuclear power generation by providing condenser cooling system water and dissipating thermal waste loads.

The Tennessee River is an integral part of the Interconnected Inland Waterways System of the United States. This system, which extends from the Great Lakes to the Gulf of Mexico, includes the Mississippi, Missouri, Illinois, Ohio, Tennessee and Arkansas River systems. The Inland Waterways System connects the Tennessee River system with 21 other states.

The Tennessee River provides a navigable channel for its entire length from Knoxville, Tennessee to Paducah, Kentucky, a distance of 650 miles through a series of nine locks and dams on the main stem of the river. The minimum channel depth is 11 feet, which provides sufficient depth for vessels with a 9-foot draft. The minimum channel width in dredged cuts is 300 feet with some widening on bends. Most locks in the system are 100 feet by 600 feet, considered a standard for modern barge traffic of low to medium traffic levels. Newer locks, such as the one constructed at Pickwick Dam and planned for Kentucky Dam, are larger measuring in the range of 110 feet by 1,000 feet.

In 2000, commercial barge traffic on the Tennessee River reached a total of 49.7 million tons. The three largest ports in the system, excluding the TVA fossil plants, are: Decatur, Alabama; Chattanooga, Tennessee; and Guntersville, Alabama. Maintenance and operation of the Tennessee River waterway is the

joint responsibility of TVA, the U.S. Coast Guard, and the U.S. Army Corps of Engineers.

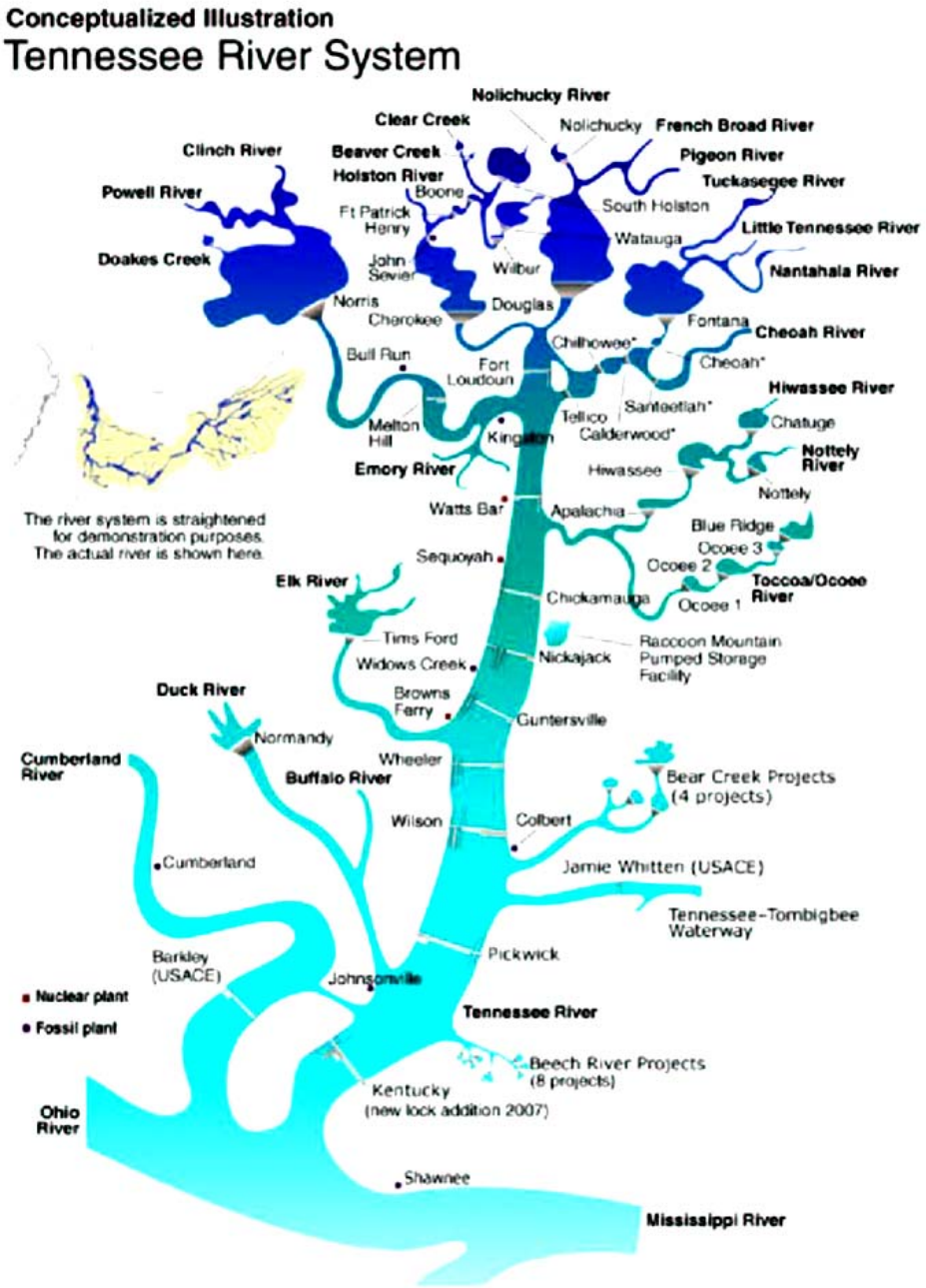


Figure 1: The TVA Water Control System

Power Generation

TVA reservoirs are operated to maximize hydropower generation to the extent possible in light of satisfying other multipurpose uses. Hydroelectric power is the most economical form of electricity available in the TVA system because incremental costs for hydropower (the costs that vary with production levels) are very low. TVA's hydropower generation accounts for approximately 16 percent of its generation capability.

In the TVA power system, hydropower is used primarily for peaking purposes, to provide additional power quickly during those times of the day when power demands are highest.

Water Quality

Overall, the Tennessee River is considered to be a clean river. In general, there is no one pervasive water quality concern in TVA reservoirs, but there are a collection of concerns affecting various uses. Most of these concerns, however, can be related to two major water quality issues. The first issue relates to point and nonpoint pollution, which tends to affect specific reservoirs and specific water uses. A related issue is that of toxic substance, which have been found in sediments and fish in reservoirs with otherwise good water quality. The second primary water quality issue is the occurrence of low dissolved oxygen (DO) levels in the tail water areas below TVA dams. Low DO levels can stress aquatic life and limit the ability of the water to assimilate wastes.

Nonpoint source pollutants, which can contribute as much as five times more DO-consuming wastes than point sources, are the principal cause of water quality concerns in the Tennessee Valley. Nonpoint source pollution results from a variety of activities in the watershed related to agriculture (runoff from fertilizer and pesticide applications, erosion and animal wastes), mining (sedimentation and acidification from tailings), land development, and urbanization (storm sewers, combined storm and sanitary sewer overflows, and septic systems).

Other Reservoir Uses

Although the Tennessee River / reservoir system is operated primarily for the purposes of flood control, navigation, power generation, recreation, and water quality, there are several other incidental benefits derived from the system. The reservoir system is also used for water supply, maintenance of public health, support of economic development, and support of wildlife, fisheries, and threatened and endangered species. There is some use of streams, rivers, and private reservoirs for municipal and industrial water supply, but it is relatively small. Public water systems use about 660 million gallons per day, with about 80 percent of those systems, or 525 million gallons per day, being supplied by surface water. Over 200 industrial water systems also withdraw water for industrial processes and cooling. However, the total water withdrawn for both industrial and municipal purposes amounts to only about four to five percent of the annual average flow of 65,000 cubic feet per second at the mouth of the Tennessee River (not including power plant cooling water). Irrigation demand in the Valley is small, about 70 millions gallons per day, but is expected to grow by 36 percent in the next 30 years. Furthermore, total consumptive use is low, as close to 95 percent of the water is returned to the system.

Physiography

Physiography concerns the structure and type of underlying geologic formations, as well as the local geologic and climatic forces that shape the landscape. Along with several other factors, an area's physiography determines the natural water quality conditions of local streams, rivers and lakes. The source water protection area is located in one physiographic region: the Tombigbee Hills (Figure 2), which is part of the larger physiographic region, the East Gulf Coastal Plain (Figure 3).

The East Gulf Coastal Plain in its entirety extends from the Florida Parishes of Louisiana over most of Mississippi, parts of western Tennessee and Kentucky, the southwestern two-thirds of Alabama and Florida's western panhandle. The East Gulf Coastal Plain is characterized by a flat to rolling topography, which is broken by numerous streams and rivers. In the state of Mississippi, the East Gulf Coastal Plain's elevation range is from

sea level at the coast to 806 feet above sea level at Woodall Mountain. Woodall Mountain is located in the Tombigbee Hills region of the East Gulf Coastal Plain. All rivers in this region drain to the Gulf of Mexico, including those in the Coastal Streams, Pearl River, Pascagoula River and Tombigbee River watersheds.

Many species of pine dominate the natural vegetation in the East Gulf Coastal Plain. Originally, longleaf and slash pine covered the southern part of this physiographic region, while shortleaf pine mixed with hardwoods enveloped the north. Loblolly pine and hardwoods were often found in damp areas, while bottomland hardwood forests were located in extensive lowland drainages. Under present-day land use practices, many of the bottomland hardwood forests have been cleared for agricultural use and much of the original longleaf pine and upland hardwoods have been cleared and replanted with loblolly or slash pine.

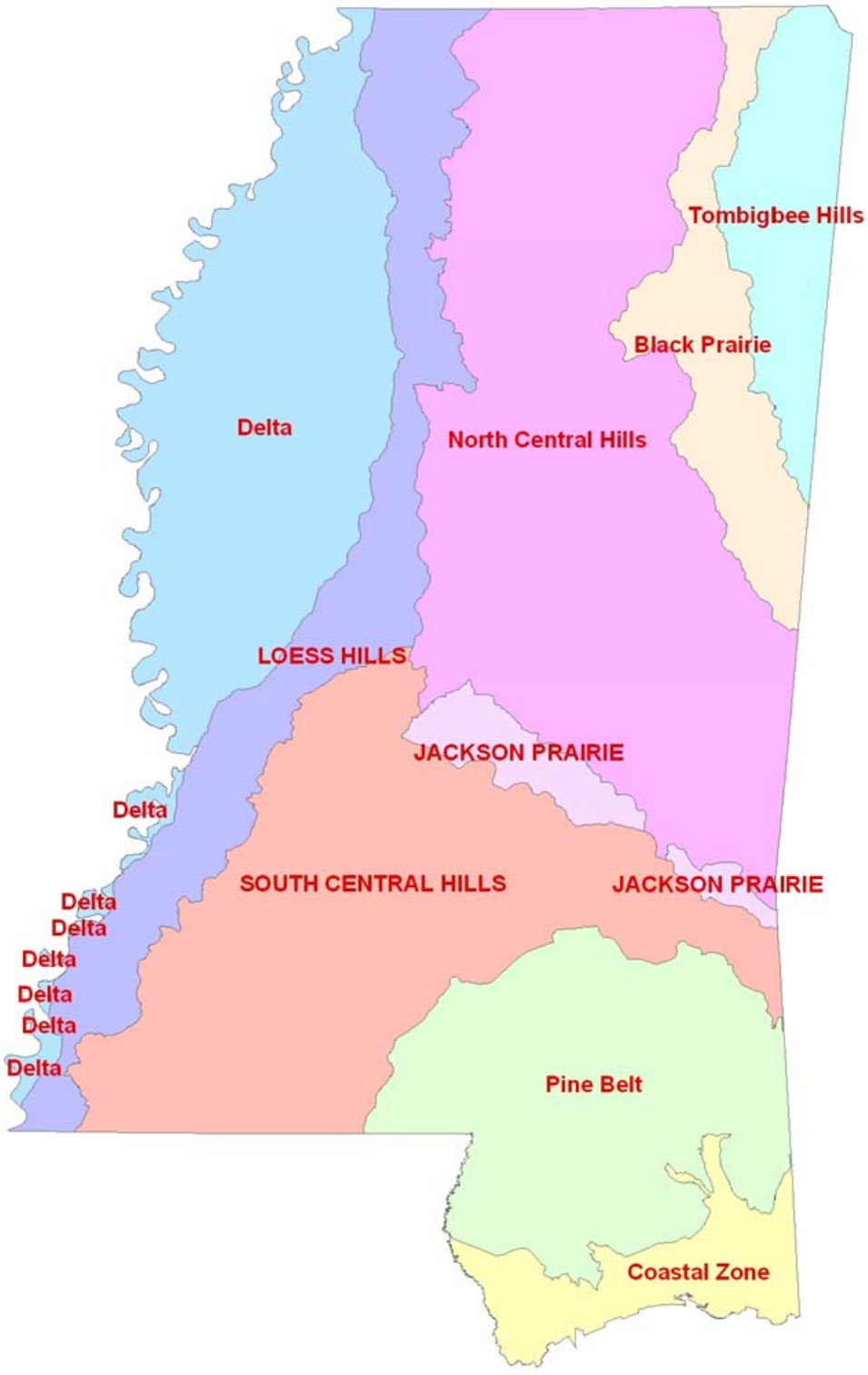


Figure 2: Physiographic Map Illustrating Nine Regions in Mississippi

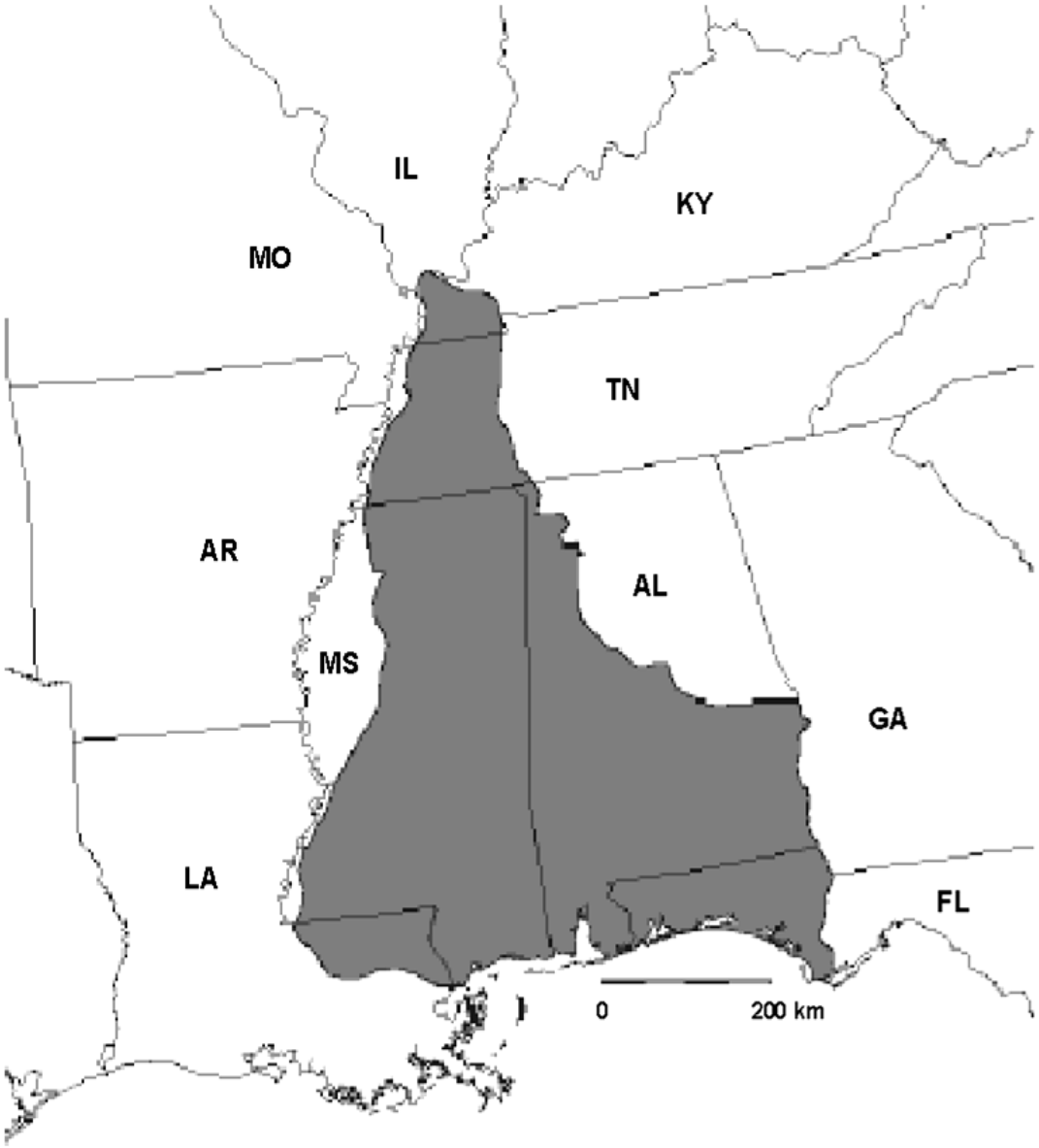


Figure 3: Physiographic Map Illustrating the East Gulf Coastal Plain

SHORT COLEMAN SURFACE WATER TREATMENT PLANT / PICKWICK INTAKE, WATERSHED DESCRIPTION

The Short Coleman Surface Water Treatment Plant / Pickwick Intake's water intake is located on the Yellow Creek embayment near Iuka, Mississippi, within the Pickwick Lake Watershed. The drainage area upstream of the intake to the Mississippi state line within the Pickwick Lake Watershed (HUC 06030005) is 44.7 square miles and is illustrated in the watershed delineation map, entitled "Area of the Pickwick Watershed Upstream of the Yellow Creek Water Intake," accompanying this report. The watershed boundaries on this map were produced using the state of Mississippi's 8 digit hydrologic unit code (HUC) by TVA's Geographic Information & Engineering (GI&E) facility in Chattanooga, Tennessee.

Water Use Classification

The state of Mississippi has established water use classifications for its inter- and intrastate waters. Use classifications apply water quality criteria in order to protect existing water quality at the time the classification was implemented, and to upgrade or enhance water quality in the state of Mississippi. Use classifications listed by the state of Mississippi include: public water supply, shellfish harvesting, recreation, fish and wildlife, and ephemeral stream. All state waters that are not specifically classified by the State are assumed to be listed as fish and wildlife.

The Tennessee River, in the vicinity of the Yellow Creek embayment, is classified by the state of Mississippi as suitable for fish and wildlife. The segment of the Tennessee River that flows into the embayment is classified as a public water supply (see Figure 4).

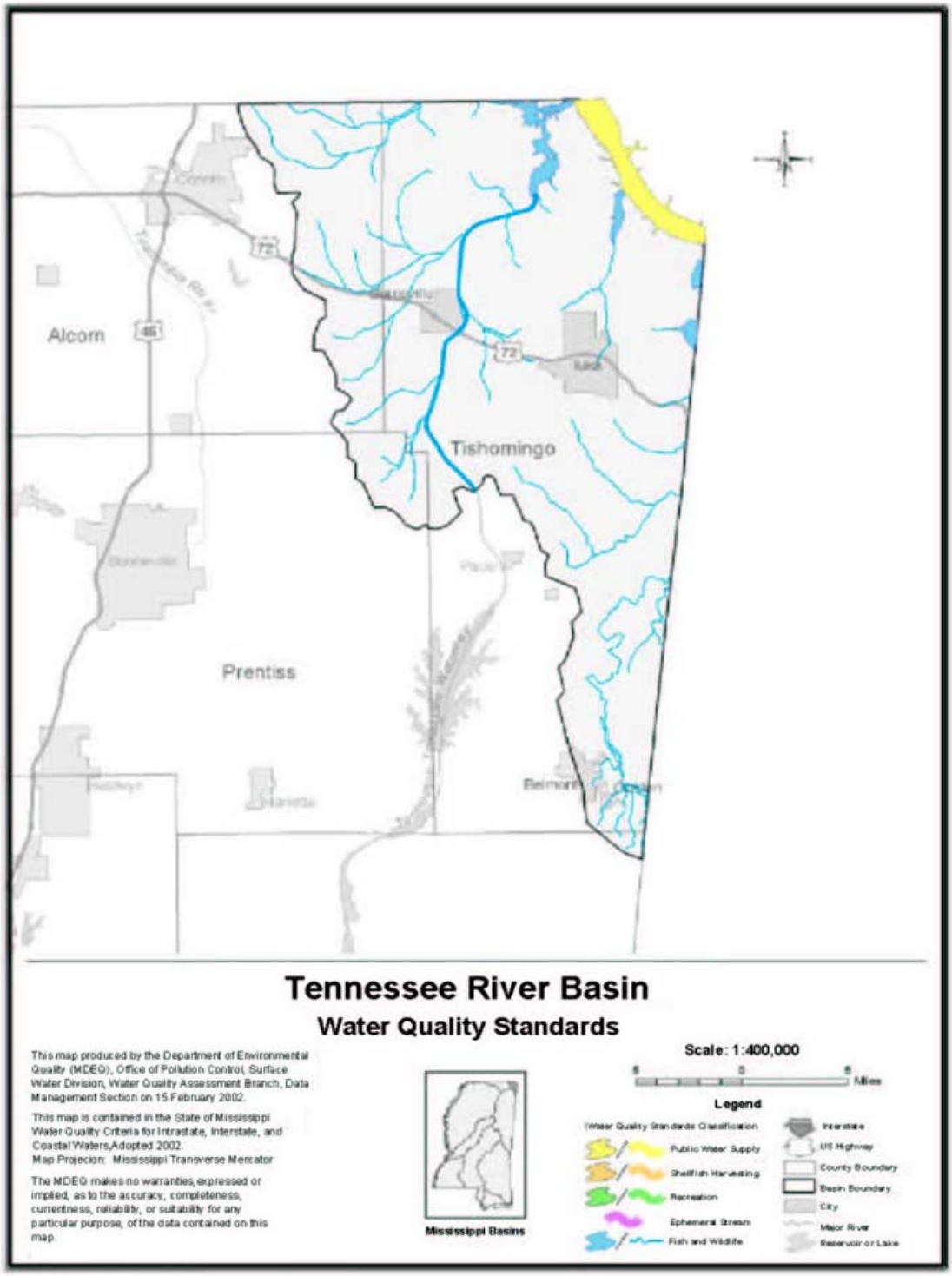


Figure 4: Tennessee River Basin Water Quality Standards Classification

Water Quality

The TVA conducts routine water, sediment, benthos and fish sampling in four areas as part of its Vital Signs Monitoring Program to evaluate the ecological health of Pickwick Reservoir: the inflow area, generally riverine in nature; the transition zone, the mid-reservoir area where water velocity decreases due to increased cross-sectional area; the forebay, the deep, still water in the area near the dam; and the Bear Creek embayment.

Summary / Key Ecological Health Findings for 2002: The overall ecological condition of Pickwick Reservoir was fair in 2002 (the last year sampled), with the score being just below the cut-off for a condition of good. Conditions in the Bear Creek embayment were poorest, and conditions at the transition zone were the best of the four sampling locations on Pickwick Reservoir. All assessed stations rated good for fish (number and variety) and sediment quality (amount of PCB's, pesticides and metals in the bottom sediment). The Bear Creek embayment and transitional zone rated good for DO levels, while the forebay was rated as fair. The transitional zone was rated as good for bottom life, with the other three stations rated fair. The chlorophyll level was rated poor at the three monitored stations (the Bear Creek embayment, forebay and transitional zone), which is the typical rating in a low-flow year such as 2002.

Aquatic Macrophytes in 2002: Approximately 450 acres of the surface of Pickwick Reservoir were covered with aquatic plants in 2002.

Status of Fish Consumption Advisories in 2002: No fish consumption advisories were declared for Pickwick Reservoir.

Status of Swimming Advisories in 2002: There were no swimming advisories for Pickwick Reservoir. TVA conducted bacteriological sampling at ten swimming areas on Pickwick in 2002. Each site was sampled ten times during the summer, and met water quality criteria for water contact recreation in the state in which they were sampled (Mississippi, Alabama or Tennessee).

In addition to TVA monitoring, the Mississippi Department of Environmental Quality's Office of Pollution Control conducts a surface water monitoring program in order to

develop and maintain an understanding of water quality in the State, to gather the needed data to accurately describe the State's water quality and determine the causes and effects of any changes in the water quality, to support the State's regulatory water quality programs and to measure how well the State's pollution control programs are working. Mississippi's Surface Water Monitoring Program includes fixed monitoring stations, special studies, regulatory compliance monitoring, volunteer collections, laboratory support, quality assurance/quality control measures, and data sharing, management and reporting.

Soils / Land Use

The Short Coleman Surface Water Treatment Plant / Pickwick Intake's SWPA has soils classified by the U.S. Department of Agriculture as Saffell and Smithdale soils along the Pickwick Lake shoreline and Smithdale and Ruston soils in the uplands.

The floodplain soils, the Saffell and Smithdale, are well drained loamy soils that are found in the hilly upland areas that border Pickwick Lake. The Saffell soils are found on the middle and lower parts of these slopes and consist of a gravelly dark-brown loam surface layer (approximately six inches deep) and a mottled gravelly loam subsoil. The Smithdale soils are found on ridgetops and the upper part of the side slopes and consist of a sandy loam surface layer and subsoil. They are strong brown in color within the first four inches of the soil surface, followed by a thick layer of red subsoil. Both of these soil types are at risk for severe erosion.

The remaining soils within the Source Water Protection Area are dominated by soils in the Smithdale and Ruston series. Again, these soils are well drained loamy soils found on ridges and steep side slopes. These soils consist of a fine sandy loam surface layer, loam to sandy clay in the upper subsoil, and sandy loam in the lower subsoil. Due to the steep topography where these soils are usually found, those areas are primarily used for woodland, and have a high potential for woodland wildlife habitat.

Land use data for the Tennessee River watershed in the Source Water Protection Area is shown in Figure 5 and was obtained from 1988-1993 Landsat TM data for Federal Region IV by personnel at the EROS Data Center (EDC). In general the watershed is approximately 68 percent forested, 13 percent pasture, 10 percent open water, and the remainder wetlands, urban, cultivated.

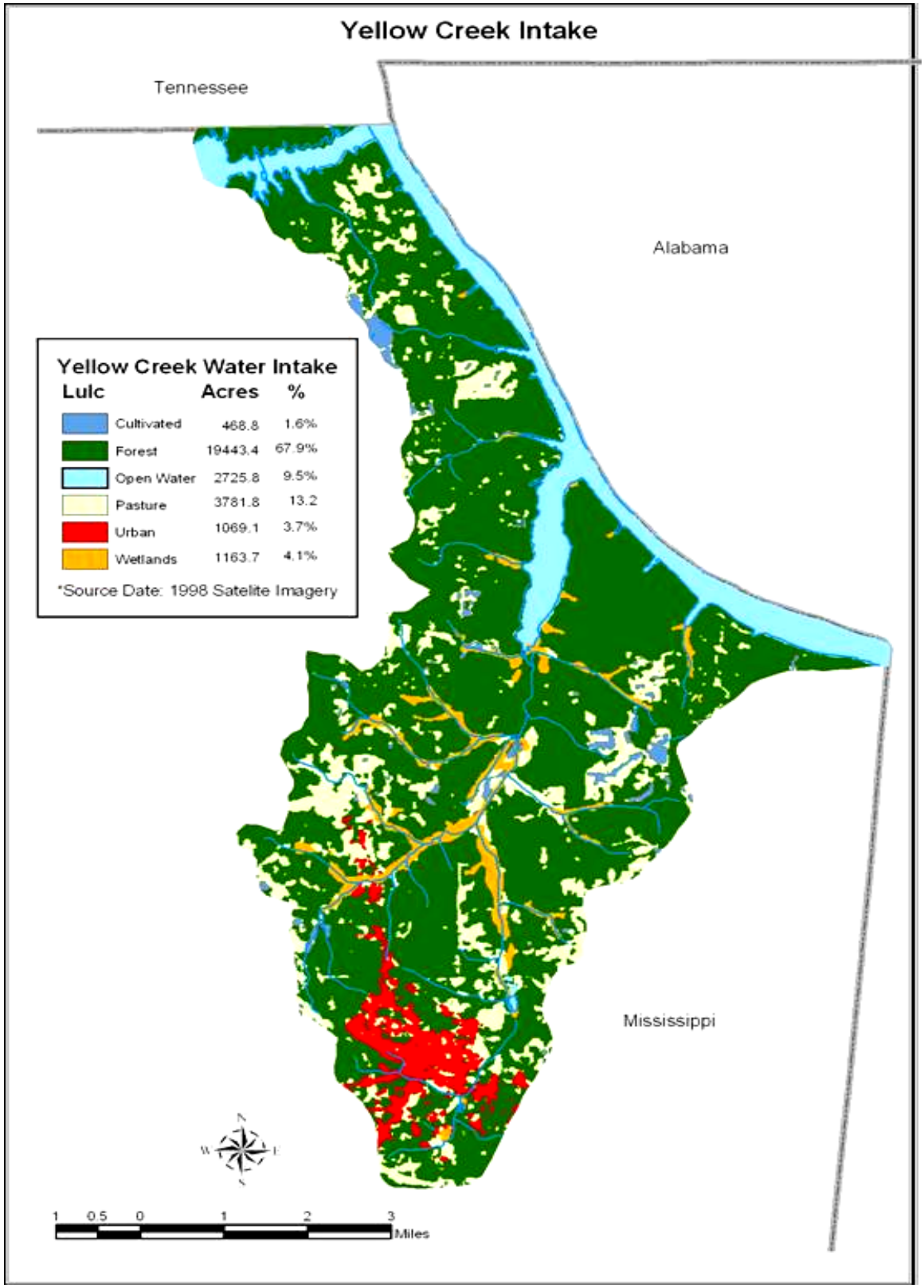


Figure 5: Tombigbee River Depicting Land Use Coverage, 2002

The Source Water Protection Area (SWPA)

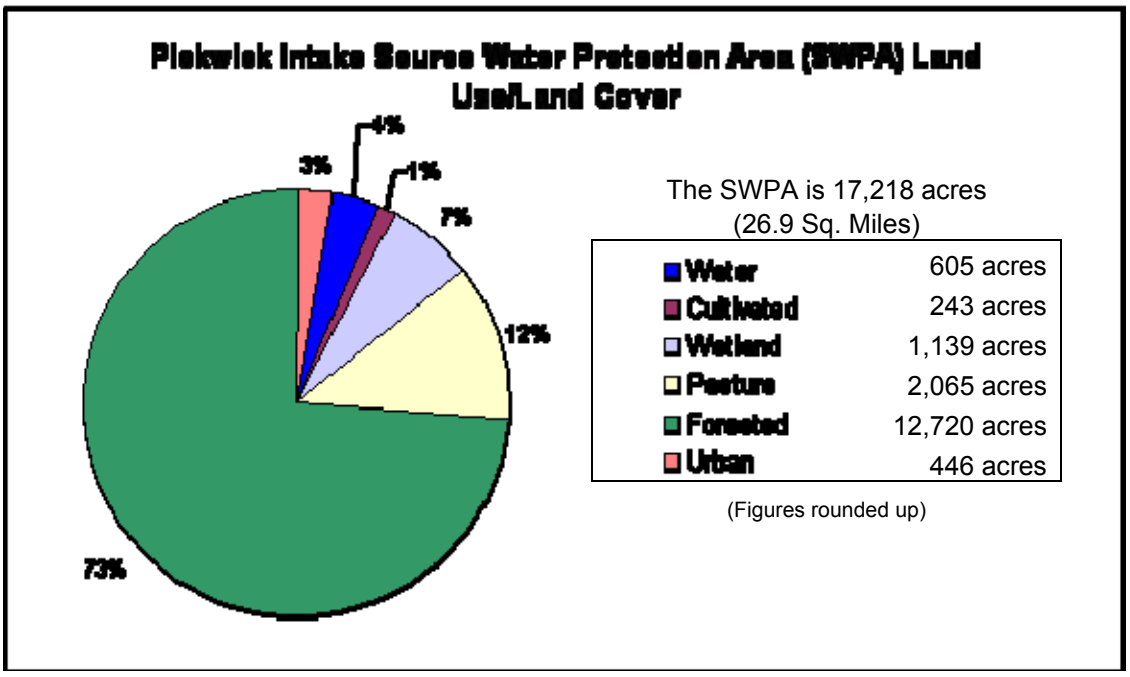
For purposes of a typical source water assessment, the SWPA is defined as a zone extending ¼ mile downstream of the intake and 15 miles upstream of the intake. This "critical area" also includes a 1000-foot buffer from the water's edge on each side of the river, and where a known or suspected contaminant exists within 1500 feet of the water's edge, the buffer shall be extended to include such areas. Where a significant tributary enters the SWPA within the 15-mile segment upstream of the intake, the SWPA also extends up the tributary for 1 mile and includes the 1000-foot buffer on each side.

In developing the land use/land cover data and the potential contaminant listing for the Short Coleman Surface Water Treatment Plant/Pickwick Intake SWPA, the TVA and MDEQ elected to define the SWPA via a unique set of boundaries. Since the intake is in the upper northeast corner of the state, going 15 miles upstream would have placed the SWPA in the states of Mississippi, Alabama and Tennessee. Instead, the SWPA study area has been limited to a region in the state of Mississippi, as displayed in Figure 5. The study area captures part of the Yellow Creek embayment, as well as the Mississippi shoreline of the Tennessee River which flows along the state lines. Yellow Creek is not included in the SWPA due to the construction of the Tennessee-Tombigbee Waterway, which altered the hydrology of Yellow Creek, so that it now flows away from the embayment. This redefining of SWPA boundaries was done to further assist the water supply in the development of its source water protection plan. Land use/land cover data for the SWPA and the watershed contained in the study area is presented in Figure 6. The non-aquatic land cover in these areas is predominantly forest, followed by pasture, wetlands, and small percentages of other land uses.

Within the SWPA, potential sources of contamination have been identified using the databases previously mentioned. These sources include such things as the National Pollutant Discharge Elimination System (NPDES) permitted discharges, hazardous waste facilities, petroleum storage sites, and bridges. These potential sources and associated contaminants (if available) are shown in Appendix A.

Also included are the 2001 and 2002 agricultural chemical usage summaries for the county in the SWPA. This information is presented in Appendix B.

The SWPA and the locations of the potential sources of contamination are shown on the 7.5 minute topographical map accompanying this document. The map also shows land use for one mile out from the shoreline, including the SWPA. The map, locations of the potential sources of contamination, and the information in Appendix A can also be viewed from the compact disc accompanying this document. The CD contains the GIS project file which was used to generate the information. It was created using ArcView 3.2 software manufactured by ESRI, Inc. Using this software enables the addition, deletion, or other changes to be made to the data sets which generates the map attributes. In order to update data sets or change the project file, ArcView or compatible software is required. Since the CD containing this information is in read-only format, the files must be copied from the CD (placed on a computer, etc.) in order to update or change any project (.apr) files. Documentation and instructions regarding the use of these programs are presented in Appendix C.



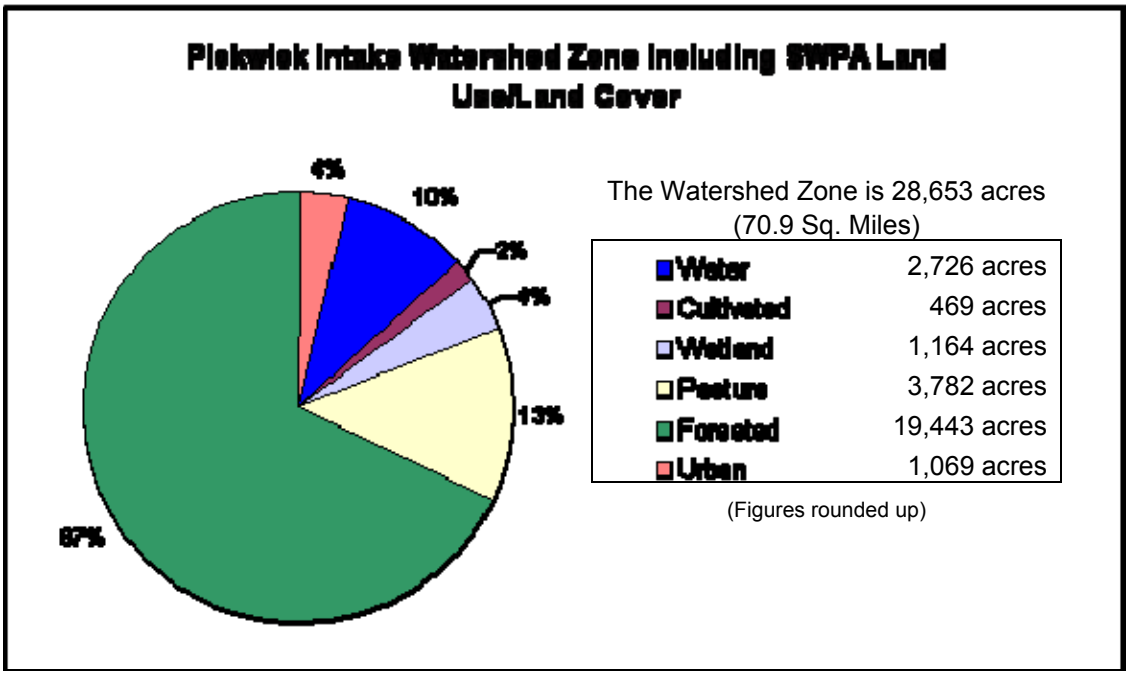


Figure 6: Land Use/Land Cover for Pickwick Intake SWPA and the Watershed Zone Including the SWPA

Time of Travel

Travel times of a hypothetical chemical spill to travel through the Pickwick Reservoir and/or the upper Tennessee-Tombigbee Waterway were evaluated using the one-dimensional mathematical model, ADYN, (Hauser, 1991). The model was developed by TVA and is accepted by MDEQ as an analysis tool. ADYN is a one-dimensional unsteady flow model capable of generating quantitative information as wetted area, depth, velocity, flow, volumes, and has a particle tracking feature which allows travel times to be estimated, assuming that river flow is the dominant transport mechanism. The ADYN model does not perform dispersion calculations or take wind-related parameters such as fetch into consideration in the particle tracking routine.

When the location of the spill is known, one should:

1. Locate the river mile of the spill on the appropriate chart, preferably a topo map, to obtain the best estimate of the river mile it which it occurred. Assistance in determining the river mile can come from Figures 7 and 8.
2. Find out the current Wilson and Pickwick dam releases from the TVA Lake information website, www.lakeinfo.tva.gov or call TVA River Operations at 865-632-6065.
3. Find the appropriate line on the travel time chart (Figure 9) closest to the recorded Wilson dam release value and read the water travel time off the chart. For the water intake location (assumed to be mile 213.1), and subtract from it the water travel time off the chart for the location of the spill.

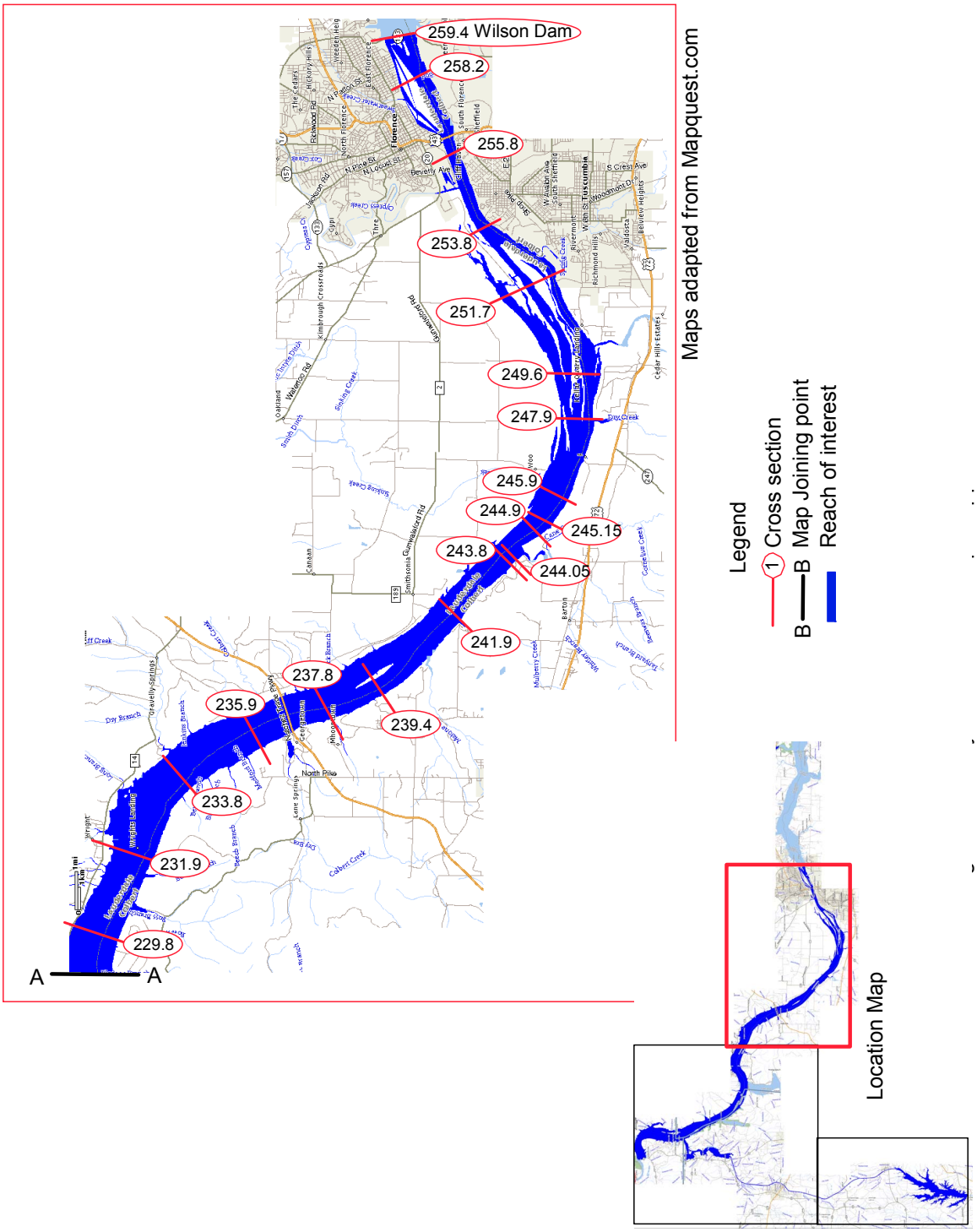


Figure 7. Study Area Location Map - Upper Pickwick Reservoir

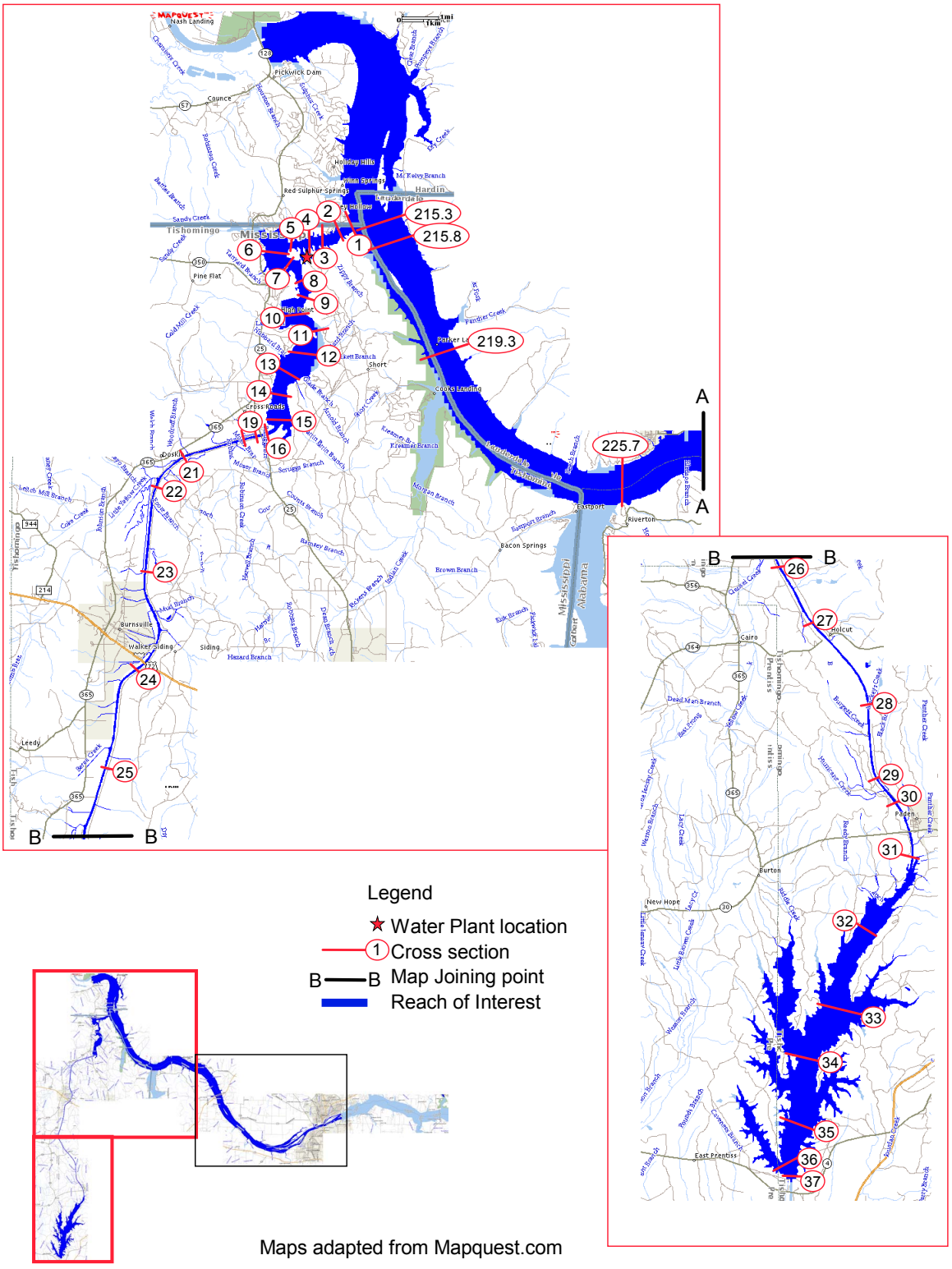


Figure 8. Study Area Location map – Lower Pickwick and Upper Tenn-Tom Waterway

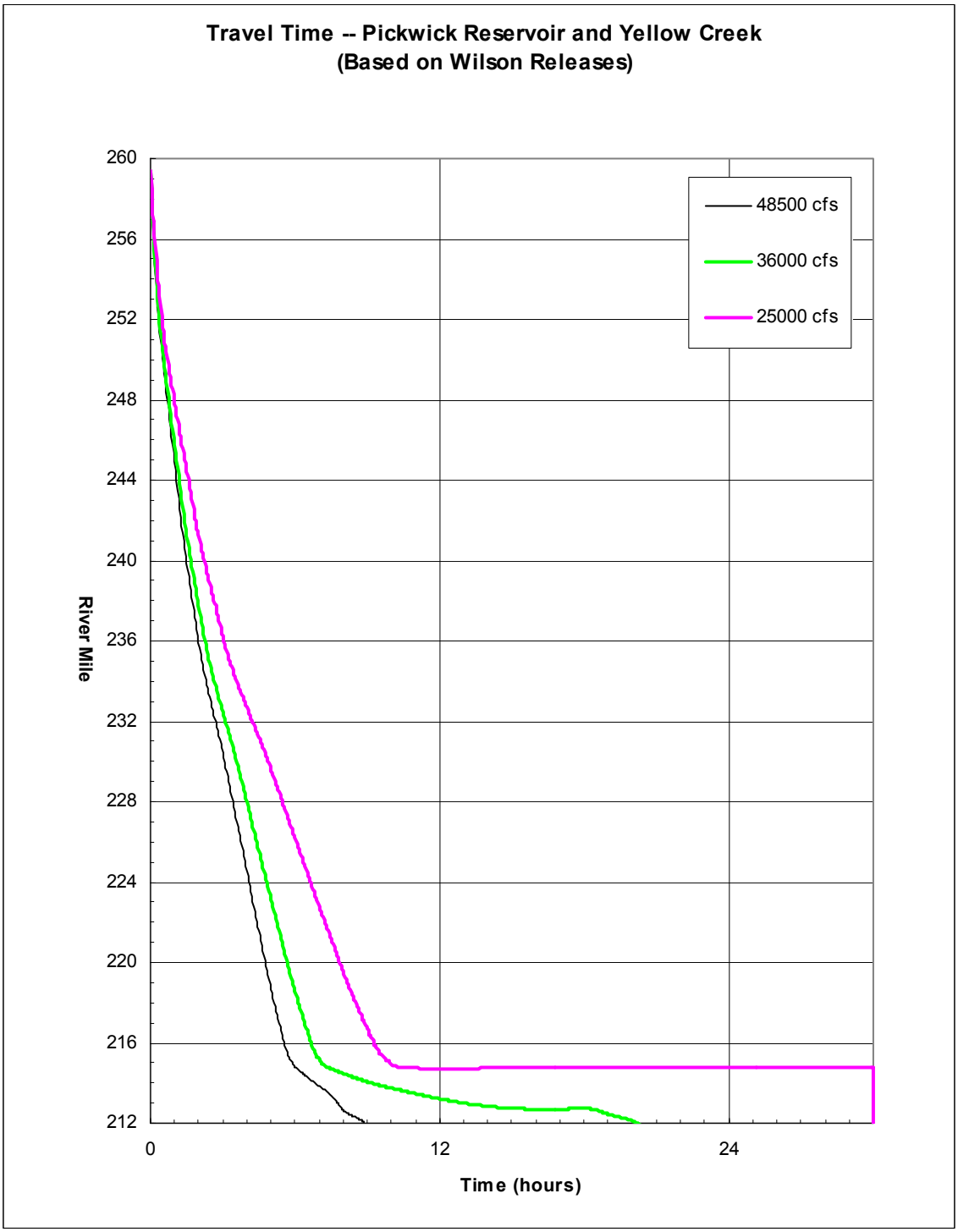


Figure 9. Pickwick/Tenn-Tom Waterway Travel Time Estimation Chart

The following example illustrates the procedure using Figures 7, 8, and 9.

EXAMPLE TRAVEL TIME CALCULATION: An oil spill occurs at the Sheffield dock, which is at TRM 253.8, at 0730 hours on 6/01/2004.

You find out that the expected daily average dam release at Wilson is 34000 cfs, fairly close to the 36000 cfs line. Figure 9 is labeled based on discharge values at Wilson Dam. According to Figure 9, the corresponding time to TRM 253.8 is approximately 0.3 hours. The corresponding time to the Yellow Creek water intake (mile 213.1 if Tennessee River miles are carried down Yellow Creek) is 13.3 hours. Water travel time to the Yellow Creek water intake (mile 213.1 if Tennessee River miles are carried down Yellow Creek) using the 36000 cfs line = (13.3 hours-0.3 hours) = 13 hours after the spill occurred.

NOTE that the model results are VERY dependent on what the elevation difference between Bay Springs and Pickwick reservoirs are. The chart below assumes the elevation difference is negligible for the low flow scenario; therefore for the low flow scenario presented in the chart below, the spill will not reach the water intake because the line levels off to horizontal before reaching the river mile of the intake.

Because of the complex relationship between the Tennessee River and the Tenn-Tom waterway, if a spill were to occur and there was concern over contaminants reaching Yellow Creek, TVA should be contacted and the model should be run with real-time data. If there is no elevation difference between Pickwick and Bay Springs, or if the elevation at Bay Springs is greater than it is at Pickwick, there should be no flow-based transport of a contaminant to the Yellow Creek water intake.

A complete description of the methodology used to produce the above calculation is presented in the accompanying report, *Determination of Contaminant Travel Time on Pickwick Reservoir and Yellow Creek Embayment/Upper Tennessee-Tombigbee Waterway.*

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USDA, National Agricultural Statistics Service, Agricultural Chemical Usage – 2002 Field Crops Summary. United States Government Printing Office, Washington: 2003.

USDA, Soil Conservation Service, Soil Survey of Tishomingo County, Mississippi. 1980.

INTERNET SOURCES OF INFORMATION

http://www.rtknet.org/rtkdata.html

http://www.deq.state.ms.us

http://www.epa.gov/enviro/index_java.html

Appendix A

Potential Sources of Contamination

Water Quality and Water Supply Intake Information

List of Acronyms

AST	Aboveground Storage Tank
BRS	Biennial Reporting System
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Act Information System
CESQG	Conditionally Exempt Small Quantity Generator
NPDES	National Pollution Discharge Elimination System
NPL	National Priorities List
RCRA	Resource Conservation and Recovery Act
SIC	Standard Industrial Code
SQG	Small Quantity Generator
TRI	Toxic Release Inventory
UST	Underground Storage Tank

Sources of Information

All information obtained for the Iuka, MS region in the source water assessment project has been provided by the Mississippi Department of Environmental Quality; the Tennessee Valley Authority; Envirofacts, an Internet-accessed Environmental Protection Agency database, which provides the public with direct access to environmental information; and the Community Right-to-Know Act database, which is administered by the Office of Management and Budget (OMB) and the Unison Institute. The Internet addresses for these databases are listed on page 27 of this report.

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Site: 1

INTAKE

Location on Stream:	NA
Distance from Intake:	NA
Latitude:	34.81393
Longitude:	-88.20361
Address:	NA
City:	Iuka
State:	MS
Zip:	38852
County:	Tishomingo
Telephone:	662-423-2715
Contact:	Travis Kitchens
Title:	Treatment Plant Operator

NA – Not Applicable

Site: 2

BOAT RAMP (UNNAMED)

Boat Ramp

Location on Stream:	0.1 Miles on Yellow Creek Embayment
Distance from Intake:	0.1 Miles downstream
Latitude:	34.98300
Longitude:	-88.22789
Address:	Near Intake
City:	NA
State:	MS
Zip:	NA
County:	Tishomingo
Telephone:	NA
Contact:	NA
Title:	NA

NA – Not Applicable

Site: 3

SHORT COLEMAN SURFACE WATER TREATMENT PLANT

Intake

Location on Stream:	0.8 Miles on Yellow Creek Embayment
Distance from Intake:	0.8 Miles upstream
Latitude:	34.97407
Longitude:	-88.21792
Address:	801 County Road 989
City:	Iuka
State:	MS
Zip:	38852
County:	Tishomingo
Telephone:	662-423-2715
Contact:	Travis Kitchens
Title:	Operator
SIC:	4941
Type of Facility:	Water Supply
FRS ID:	110011052216
NPDES:	MS0049751
Number of Outfalls:	1
Permitted Contaminants:	Total Recoverable Aluminum, Total Residual Chlorine, Total Recoverable Iron, pH, Total Dissolved Solids, Total Suspended Solids
Facility Sequence Number:	NA

Toxic Release Inventory (TRI) Information

TRI ID:	NA

Hazardous Waste Facilities (RCRA, BRS) Information

Hazardous Waste Handler ID:	NA
Hazardous Waste Handler Type:	NA

Comprehensive Environmental Response, Compensation, and Liability Act "Super Fund" Information (CERCLIS)

CERCLIS:	NA
NPL Status:	NA

NA – Not Applicable

Site: 4

GRAND HARBOR CONDOMINIUM AND MARINA

Storage Tank

Location on Stream:	1.3 Miles on Yellow Creek Embayment
Distance from Intake:	1.3 Miles upstream
Latitude:	34.99049
Longitude:	-88.21478
Address:	325 CR 380 - L001
City:	Counce
State:	TN
Zip:	38326
County:	Hardin (TN)
Telephone:	1-888-689-5551
Contact:	Cissy Murphy
Title:	General Manager

Storage Tank Information

Tank Type:	AST
Number of Regulated Tanks (UST):	0
Number of Tanks (AST):	1
Potential Contaminants:	Gasoline
Facility Sequence Number:	unknown
SIC:	4493
Type of Facility:	Marinas

Site: 5

J P COLEMAN STATE PARK (INCLUDES MARINA)

Park / Marina

Location on Stream:	0.2 Miles on Short Creek to 4.8 miles on Pickwick Reservoir to 1.8 miles on Yellow Creek Embayment
Distance from Intake:	6.8 Miles upstream
Latitude:	34.93184
Longitude:	-88.16766
Address:	613 County Road 321
City:	Iuka
State:	MS
Zip:	38852
County:	Tishomingo
Telephone:	662-423-6515
Contact:	Dee Dee Smith
Title:	Park Manager
SIC:	7032
Type of Facility:	Sporting and Recreational Camps
FRS ID:	110008522250
NPDES:	MSU096144
Number of Outfalls:	NPDES Non-Major
Permitted Contaminants:	NA
Facility Sequence Number:	NA

Storage Tank Information

Tank Type:	AST
Number of Regulated Tanks (UST):	0
Number of Tanks (AST):	1
Potential Contaminants:	Gasoline
Facility Sequence Number:	Unknown
SIC:	7032
Type of Facility:	Sporting and Recreational Camps

NA – Not Applicable

Site: 6

J P COLEMAN STATE PARK BOAT RAMP

Boat Ramp

Location on Stream:	0.2 Miles on Short Creek to 4.8 miles on Pickwick Reservoir to 1.8 miles on Yellow Creek Embayment
Distance from Intake:	6.8 Miles upstream
Latitude:	34.93155
Longitude:	-88.16662
Address:	613 County Road 321
City:	Iuka
State:	MS
Zip:	38852
County:	Tishomingo
Telephone:	NA
Contact:	NA
Title:	NA

NA – Not Applicable

Site: 7

ALLIANT SOUTHERN COMPOSITES, LLC

Facility

Location on Stream:	1.8 Miles on Whetstone Branch to 3.5 miles on Pickwick Reservoir to 1.8 miles on Yellow Creek Embayment
Distance from Intake:	7.1 Miles upstream
Latitude:	34.95312
Longitude:	-88.20291
Address:	751 County Road 989, Bldg 1000
City:	Iuka
State:	MS
Zip:	38852
County:	Tishomingo
Telephone:	801-251-4748
Contact:	Susan Jew
Title:	Manager
SIC:	NA
Type of Facility:	NA
FRS ID:	110002475553
NPDES:	NA
Number of Outfalls:	NA
Permitted Contaminants:	NA
Facility Sequence Number:	NA

Toxic Release Inventory (TRI) Information

TRI ID:	NA

Hazardous Waste Facilities (RCRA, BRS) Information

Hazardous Waste Handler ID:	MSR000004820
Hazardous Waste Handler Type:	SQG

Comprehensive Environmental Response, Compensation, and Liability Act "Super Fund" Information (CERCLIS)

CERCLIS:	NA
NPL Status:	NA

NA – Not Applicable

Site: 8

WATER-WAY INCORPORATED

Facility

Location on Stream:	2.0 Miles on Whetstone Branch to 3.5 miles on Pickwick Reservoir to 1.8 miles on Yellow Creek Embayment
Distance from Intake:	7.3 Miles upstream
Latitude:	34.95312
Longitude:	-88.20291
Address:	751 County Road 989
City:	Iuka
State:	MS
Zip:	38852
County:	Tishomingo
Telephone:	662-423-0081
Contact:	James A. Shillito
Title:	Manager
NAICS:	326191, 336211
Type of Facility:	Plastics Plumbing Fixture Manufacturing, Motor Vehicle Body Manufacturing
FRS ID:	110002342607
NPDES:	NA
Number of Outfalls:	NA
Permitted Contaminants:	NA
Facility Sequence Number:	NA

Toxic Release Inventory (TRI) Information

TRI ID:	38852WTRWY751CR

Hazardous Waste Facilities (RCRA, BRS) Information

Hazardous Waste Handler ID:	MSR000005090
Hazardous Waste Handler Type:	LQG

Comprehensive Environmental Response, Compensation, and Liability Act "Super Fund" Information (CERCLIS)

CERCLIS:	NA
NPL Status:	NA

NA – Not Applicable

Site:
9

BRIDGE - COUNTY ROAD 321

Bridge

Location on Stream:	1 Mile on Short Creek to 4.8 miles on Pickwick Reservoir to 1.8 miles on Yellow Creek Embayment
Distance from Intake:	7.6 Miles upstream
Latitude:	34.93440
Longitude:	-88.17944
Address:	County Road 321 over Short Creek
City:	Iuka
State:	MS
Zip:	38852
County:	Tishomingo
Telephone:	662-423-9104
Contact:	Dean McRae Engineering, Inc.
Title:	County Engineer

Note: Located at entrance to JP Coleman State Park. Not really a bridge; rather a location where the water flows over a low spot in the road.

Site: 10

BOAT RAMP (UNNAMED)

Boat Ramp

Location on Stream:	0.5 Miles on Fred Hollow to 7.5 miles on Pickwick Reservoir to 1.8 miles on Yellow Creek Embayment
Distance from Intake:	9.8 Miles upstream
Latitude:	34.89708
Longitude:	-88.14019
Address:	Near Future River Trace Marina
City:	NA
State:	MS
Zip:	NA
County:	Tishomingo
Telephone:	NA
Contact:	NA
Title:	NA

NA – Not Applicable

MILLIGAN READY MIX

Facility

Location on Stream:	4 miles on Pickens Branch to 5.3 miles on Indian Creek to 5.1 miles on Pickwick Reservoir to 1.8 miles on Yellow Creek Embayment
Distance from Intake:	16.3 Miles upstream
Latitude:	34.82541
Longitude:	-88.20583
Address:	1679 Constitution Drive
City:	Iuka
State:	MS
Zip:	38852
County:	Tishomingo
Telephone:	662-423-6238
Contact:	Kirk Milligan
Title:	Owner
SIC:	3273
Type of Facility:	Ready-Mixed Concrete
FRS ID:	110009866243
NPDES:	MSG110056
Number of Outfalls:	1
Permitted Contaminants:	Flow, Oil and Grease, pH, Total Suspended Solids
Facility Sequence Number:	NA

Toxic Release Inventory (TRI) Information

TRI ID:	NA

Hazardous Waste Facilities (RCRA, BRS) Information

Hazardous Waste Handler ID:	NA
Hazardous Waste Handler Type:	NA

Comprehensive Environmental Response, Compensation, and Liability Act "Super Fund" Information (CERCLIS)

CERCLIS:	NA
NPL Status:	NA

NA – Not Applicable

Site: 12

BRIDGE - COUNTY ROAD 244

Bridge

Location on Stream:	7.2 Miles on Indian Creek to 5.1 miles on Pickwick Reservoir to 1.8 miles on Yellow Creek Embayment
Distance from Intake:	14.1 miles
Latitude:	34.83300
Longitude:	-88.18139
Address:	County Road 244 over Indian Creek
City:	Iuka
State:	MS
Zip:	38852
County:	Tishomingo
Telephone:	662-423-9104
Contact:	Dean McRae Engineering, Inc.
Title:	County Engineer

Site:
13

IUKA POTW – TREATMENT LAGOONS

Sewerage System

Location on Stream:	7.7 Miles on Indian Creek to 5.1 miles on Pickwick Reservoir to 1.8 miles on Yellow Creek Embayment
Distance from Intake:	14.6 miles
Latitude:	34.82928
Longitude:	-88.1806
Address:	118 South Pearl Street (Headquarters)
City:	Iuka
State:	MS
Zip:	38852
County:	Tishomingo
Telephone:	662-423-3781
Contact:	David L. Nichols
Title:	Mayor
SIC:	4952
Type of Facility:	Sewerage Systems
FRS ID:	110002216245
NPDES:	MS0025062
Number of Outfalls:	1
Permitted Contaminants:	BOD, Total Residual Chlorine, Fecal Coliform, Flow, DO, pH, Total Suspended Solids
Facility Sequence Number:	NA

NOTE: All sewer pipelines drain to two treatment lagoons at a facility on County Road 406. After the lagoons, the effluent is treated with chlorine and returned to Indian Creek. There are plans to phase out the treatment lagoons in December 2005.

NA - Not Applicable

Site:
14

SEWER PIPELINE

Pipeline

Location on Stream:	0.4 Miles on Unknown Creek to 7.8 miles on Indian Creek to 5.1 miles on Pickwick Reservoir to 1.8 miles on Yellow Creek Embayment
Distance from Intake:	14.6 Miles upstream
Latitude:	34.82402
Longitude:	-88.18566
Address:	Indian Creek
City:	Iuka
State:	MS
Zip:	38852
County:	Tishomingo
Telephone:	662-423-9879
Contact:	Don McNeely
Title:	Water Plant Maintenance Supervisor

Pipeline Information

SIC:	1623
Type of Facility:	Pipeline
Potential Contaminants:	Sewage

Site:
15

SEWER PIPELINE

Pipeline

Location on Stream:	8.9 Miles on Indian Creek to 5.1 miles on Pickwick Reservoir to 1.8 miles on Yellow Creek Embayment
Distance from Intake:	15.8 Miles upstream
Latitude:	34.81248
Longitude:	-88.18475
Address:	Indian Creek
City:	Iuka
State:	MS
Zip:	38852
County:	Tishomingo
Telephone:	662-423-9879
Contact:	Don McNeely
Title:	Water Plant Maintenance Supervisor

Pipeline Information

SIC:	1623
Type of Facility:	Pipeline
Potential Contaminants:	Sewage

Site:
16

SEWER PIPELINE

Pipeline

Location on Stream:	8.9 Miles on Indian Creek to 5.1 miles on Pickwick Reservoir to 1.8 miles on Yellow Creek Embayment
Distance from Intake:	15.8 Miles upstream
Latitude:	34.81221
Longitude:	-88.18446
Address:	Indian Creek
City:	Iuka
State:	MS
Zip:	38852
County:	Tishomingo
Telephone:	662-423-9879
Contact:	Don McNeely
Title:	Water Plant Maintenance Supervisor

Pipeline Information

SIC:	1623
Type of Facility:	Pipeline
Potential Contaminants:	Sewage

Site:
17

BRIDGE - EASTPORT STREET

Bridge

Location on Stream:	9.0 Miles on Indian Creek to 5.1 miles on Pickwick Reservoir to 1.8 miles on Yellow Creek Embayment
Distance from Intake:	15.9 Miles upstream
Latitude:	34.81064
Longitude:	-88.18581
Address:	Eastport Street over Indian Creek
City:	Iuka
State:	MS
Zip:	38852
County:	Tishomingo
Telephone:	662-423-9104
Contact:	Dean McRae Engineering, Inc.
Title:	County Engineer

Site:
18

SEWER PIPELINE

Pipeline

Location on Stream:	9.0 Miles on Indian Creek to 5.1 miles on Pickwick Reservoir to 1.8 miles on Yellow Creek Embayment
Distance from Intake:	15.9 Miles upstream
Latitude:	34.81064
Longitude:	-88.18581
Address:	Indian Creek
City:	Iuka
State:	MS
Zip:	38852
County:	Tishomingo
Telephone:	662-423-9879
Contact:	Don McNeely
Title:	Water Plant Maintenance Supervisor

Pipeline Information

SIC:	1623
Type of Facility:	Pipeline
Potential Contaminants:	Sewage

Site:
19

BRIDGE - SOUTHERN RAILWAY SYSTEM

Bridge

Location on Stream:	9.0 Miles on Indian Creek to 5.1 miles on Pickwick Reservoir to 1.8 miles on Yellow Creek Embayment
Distance from Intake:	15.9 Miles upstream
Latitude:	34.80986
Longitude:	-88.18590
Address:	Southern Railway Bridge over Indian Creek
City:	Iuka
State:	MS
Zip:	38852
County:	Tishomingo
Telephone:	662-423-9104
Contact:	Dean McRae Engineering, Inc.
Title:	County Engineer

Site:
20

BRIDGE - QUITMAN STREET

Bridge

Location on Stream:	9.2 Miles on Indian Creek to 5.1 miles on Pickwick Reservoir to 1.8 miles on Yellow Creek Embayment
Distance from Intake:	16.1 Miles upstream
Latitude:	34.80832
Longitude:	-88.18658
Address:	Quitman Street over Indian Creek
City:	Iuka
State:	MS
Zip:	38852
County:	Tishomingo
Telephone:	662-423-9104
Contact:	Dean McRae Engineering, Inc.
Title:	County Engineer

Site:
21

BRIDGE - GAINES STREET

Bridge

Location on Stream:	9.2 Miles on Indian Creek to 5.1 miles on Pickwick Reservoir to 1.8 miles on Yellow Creek Embayment
Distance from Intake:	16.1 Miles upstream
Latitude:	34.80753
Longitude:	-88.18690
Address:	Gaines Street over Indian Creek
City:	Iuka
State:	MS
Zip:	38852
County:	Tishomingo
Telephone:	662-423-9104
Contact:	Dean McRae Engineering, Inc.
Title:	County Engineer

Note - Historic Bridge - Wooden, Covered Bridge

Site:

22

SEWER PIPELINE

Pipeline

Location on Stream:	9.2 Miles on Indian Creek to 5.1 miles on Pickwick Reservoir to 1.8 miles on Yellow Creek Embayment
Distance from Intake:	16.1 Miles upstream
Latitude:	34.80753
Longitude:	-88.18690
Address:	Indian Creek
City:	Iuka
State:	MS
Zip:	38852
County:	Tishomingo
Telephone:	662-423-9879
Contact:	Don McNeely
Title:	Water Plant Maintenance Supervisor

Pipeline Information

SIC:	1623
Type of Facility:	Pipeline
Potential Contaminants:	Sewage

Site:
23

HANDY SANDY

Storage Tank

Location on Stream:	9.4 Miles on Indian Creek to 5.1 miles on Pickwick Reservoir to 1.8 miles on Yellow Creek Embayment
Distance from Intake:	16.3 Miles upstream
Latitude:	34.80754
Longitude:	-88.18391
Address:	802 Quitman
City:	Iuka
State:	MS
Zip:	38852
County:	Tishomingo
Telephone:	662-424-9750
Contact:	Mark Akers
Title:	Owner

Storage Tank Information

Tank Type:	UST
Number of Regulated Tanks (UST):	2
Number of Tanks (AST):	0
Potential Contaminants:	Gasoline
Facility Sequence Number:	1079
SIC:	5541
Type of Facility:	Gasoline Stations with Convenience Stores

Site:
24

BRIDGE - PIKE STREET

Bridge

Location on Stream:	9.3 Miles on Indian Creek to 5.1 miles on Pickwick Reservoir to 1.8 miles on Yellow Creek Embayment
Distance from Intake:	16.2 Miles upstream
Latitude:	34.80681
Longitude:	-88.18774
Address:	Pike Street over Indian Creek
City:	Iuka
State:	MS
Zip:	38852
County:	Tishomingo
Telephone:	662-423-9104
Contact:	Dean McRae Engineering, Inc.
Title:	County Engineer

Site: 25

SEWER PIPELINE

Pipeline

Location on Stream:	9.4 Miles on Indian Creek to 5.1 miles on Pickwick Reservoir to 1.8 miles on Yellow Creek Embayment
Distance from Intake:	16.3 Miles upstream
Latitude:	34.80596
Longitude:	-88.18964
Address:	Indian Creek
City:	Iuka
State:	MS
Zip:	38852
County:	Tishomingo
Telephone:	662-423-9879
Contact:	Don McNeely
Title:	Water Plant Maintenance Supervisor

Pipeline Information

SIC:	1623
Type of Facility:	Pipeline
Potential Contaminants:	Sewage

Site: 26

SEWER PIPELINE

Pipeline

Location on Stream:	9.5 Miles on Indian Creek to 5.1 miles on Pickwick Reservoir to 1.8 miles on Yellow Creek Embayment
Distance from Intake:	16.4 Miles upstream
Latitude:	34.80526
Longitude:	-88.18975
Address:	Indian Creek
City:	Iuka
State:	MS
Zip:	38852
County:	Tishomingo
Telephone:	662-423-9879
Contact:	Don McNeely
Title:	Water Plant Maintenance Supervisor

Pipeline Information

SIC:	1623
Type of Facility:	Pipeline
Potential Contaminants:	Sewage

Site:
27

BRIDGE - PIKE STREET

Bridge

Location on Stream:	9.5 Miles on Indian Creek to 5.1 miles on Pickwick Reservoir to 1.8 miles on Yellow Creek Embayment
Distance from Intake:	16.4 Miles upstream
Latitude:	34.80681
Longitude:	-88.18774
Address:	Pike Street over Indian Creek
City:	Iuka
State:	MS
Zip:	38852
County:	Tishomingo
Telephone:	662-423-9104
Contact:	Dean McRae Engineering, Inc.
Title:	County Engineer

Site:
28

BRIDGE - MAIN STREET

Bridge

Location on Stream:	9.6 Miles on Indian Creek to 5.1 miles on Pickwick Reservoir to 1.8 miles on Yellow Creek Embayment
Distance from Intake:	16.5 Miles upstream
Latitude:	34.80616
Longitude:	-88.19203
Address:	Main Street over Indian Creek
City:	Iuka
State:	MS
Zip:	38852
County:	Tishomingo
Telephone:	662-423-9104
Contact:	Dean McRae Engineering, Inc.
Title:	County Engineer

Site:
29

SEWER PIPELINE

Pipeline

Location on Stream:	9.6 Miles on Indian Creek to 5.1 miles on Pickwick Reservoir to 1.8 miles on Yellow Creek Embayment
Distance from Intake:	16.5 Miles upstream
Latitude:	34.80643
Longitude:	-88.19276
Address:	Indian Creek
City:	Iuka
State:	MS
Zip:	38852
County:	Tishomingo
Telephone:	662-423-9879
Contact:	Don McNeely
Title:	Water Plant Maintenance Supervisor

Pipeline Information

SIC:	1623
Type of Facility:	Pipeline
Potential Contaminants:	Sewage

Site:
30

BRIDGE - PEARL STREET

Bridge

Location on Stream:	9.6 Miles on Indian Creek to 5.1 miles on Pickwick Reservoir to 1.8 miles on Yellow Creek Embayment
Distance from Intake:	16.5 Miles upstream
Latitude:	34.80670
Longitude:	-88.19339
Address:	Pearl Street over Indian Creek
City:	Iuka
State:	MS
Zip:	38852
County:	Tishomingo
Telephone:	662-423-9104
Contact:	Dean McRae Engineering, Inc.
Title:	County Engineer

Site:
31

SEWER PIPELINE

Pipeline

Location on Stream:	9.7 Miles on Indian Creek to 5.1 miles on Pickwick Reservoir to 1.8 miles on Yellow Creek Embayment
Distance from Intake:	16.6 Miles upstream
Latitude:	34.80702
Longitude:	-88.19437
Address:	Indian Creek
City:	Iuka
State:	MS
Zip:	38852
County:	Tishomingo
Telephone:	662-423-9879
Contact:	Don McNeely
Title:	Water Plant Maintenance Supervisor

Pipeline Information

SIC:	1623
Type of Facility:	Pipeline
Potential Contaminants:	Sewage

Site: 32

SEWER PIPELINE

Pipeline

Location on Stream:	9.8 Miles on Indian Creek to 5.1 miles on Pickwick Reservoir to 1.8 miles on Yellow Creek Embayment
Distance from Intake:	16.7 Miles upstream
Latitude:	34.80840
Longitude:	-88.19653
Address:	Indian Creek
City:	Iuka
State:	MS
Zip:	38852
County:	Tishomingo
Telephone:	662-423-9879
Contact:	Don McNeely
Title:	Water Plant Maintenance Supervisor

Pipeline Information

SIC:	1623
Type of Facility:	Pipeline
Potential Contaminants:	Sewage

Site: 33

SEWER PIPELINE

Pipeline

Location on Stream:	10 Miles on Indian Creek to 5.1 miles on Pickwick Reservoir to 1.8 miles on Yellow Creek Embayment
Distance from Intake:	16.9 Miles upstream
Latitude:	34.80917
Longitude:	-88.19866
Address:	Indian Creek
City:	Iuka
State:	MS
Zip:	38852
County:	Tishomingo
Telephone:	662-423-9879
Contact:	Don McNeely
Title:	Water Plant Maintenance Supervisor

Pipeline Information

SIC:	1623
Type of Facility:	Pipeline
Potential Contaminants:	Sewage

Site:
34

ONE STOP

Storage Tank

Location on Stream:	10 Miles on Indian Creek to 5.1 miles on Pickwick Reservoir to 1.8 miles on Yellow Creek Embayment
Distance from Intake:	16.9 Miles upstream
Latitude:	34.81023
Longitude:	-88.19922
Address:	1001 West Quitman Street
City:	Iuka
State:	MS
Zip:	38852
County:	Tishomingo
Telephone:	662-423-3837
Contact:	Diane Brown
Title:	Manager

Storage Tank Information

Tank Type:	UST
Number of Regulated Tanks (UST):	3
Number of Tanks (AST):	0
Potential Contaminants:	Gasoline
Facility Sequence Number:	8962
SIC:	5541
Type of Facility:	Gasoline Station with Convenience Store

Site:
35

SEWER PIPELINE

Pipeline

Location on Stream:	10.1 Miles on Indian Creek to 5.1 miles on Pickwick Reservoir to 1.8 miles on Yellow Creek Embayment
Distance from Intake:	17 Miles upstream
Latitude:	34.80935
Longitude:	-88.20045
Address:	Indian Creek
City:	Iuka
State:	MS
Zip:	38852
County:	Tishomingo
Telephone:	662-423-9879
Contact:	Don McNeely
Title:	Water Plant Maintenance Supervisor

Pipeline Information

SIC:	1623
Type of Facility:	Pipeline
Potential Contaminants:	Sewage

Site:
36

SPRINT MART #41

Storage Tank

Location on Stream:	10.2 Miles on Indian Creek to 5.1 miles on Pickwick Reservoir to 1.8 miles on Yellow Creek Embayment
Distance from Intake:	17.1 Miles upstream
Latitude:	34.81123
Longitude:	-88.19940
Address:	1000 West Quitman Street
City:	Iuka
State:	MS
Zip:	38852
County:	Tishomingo
Telephone:	662-423-9827
Contact:	Shirley McAnally
Title:	Manager

Storage Tank Information

Tank Type:	UST
Number of Regulated Tanks (UST):	3
Number of Tanks (AST):	0
Potential Contaminants:	Gasoline, Diesel
Facility Sequence Number:	10888
SIC:	5541
Type of Facility:	Gasoline Station with Convenience Store

Site:
37

SEWER PIPELINE

Pipeline

Location on Stream:	10.2 Miles on Indian Creek to 5.1 miles on Pickwick Reservoir to miles on Yellow Creek Embayment
Distance from Intake:	17.1 Miles upstream
Latitude:	34.81010
Longitude:	-88.20070
Address:	Indian Creek
City:	Iuka
State:	MS
Zip:	38852
County:	Tishomingo
Telephone:	662-423-9879
Contact:	Don McNeely
Title:	Water Plant Maintenance Supervisor

Pipeline Information

SIC:	1623
Type of Facility:	Pipeline
Potential Contaminants:	Sewage

Site:
38

BRIDGE - WEST QUITMAN STREET

Bridge

Location on Stream:	10.2 Miles on Indian Creek to 5.1 miles on Pickwick Reservoir to miles on Yellow Creek Embayment
Distance from Intake:	17.1 Miles upstream
Latitude:	34.81062
Longitude:	-88.20193
Address:	West Quitman Street over Indian Creek
City:	Iuka
State:	MS
Zip:	38852
County:	Tishomingo
Telephone:	662-423-9104
Contact:	Dean McRae Engineering, Inc.
Title:	County Engineer

Site: 39

SEWER PIPELINE

Pipeline

Location on Stream:	10.3 Miles on Indian Creek to 5.1 miles on Pickwick Reservoir to miles on Yellow Creek Embayment
Distance from Intake:	17.2 Miles upstream
Latitude:	34.81072
Longitude:	-88.20222
Address:	Indian Creek
City:	Iuka
State:	MS
Zip:	38852
County:	Tishomingo
Telephone:	662-423-9879
Contact:	Don McNeely
Title:	Water Plant Maintenance Supervisor

Pipeline Information

SIC:	1623
Type of Facility:	Pipeline
Potential Contaminants:	Sewage

Site:
40

SEWER PIPELINE

Pipeline

Location on Stream:	10.3 Miles on Indian Creek to 5.1 miles on Pickwick Reservoir to miles on Yellow Creek Embayment
Distance from Intake:	17.2 Miles upstream
Latitude:	34.81180
Longitude:	-88.20226
Address:	Indian Creek
City:	Iuka
State:	MS
Zip:	38852
County:	Tishomingo
Telephone:	662-423-9879
Contact:	Don McNeely
Title:	Water Plant Maintenance Supervisor

Pipeline Information

SIC:	1623
Type of Facility:	Pipeline
Potential Contaminants:	Sewage

Site: 41

ORMET ALUMINUM MILL PRODUCTS CORPORATION
(AKA International Converter, Inc.)
Facility

Location on Stream:	10.5 Miles on Indian Creek to 5.1 miles on Pickwick Reservoir to miles on Yellow Creek Embayment
Distance from Intake:	17.4 Miles upstream
Latitude:	34.81441
Longitude:	-88.20214
Address:	1309 Paul Edmondson Drive
City:	Iuka
State:	MS
Zip:	38852
County:	Tishomingo
Telephone:	662-423-3692
Contact:	Steve Huffman
Title:	Manager
NAICS:	322221, 322222, 322225
Type of Facility:	Coated/Laminated Packaging Paper/Plastics Film Man. Coated/Laminated Paper Manufacturing, Laminated Aluminum Foil Manufacturing for Flexible Packaging Uses
FRS ID:	110000376076
NPDES:	MS0022144
Number of Outfalls:	1
Permitted Contaminants:	Temperature, pH, Flow
Facility Sequence Number:	NA

Toxic Release Inventory (TRI) Information

TRI ID:	38852LSSSF1309W

Hazardous Waste Facilities (RCRA, BRS) Information

Hazardous Waste Handler ID:	MSD007038995
Hazardous Waste Handler Type:	LQG

Comprehensive Environmental Response, Compensation, and Liability Act "Super Fund" Information (CERCLIS)

CERCLIS:	NA
NPL Status:	NA

NA - Not Applicable

Site: 42

RIPLEY INDUSTRIES, INC.

Facility

Location on Stream:	10.6 Miles on Indian Creek to 5.1 miles on Pickwick Reservoir to 1.8 miles on Yellow Creek Embayment
Distance from Intake:	17.5 Miles upstream
Latitude:	34.81393
Longitude:	-88.20361
Address:	1409 Paul Edmondson Drive
City:	Iuka
State:	MS
Zip:	38852
County:	Tishomingo
Telephone:	601-423-6733
Contact:	Olivia Jones
Title:	Manager
SIC:	3496
Type of Facility:	Misc. Fabricated Wire Products
FRS ID:	110007647948
NPDES:	NA
Number of Outfalls:	NA
Permitted Contaminants:	NA
Facility Sequence Number:	NA

Toxic Release Inventory (TRI) Information

TRI ID:	38852RPLYN1409P

Hazardous Waste Facilities (RCRA, BRS) Information

Hazardous Waste Handler ID:	MSD982104648
Hazardous Waste Handler Type:	CESQG

Comprehensive Environmental Response, Compensation, and Liability Act "Super Fund" Information (CERCLIS)

CERCLIS:	NA
NPL Status:	NA

NA - Not Applicable

Site:
43

PDC UTILITIES LLC, GRAND HARBOR CONDOMINIUMS

Facility

Location on Stream:	7.7 Miles on Indian Creek to 5.1 miles on Pickwick Reservoir to 1.8 miles on Yellow Creek Embayment
Distance from Intake:	14.6 miles
Latitude:	34.99215
Longitude:	-88.2138
Address:	325 County Road 380
City:	Iuka
State:	MS
Zip:	38852
County:	Tishomingo
Telephone:	731-689-5551
Contact:	Paul Callens
Title:	Cognizant Official
SIC:	6513
Type of Facility:	Operators of Apartment Buildings
FRS ID:	110008520582
NPDES:	MS0052795
Number of Outfalls:	1
Permitted Contaminants:	DO, BOD, pH, TSS, Chlorine, Fecal Coliform
Facility Sequence Number:	NA

Toxic Release Inventory (TRI) Information

TRI ID:	NA

Hazardous Waste Facilities (RCRA, BRS) Information

Hazardous Waste Handler ID:	NA
Hazardous Waste Handler Type:	NA

Comprehensive Environmental Response, Compensation, and Liability Act "Super Fund" Information (CERCLIS)

CERCLIS:	NA
NPL Status:	NA

NA - Not Applicable

Site: 44

TISHOMINGO POTW

Facility

Location on Stream:	1.3 Miles on Yellow Creek Embayment
Distance from Intake:	1.3 Miles upstream
Latitude:	34.82941
Longitude:	-88.18089
Address:	Fuller Street
City:	Tishomingo
State:	MS
Zip:	38873
County:	Tishomingo
Telephone:	601-438-6302
Contact:	James Tenneyson
Title:	Mayor
SIC:	4952
Type of Facility:	Sewerage Systems
FRS ID:	110008516409
NPDES:	MS0025259
Number of Outfalls:	1
Permitted Contaminants:	BOD, pH, TSS, Nitrogen, Ammonia, Chlorine, Fecal Coliform
Facility Sequence Number:	NA

Toxic Release Inventory (TRI) Information

TRI ID:	NA

Hazardous Waste Facilities (RCRA, BRS) Information

Hazardous Waste Handler ID:	NA
Hazardous Waste Handler Type:	NA

Comprehensive Environmental Response, Compensation, and Liability Act "Super Fund" Information (CERCLIS)

CERCLIS:	NA
NPL Status:	NA

NA - Not Applicable

Appendix B

Agriculture – Tishomingo County

AGRICULTURE TISHOMINGO COUNTY (1997 CENSUS OF AGRICULTURE)

- Land in Farms (acres) 44,866
- Total Cropland (acres) 17,204
- Harvested Cropland (acres) 8,118

Crops	Livestock	Poultry
Corn	Beef Cows	Layers and Pullets
Cotton	Hogs and Pigs	Broilers
Hay/Alfalfa	Sheep and Lambs	
Soybeans		

AGRICULTURAL CHEMICAL USAGE IN COUNTIES IN THE SWPA

The agricultural chemical usage estimates are based on data compiled by the National Agricultural Statistics Service from the 2002 field crops summary and the 1997 – 2003 agricultural statistics. The rates of chemical application were estimated from 1997 to 2003. The results that refer to on-farm use of herbicides and pesticides on the targeted crops of corn, wheat and hay are for the 1997 crop year. Upland cotton and soybeans are also included for rates of chemical use. Pesticide data were collected late in the growing season or after the farm operator had indicated that planned applications were completed.

AGRICULTURAL CHEMICAL USAGE BY CROP

Corn

In 1997, Atrazine was reported to be the most commonly used herbicide in 1997 with Nicosulruron and Glyphosate being the next two greatest applied herbicides to corn fields. In addition, Lambda-cyhalothrin was the most widely used insecticide to planted corn acreage at this time. Table 1 shows a complete list of herbicides and insecticides applied to Mississippi corn crops in 1997.

Upland Cotton

In 2003, 100 percent of upland cotton acreage in the state of Mississippi had herbicide applications, while 94 percent of this planted acreage also had insecticide applied. 17 percent of the area was also treated with fungicide, and 95 percent had some other type of chemical applied to it. Glyphosate was reported to be the most commonly used herbicide, while the acephate was the most widely used insecticide applied. Table 2 shows a complete list of treatments applied to Mississippi cotton crops in 2003.

Hay/Alfalfa

Across Mississippi 648,809 acres of hay/alfalfa was planted. Seven percent of hay/alfalfa growers used the herbicide 2,4-D. This was the most widely used herbicide with 7 percent of acres being treated. The most common used insecticide was carbaryl.

A complete list of chemicals applied in 1997 to hay and alfalfa crops in the state of Mississippi is displayed in Table 3.

Soybeans

An average of 99 percent of Mississippi soybean fields had herbicide applied to it in 2000, with five percent also treated with insecticides. Less than one percent of the soybean acreage had fungicides applied to it. The most widely applied herbicide, by far, is glyphosate, which was applied to 78 percent of the acreage. A complete listing of herbicides, insecticides and fungicides used in the state of Mississippi is listed in Table 4.

Active Ingredients - Corn	
Herbicides:	**Insecticides:**
2,4-D	**Carbaryl**
Acetochlor	**Carbofuran**
Atrazine	**Chlorpyrifos**
Bromoxynil	**Esfenvalerate**
Cyanazine	**Lambda-cyhalothrin**
Dicamba	**Methomyl**
Dimethenamid	**Methyl parathion**
Flumetsulam	**Permethrin**
Glyphosate	**Phorate**
Imazethapyr	**Tefluthrin**
Metolachlor	**Terbufos**
Nicosulfuron	
Paraquat	
Pendimethalin	
Primisulfuron	
Prosulfuron	

Table 1. List of Herbicides, Insecticides and Fungicides Used to Treat Corn Crops, Mississippi, 1997

Active Ingredients - Cotton		
Herbicides:	**Insecticides:**	**Fungicides:**
2,4-D	**Acephate**	**Etridiazole**
Carfentrazone-ethyl	**Acetamiprid**	**Mefenoxam**
Cyanazine	**Aldicarb**	**Metalaxyl**
Diuron	**Cyfluthrin**	**PCNB**
Fluometuron	**Cypermethrin**	
Glyphosate	**Dicrotophos**	**Other Chemicals:**
Linuron	**Esfenvalerate**	**Bacillus cereus**
MSMA	**Imidacloprid**	**Cyclanilide**
Norflurazon	**Indoxacarb**	**Ethephon**
Pendimethalin	**Lambda-cyhalothrin**	**Mepiquat chloride**
Prometryn	**Malathion**	**Paraquat**
Pyrithiobac-sodium	**Triamethoxam**	**Sodium chlorate**
Trifluralin	**Zeta-cypermethrin**	**Thidiazuron**
		Tribufos

Table 2. List of Herbicides, Insecticides and Fungicides Used to Treat Upland Cotton Crops, Mississippi, 2003

Active Ingredients - Hay/Alfalfa

Herbicides:	Insecticides:
2,4-D	Carbaryl
Dicamba	Malathion
Glyphosate	

Table 3. List of Herbicides, Insecticides and Fungicides Used to Treat Hay/Alfalfa Crops, Mississippi, 1997

Active Ingredients - Soybean

Herbicides:	Insecticides:	Fungicides:
2,4-D	Benzoic acid	Azoxystrobin
Acifluorfen	Lambda-cyhalothrin	
Chlorimuron-ethyl	Methyl parathion	
Cloransulam-methyl		
Glyphosate		
Imazaquin		
Pendimethalin		
Trifluralin		

Table 4. List of Herbicides, Insecticides and Fungicides Used to Treat Soybean Crops, Mississippi, 2002

Appendix C

Documentation and Instructions

ArcView Compact Disc

ArcView Information

This project uses ArcView version 3.2.

To start ArcView project, select yellow_creek.apr

Workspace Directories:

- Drg Digital Raster Graphic
- Yellow_Creek Data Layers
  - Buf_1mi 1 mile buffer from identified stream
  - Buf_1000 1000 Foot buffer from identified stream
  - Lulc Land Use / Land Cover
  - Points Potential Pollution Sources
  - Quads 7 1/2 minute quadrangle boundaries
  - Railrds Railroads
  - Roads Roads
  - Streams Streams
- Html Web pages of the Potential Pollution Sources
- Images Contains to TVA logo
- Metadata Information about the geographic data
- Plots Digital files of the maps
- Scripts hotlink script which links the html files to the points
- Tables chart and spreadsheet

Attachment 2

Mississippi Department
of Environmental Quality

SHORT COLEMAN SURFACE WATER TREATMENT PLANT – YELLOW CREEK

IUKA, MISSISSIPPI

SOURCE WATER ASSESSMENT SUPPLEMENT

Tennessee Valley Authority
Chattanooga, Tennessee
October, 2008

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INTRODUCTION

This document and accompanying maps, compact disk, and supporting report were prepared by the Tennessee Valley Authority (TVA) in support of the Mississippi Department of Environmental Quality (MDEQ), Source Water Assessment Program. This source water assessment package was prepared as a supplement to the SHORT COLEMAN SURFACE WATER TREATMENT PLANT – PICKWICK INTAKE which was prepared in June 2004. This document complies with the U.S. Safe Drinking Water Act Amendments of 1996 (P.L. 104-182) and the subsequent guidance document prepared by the U.S. Environmental Protection Agency (EPA).

The information and data used in the preparation of this source water assessment for the Short Coleman Surface Water Treatment Plant's surface water intake (the Pickwick Intake) on the Yellow Creek embayment at Iuka, MS were obtained from existing sources and databases, relying heavily on MDEQ's databases, EPA's Envirofacts website, Office of Management and Budget (OMB) and the Center for Public Data Access' Right-to-Know website, TVA's databases, and the U.S. Department of Agriculture's electronic information system. A complete listing of these information sources is presented at the end of the document.

This source water assessment consists of five components: 1) this document, the purpose of which is to integrate all of the components; 2) a geographic information system (GIS)-produced 7.5 minute topographic map of the source water protection area (SWPA); 3) a map delineating the Yellow Creek embayment watershed; 4) a compact disc containing the GIS ArcView project file used to produce the SWPA; and 5) a report on the methodology used to determine the hydraulic time of water travel for the Yellow Creek embayment. Each of these components is described in more detail later in this document.

THE YELLOW CREEK EMBAYMENT OF THE TENNESSEE RIVER

The Yellow Creek embayment of the Tennessee River is located in northeastern Mississippi. Its drainage area is approximately 44.7 square miles. The Tennessee River basin lies in a seven-state area in the southeastern United States. Its drainage area covers 40,900 square miles, most of which are in the state of Tennessee. The remainder of the basin lies in Mississippi, Alabama, Georgia, Kentucky, North Carolina and Virginia. The Tennessee River originates in Knoxville, Tennessee, where the French Broad River joins the Holston River. The Tennessee continues westward to Paducah, Kentucky, where it enters the Ohio River 46 miles upstream of the confluence of the Ohio and Mississippi Rivers. In terms of discharge, the Tennessee River is the fifth-largest river in the United States and the seventh-largest in North America.

The Tennessee River basin is composed of two fan-shaped basins connected in the vicinity of Chattanooga, Tennessee by a relatively narrow valley. The 21,400 square mile area upstream, or east of Chattanooga, includes the slopes of the Blue Ridge and Great Smoky Mountains and is dominated by rugged forested areas. The remaining 19,500 square mile area downstream and west of Chattanooga is dominated by relatively flat open fields, woodlands, and rolling hills. Approximately 60 percent of the total watershed is forested, while the remaining 40 percent is primarily open land and pasture.

The Tennessee River drainage is one of nine major drainage groups within the state of Mississippi. It drains 181 of 48,434 square miles of Mississippi's area, or less than one-half of one percent of the state. The Tennessee River's average daily flow entering and exiting Mississippi can be approximated by looking at the flows leaving Wilson Dam (Muscle Shoals, AL) and Pickwick Dam (Counce, TN). These two dams are 52.5 sailing miles apart and the portion of the Tennessee River that lies along the Mississippi state line falls between them, providing the two locations nearest the Mississippi border that have regularly monitored flow.

Average flows at Wilson and Pickwick Dams, respectively, are 51,082 cubic feet per second (cfs) and 54,797 cfs, an increase of 3,715 cfs. The TVA manages the Tennessee River for navigation, flood control, to generate electric power, and for recreation. The Tennessee River flowing through Mississippi is impounded by one reservoir: Pickwick, which has a total surface area of 42,790 acres of water at elevation 414, which is normal maximum pool.

Hydrologic Overview

The Tennessee River Basin is one of the wettest regions in the United States. The Gulf of Mexico and the Caribbean Sea, located a relatively short distance to the south, are major sources of moisture. As there is no significant barrier between the Basin and the Gulf, prevailing winds from the south and west bring this moisture across the Basin. The Tennessee River Basin is also subject to heavy rainfall from dissipating hurricanes moving across the southeastern United States.

The long-term (1894-1993) average annual precipitation for the Tennessee River Basin is 51 inches per year. The heaviest rainfall concentrations occur in the mountainous highlands of the eastern region, where average annual precipitation exceeds 90 inches in some locations. Approximately half of the annual rainfall is received in winter and early spring, from December until mid-April. March is typically the wettest month, while the driest months are normally September and October. Monthly average rainfall ranges from 3 to 5.6 inches.

Flood Potential

The high rainfall and runoff rates in the Tennessee Valley render the area vulnerable to flooding. In general, flood-producing storms occur in the Tennessee River Basin on the average of about once every two years. The major flood season in the Valley is December through mid-April, with the highest frequency of storms occurring in March. Widespread cyclonic storms with heavy persistent rainfall occur more frequently during the winter season. Dormant vegetation and ground conditions favor a high rate of runoff during that period.

The worst winter storms can cover the entire Valley for several days. It is not unusual for one large winter storm to be followed by an even larger storm three to five days later. Conversely, the worst summer storms tend to be short, intense, and relatively localized, resulting from thunderstorms or decadent tropical storms that have moved inland. These summer storms generally affect a smaller portion of the Valley, with heavy rains typically covering an area of 3,000 square miles or less.

Flows in the Tennessee River Basin are controlled by an integrated, multipurpose system of dams and reservoirs operated by TVA. (Figure 1) Major operating objectives are to provide for navigation, flood control, hydropower generation, summer recreation levels, and minimum flows for the maintenance of water quality and aquatic habitat. Additionally, the reservoir system supports fossil and nuclear power generation by providing condenser cooling system water and dissipating thermal waste loads.

The Tennessee River is an integral part of the Interconnected Inland Waterways System of the United States. This system, which extends from the Great Lakes to the Gulf of Mexico, includes the Mississippi, Missouri, Illinois, Ohio, Tennessee and Arkansas River systems. The Inland Waterways System connects the Tennessee River system with 21 other states.

The Tennessee River provides a navigable channel for its entire length of 650 miles from Knoxville, Tennessee to Paducah, Kentucky, through a series of nine locks and dams on the main stem of the river. The minimum channel depth is 11 feet, which provides sufficient depth for vessels with a 9-foot draft. The minimum channel width in dredged cuts is 300 feet with some widening on bends. Most locks in the system are 100 feet by 600 feet, considered a standard for modern barge traffic of low to medium traffic levels. Newer locks, such as the one constructed at Pickwick Dam and planned for Kentucky Dam, are larger measuring in the range of 110 feet by 1,000 feet.

Commercial barge traffic on the Tennessee River reached a total of 54 million tons every year. Commodities originating or terminating on the Tennessee River include sand and gravel, coal, chemicals, petroleum, and ores and minerals. There are five major ports on the Tennessee River: Decatur, Guntersville and Muscle Shoals, Alabama; Chattanooga, Tennessee, and Yellow Creek, Mississippi. Maintenance and operation of the Tennessee River waterway is the joint responsibility of TVA, the U.S. Coast Guard, and the U.S. Army Corps of Engineers.

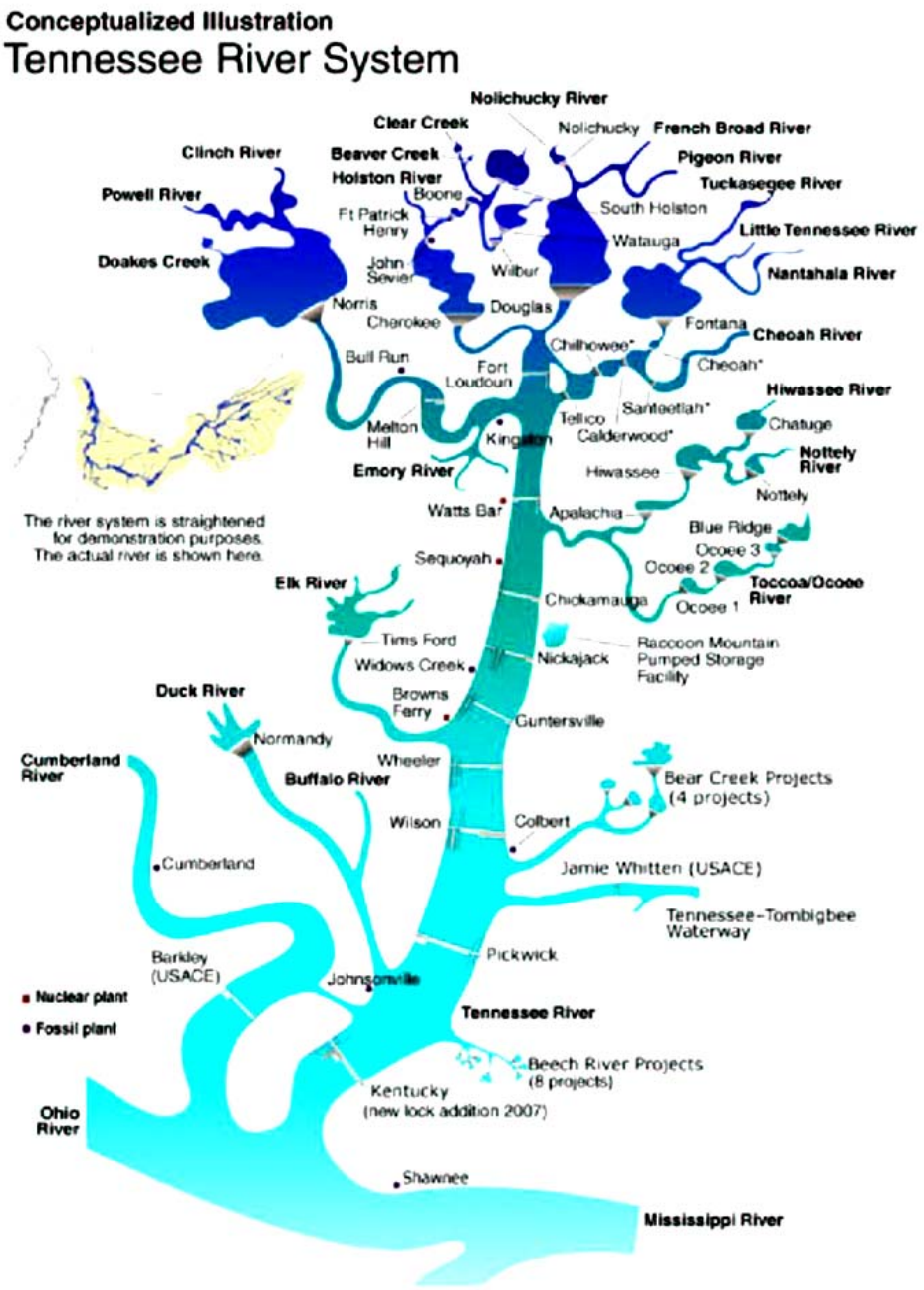

Figure 1: The TVA Water Control System

Power Generation

TVA reservoirs are operated to maximize hydropower generation to the extent possible in light of satisfying other multipurpose uses. Hydroelectric power is the most economical form of electricity available in the TVA system because incremental costs for hydropower (the costs that vary with production levels) are very low. TVA's hydropower generation accounts for approximately 16 percent of its generation capability.

In the TVA power system, hydropower is used primarily for peaking purposes, to provide additional power quickly during those times of the day when power demands are highest.

Water Quality

Overall, the Tennessee River is considered to be a clean river. In general, there is no one pervasive water quality concern in TVA reservoirs, but there are a collection of concerns affecting various uses. Most of these concerns, however, can be related to two major water quality issues. The first issue relates to point and nonpoint pollution, which tends to affect specific reservoirs and specific water uses. A related issue is that of toxic substance, which have been found in sediments and fish in reservoirs with otherwise good water quality. The second primary water quality issue is the occurrence of low dissolved oxygen (DO) levels in the tail water areas below some TVA dams. Low DO levels can stress aquatic life and limit the ability of the water to assimilate wastes.

Nonpoint source pollutants, which can contribute as much as five times more DO-consuming wastes than point sources, are the principal cause of water quality concerns in the Tennessee Valley. Nonpoint source pollution results from a variety of activities in the watershed related to agriculture (runoff from fertilizer and pesticide applications, erosion and animal wastes), mining (sedimentation and acidification from tailings), land development, and urbanization (storm sewers, combined storm and sanitary sewer overflows, and septic systems).

Other Reservoir Uses

Although the Tennessee River / reservoir system is operated primarily for flood control, navigation, power generation, recreation, and water quality, there are several other incidental benefits derived from the system. The reservoir system is also used for water supply, maintenance of public health, support of economic development, and support of wildlife, fisheries, and threatened and endangered species. There is some use of streams, rivers, and private reservoirs for municipal and industrial water supply, but it is relatively small. Public water systems in the Tennessee Valley use about 660 million gallons per day, with about 80 percent of those systems, or 525 million gallons per day, being supplied by surface water. Over 200 industrial water systems also withdraw water for industrial processes and cooling. However, the total water withdrawn for both industrial and municipal purposes amounts to only about four to five percent of the annual average flow of 65,000 cubic feet per second at the mouth of the Tennessee River (not including power plant cooling water). Irrigation demand in the Valley is small, about 70 million gallons per day, but is expected to grow by 36 percent in the next 30 years. Furthermore, total consumptive use is low, as close to 95 percent of the water is returned to the system.

Physiography

Physiography concerns the structure and type of underlying geologic formations, as well as the local geologic and climatic forces that shape the landscape. Along with several other factors, an area's physiography determines the natural water quality conditions of local streams, rivers and lakes. The source water protection area addressed in this report is located in one physiographic region: the Tombigbee Hills (Figure 2), which is part of a larger physiographic region the, East Gulf Coastal Plain (Figure 3).

The East Gulf Coastal Plain extends from the Florida Parishes of Louisiana over most of Mississippi, parts of western Tennessee and Kentucky, the southwestern two-thirds of Alabama and Florida's western panhandle. The East Gulf Coastal

Plain is characterized by a flat to rolling topography, which is broken by numerous streams and rivers. In the state of Mississippi, the East Gulf Coastal Plain's elevation range is from sea level at the coast to 806 feet above sea level at Woodall Mountain. Woodall Mountain is located in the Tombigbee Hills region of the East Gulf Coastal Plain. All rivers in this region drain to the Gulf of Mexico, including those in the Coastal Streams, Pearl River, Pascagoula River and Tombigbee River watersheds.

Many species of pine dominate the natural vegetation in the East Gulf Coastal Plain. Originally, longleaf and slash pine covered the southern part of this physiographic region, while shortleaf pine mixed with hardwoods enveloped the north. Loblolly pine and hardwoods were often found in damp areas, while bottomland hardwood forests were located in extensive lowland drainages. Under present-day land use practices, many of the bottomland hardwood forests have been cleared for agricultural use and much of the original longleaf pine and upland hardwoods have been cleared and replanted with loblolly or slash pine.

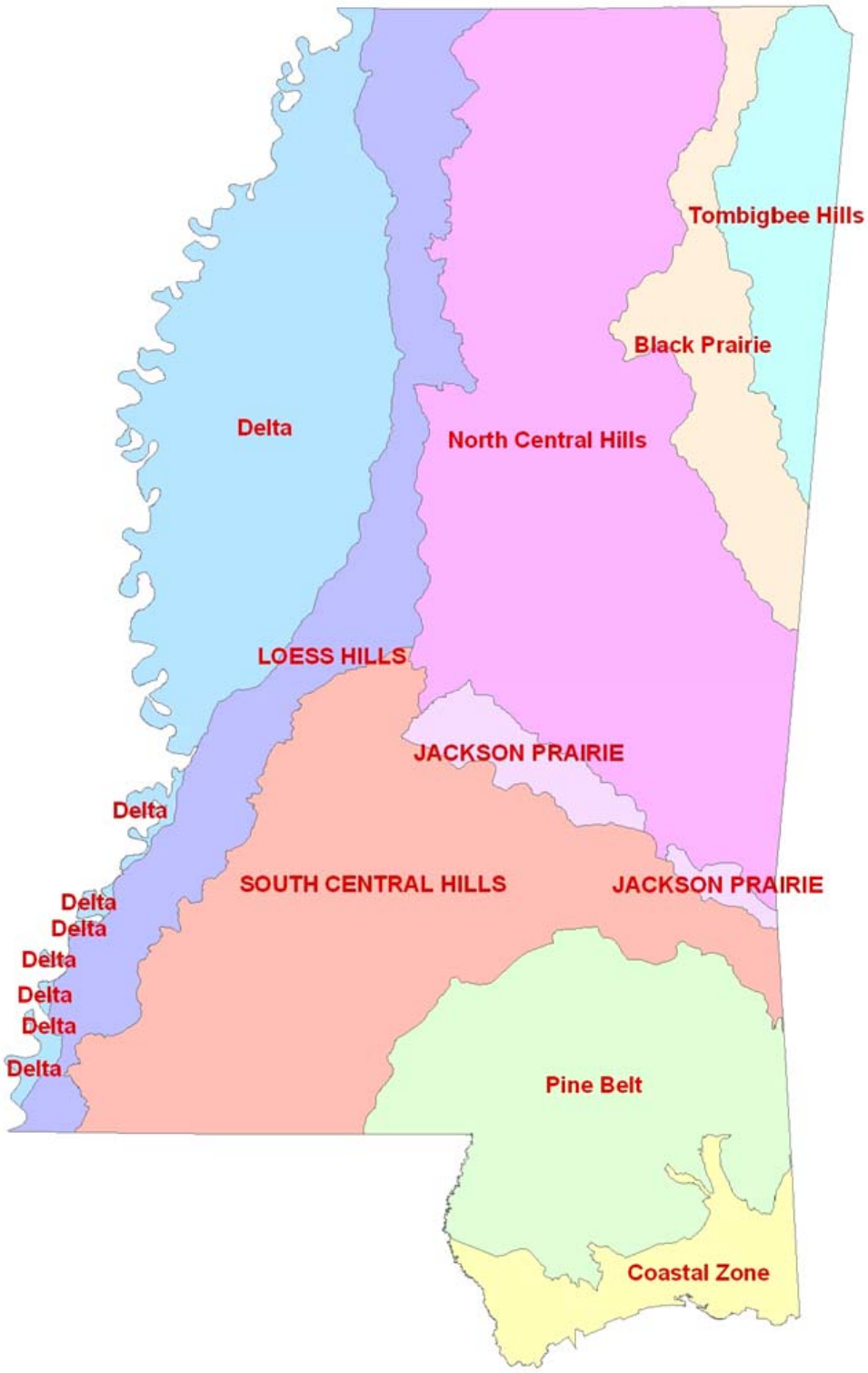

Figure 2: Physiographic Map Illustrating Nine Regions in Mississippi

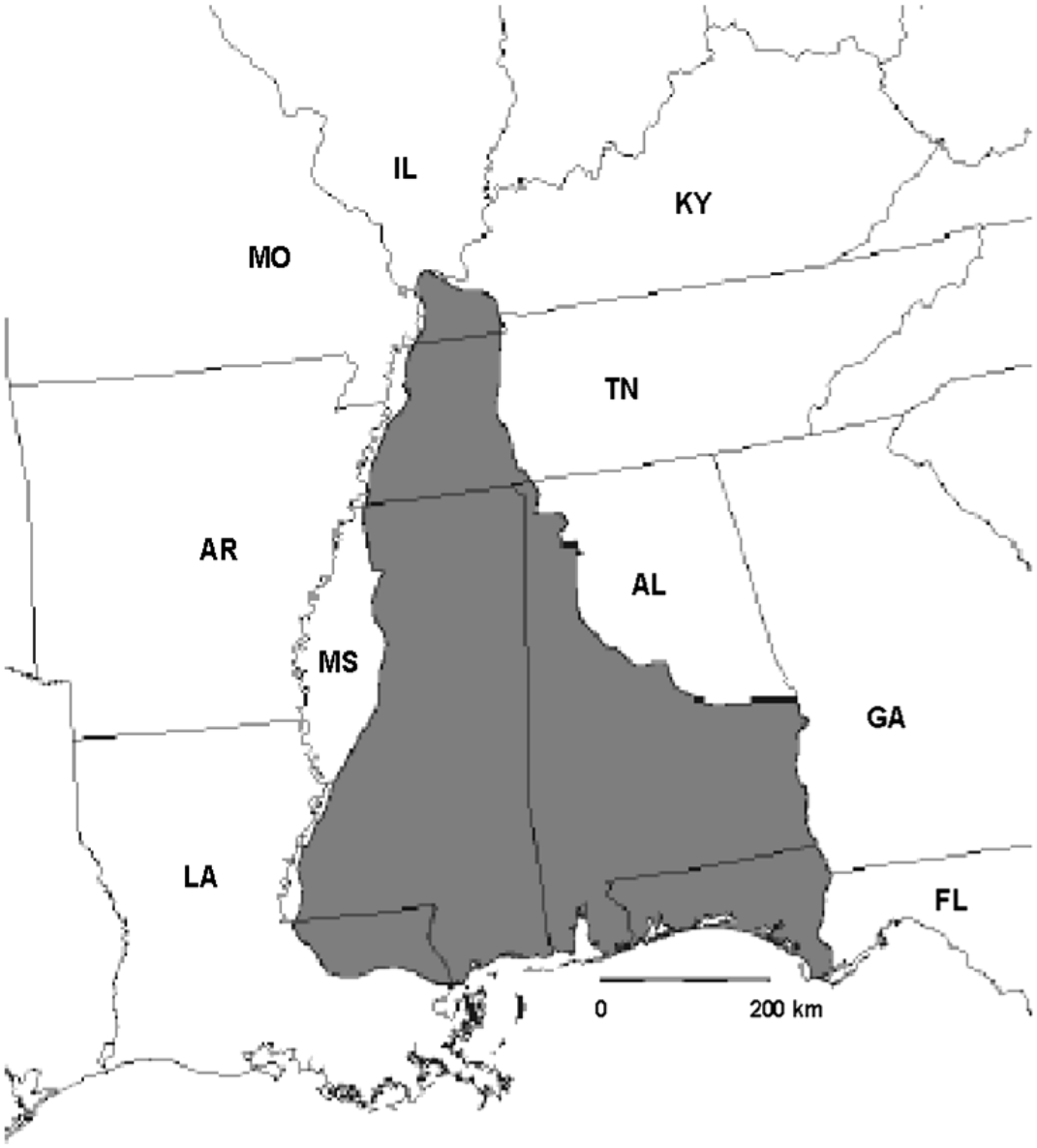

Figure 3: Physiographic Map Illustrating the East Gulf Coastal Plain

SHORT COLEMAN SURFACE WATER TREATMENT PLANT / PICKWICK INTAKE, WATERSHED DESCRIPTION

The Short Coleman Surface Water Treatment Plant / Pickwick Intake's water intake is located on the Yellow Creek embayment near Iuka, Mississippi, within the Pickwick Lake Watershed. The drainage area of the SWPA within the Pickwick Lake Watershed (HUC 06030005) is 59.91 square miles and is illustrated in the watershed delineation map, entitled "Area of the Pickwick Watershed Upstream and Downstream of the Yellow Creek Water Intake," accompanying this report.

Water Use Classification

The state of Mississippi has established water use classifications for its inter- and intrastate waters. Use classifications apply water quality criteria in order to protect existing water quality at the time the classification was implemented, and to upgrade or enhance water quality in the state of Mississippi. Use classifications listed by the state of Mississippi include public water supply, shellfish harvesting, recreation, fish and wildlife, and ephemeral stream. All state waters that are not specifically classified by the State are assumed to be listed as fish and wildlife.

The Tennessee River, in the vicinity of the Yellow Creek embayment, is classified by the state of Mississippi as suitable for fish and wildlife. The segment of the Tennessee River that flows into the embayment is classified as a public water supply (see Figure 4).

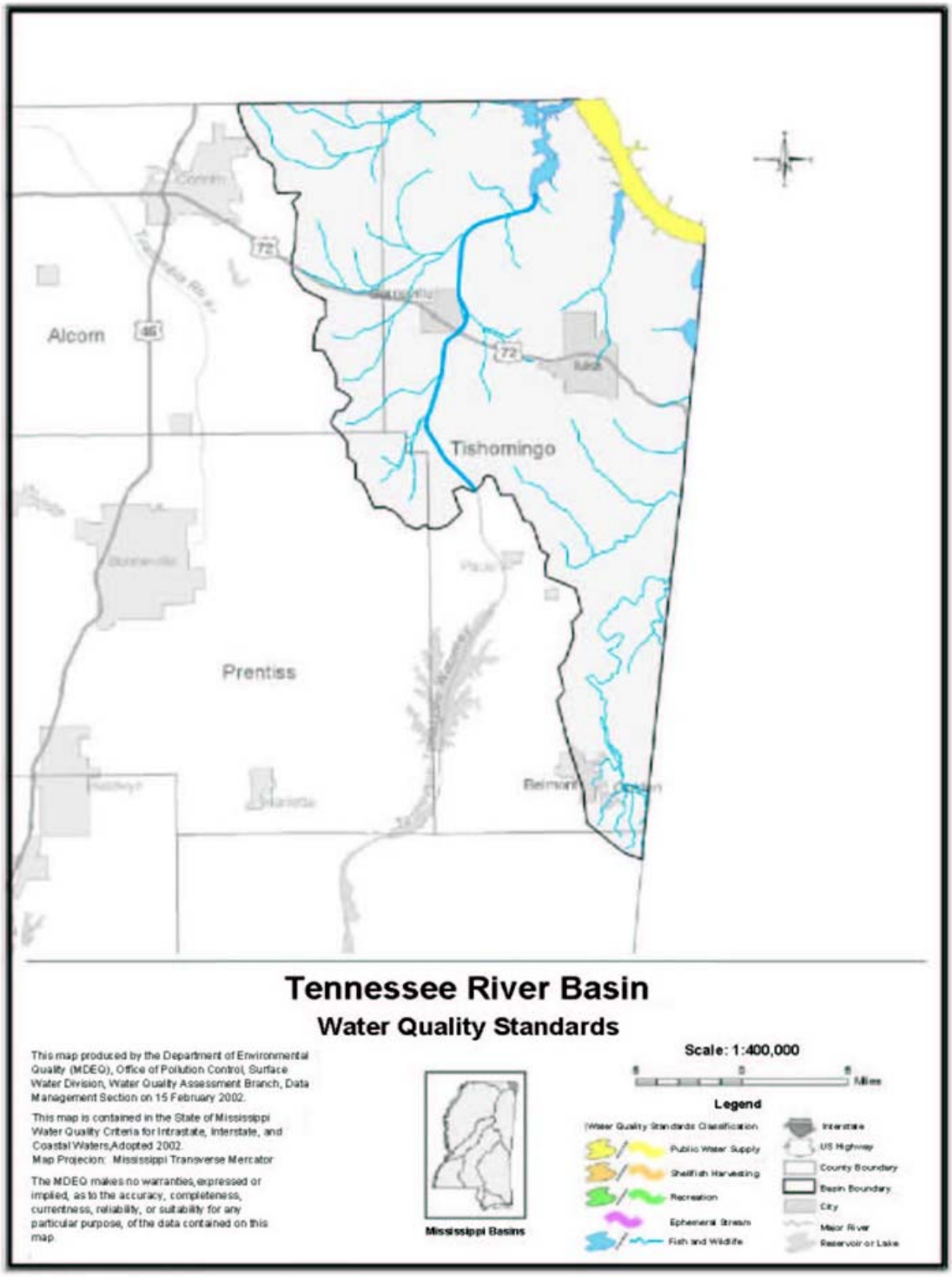

Figure 4: Tennessee River Basin Water Quality Standards Classification

Water Quality

The TVA conducts routine water, sediment, benthos and fish sampling in four areas as part of its Vital Signs Monitoring Program to evaluate the ecological health of Pickwick Reservoir: the inflow area, generally riverine in nature; the transition zone, the mid-reservoir area where water velocity decreases due to increased cross-sectional area; the forebay, the deep, still water in the area near the dam; and the Bear Creek embayment.

Summary / Key Ecological Health Findings for 2006: The overall ecological condition of Pickwick Reservoir was good in 2006 (the last year sampled), with the score being just below the cut-off for a condition of good. Pickwick has scored about the same every year — either "high fair" or good — depending primarily on chlorophyll concentrations, which are affected by reservoir flows, and by conditions in the Bear Creek embayment, which generally rates lower than at other monitoring locations on the reservoir. The inflow rating, which is based on fish and bottom life, was highest in 2004 and contributed to the overall higher score for the reservoir that year. Conditions in the Bear Creek embayment were poorest, and conditions at the mid-reservoir location were the best of the four sampling locations on Pickwick Reservoir. All assessed stations rated good for fish (number and variety) and sediment quality (amount of PCB's, pesticides and metals in the bottom sediment). The Bear Creek embayment, mid reservoir and forebay all rated good for DO levels. The Bear Creek Embayment was rated as fair for bottom life, with the other three stations rated good. The chlorophyll level was rated poor at the Bear Creek embayment and forebay while the mid-reservoir site rated fair.

Status of Fish Consumption Advisories in 2006: No fish consumption advisories were in effect for Pickwick Reservoir.

Status of Swimming Advisories in 2006: There were no swimming advisories for Pickwick Reservoir. TVA conducted bacteriological sampling at ten swimming

areas on Pickwick in 2006. Each site was sampled ten times during the summer, and met water quality criteria for water contact recreation in the state in which they were sampled (Mississippi, Alabama or Tennessee).

In addition to TVA monitoring, the Mississippi Department of Environmental Quality's Office of Pollution Control conducts a surface water monitoring program in order to develop and maintain an understanding of water quality in the State, to gather the needed data to accurately describe the State's water quality and determine the causes and effects of any changes in the water quality, to support the State's regulatory water quality programs and to measure how well the State's pollution control programs are working. Mississippi's Surface Water Monitoring Program includes fixed monitoring stations, special studies, regulatory compliance monitoring, volunteer collections, laboratory support, quality assurance/quality control measures, and data sharing, management and reporting.

Soils / Land Use

The Short Coleman Surface Water Treatment Plant / Pickwick Intake's SWPA has soils classified by the U.S. Department of Agriculture as Saffell and Smithdale soils along the Pickwick Lake shoreline and Smithdale and Ruston soils in the uplands.

The floodplain soils, the Saffell and Smithdale, are well drained loamy soils that are found in the hilly upland areas that border Pickwick Lake. The Saffell soils are found on the middle and lower parts of these slopes and consist of a gravelly dark-brown loam surface layer (approximately six inches deep) and a mottled gravelly loam subsoil. The Smithdale soils are found on ridgetops and the upper part of the side slopes and consist of a sandy loam surface layer and subsoil. They are strong brown in color within the first four inches of the soil surface, followed by a thick layer of red subsoil. Both of these soil types are at risk for severe erosion.

The remaining soils within the Source Water Protection Area are dominated by soils in the Smithdale and Ruston series. Again, these soils are well drained loamy soils found on ridges and steep side slopes. These soils consist of a fine sandy loam surface layer, loam to sandy clay in the upper subsoil, and sandy loam in the lower subsoil. Due to the steep topography where these soils are usually found, those areas are primarily used for woodland, and have a high potential for woodland wildlife habitat.

Land use data for the Tennessee River watershed in the Source Water Protection Area is shown in Figure 5 and was obtained color-infrared aerial photography acquired March30, 2003. 2006 National Agriculture Imagery Program (NAIP) imagery was used to correct are as where changes took place over time. In general the SWPA watershed is approximately 57 percent forested, 32 percent open water, 6 percent residential, and the remainder (5 percent) divided among wetlands, urban, industrial and pasture.

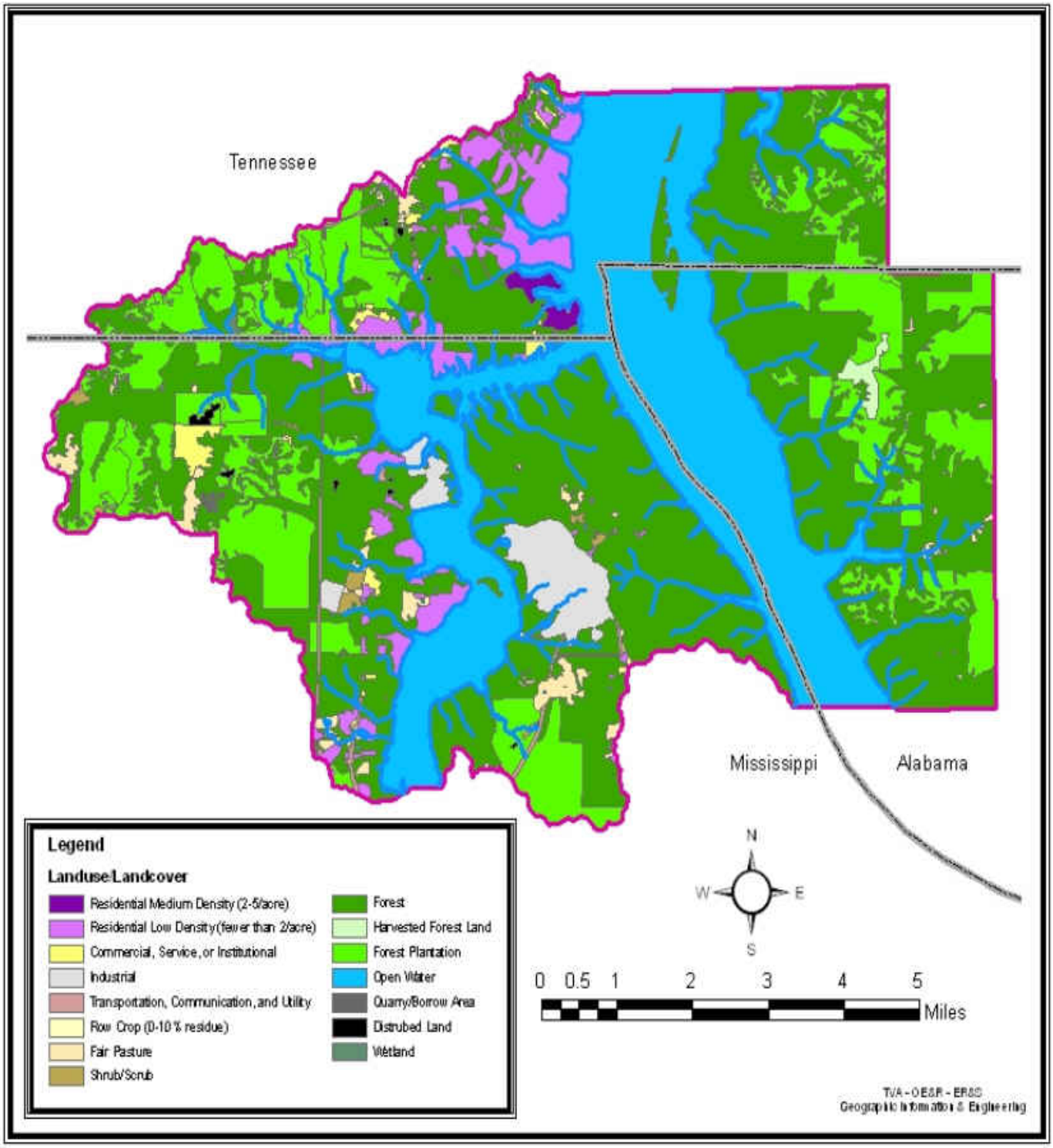

Figure 5: Tombigbee River Depicting Land Use Coverage, 2006

The Source Water Protection Area (SWPA)

For purposes of a typical source water assessment, the SWPA is defined as a zone extending ¼ mile downstream of the intake and 15 miles upstream of the intake. This "critical area" also includes a 1000-foot buffer from the water's edge on each side of the river. Where known or suspected contaminants exist within 1500 feet of the water's edge, the buffer is extended to include those areas. Where a significant tributary enters the SWPA within the 15-mile segment upstream of the intake, the SWPA also extends up the tributary for 1 mile and includes the 1000-foot buffer on each side.

This supplement updates information presented in an earlier assessment of the Mississippi shoreline of Pickwick Reservoir. The study area for this supplement includes the entire Pickwick Lake/Yellow Creek embayment (approximately 5.2 river miles), the area immediately downstream of the mouth of Yellow Creek embayment on the Mississippi and Tennessee shoreline of the Tennessee River, a reach on the river upstream of the Yellow Creek (up to TRM 220) to, and a swath of undeveloped land on the Alabama and Tennessee shoreline of the Tennessee River from TRM 220 downstream to ~TRM 213.3.

The purpose of developing the land use/land cover data and the potential contaminant listing for the Short Coleman Surface Water Treatment Plant/Pickwick Intake SWPA, was to assist the water supply in developing a source water protection plan. Land use/land cover data for the SWPA and the watershed contained in the study area is presented in Figure 6. The non-aquatic land cover in these areas is predominantly forest, followed by residential and small percentages of other land uses.

Within the SWPA, potential sources of contamination were identified using the databases previously mentioned. Potential sources include National Pollutant Discharge Elimination System (NPDES) permitted discharges, hazardous waste

facilities, petroleum storage sites, and pipeline crossings at bridges. Mooring cells are also included as potential sources since barges use these regularly. These potential sources and associated contaminants (if available) are shown in Appendix A.

The investigation also considered agricultural chemicals. Use of these chemicals is described in the 2001 and 2002 agricultural chemical usage summaries for the SWPA counties. This information is presented in Appendix B.

The SWPA and locations of potential sources of contamination are shown on the map accompanying this document. The map also shows landuse/landcover data. The map, locations of the potential sources of contamination, and the information in Appendix A can also be viewed from the compact disc accompanying this document. The CD contains the GIS project file which was used to generate the map. It was created using ArcMap 9.2 software manufactured by ESRI, Inc. Using this software enables the addition, deletion, or other changes to be made to the data sets which generates the map attributes. ArcMap or compatible software is required to update data sets or change the project file. Since the CD is in read-only format, the files must be copied from the CD (placed on a computer, etc.) in order to update or change map attributes. Documentation and instructions regarding the use of these programs are presented in Appendix C.

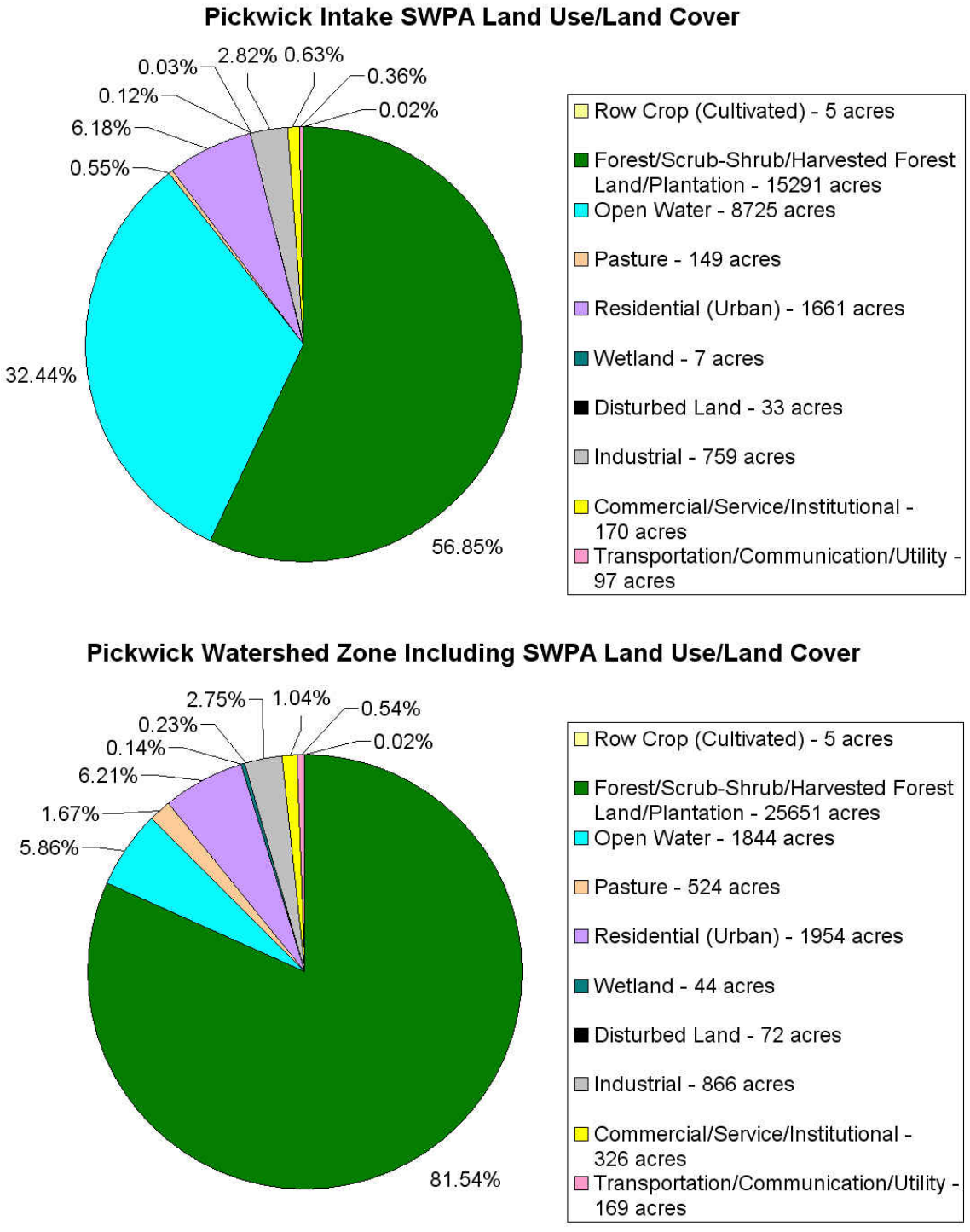

Figure 6: Land Use/Land Cover for Pickwick Intake SWPA and the Watershed Zone Including the SWPA

Time of Travel

Travel times of a hypothetical chemical spill to travel through the Pickwick Reservoir and/or the upper Tennessee-Tombigbee Waterway were evaluated using the one-dimensional mathematical model, ADYN, (Hauser, 1991). The model was developed by TVA and is accepted by MDEQ as an analysis tool. ADYN is a one-dimensional unsteady flow model capable of generating quantitative information as wetted area, depth, velocity, flow, volumes, and has a particle tracking feature which allows travel times to be estimated, assuming that river flow is the dominant transport mechanism. The ADYN model does not perform dispersion calculations or take wind-related parameters such as fetch into consideration in the particle tracking routine.

When the location of the spill is known, one should:

1. Locate the river mile of the spill on the appropriate chart, preferably a topo map, to obtain the best estimate of the river mile at which it occurred. Assistance in determining the river mile can come from Figures 7 and 8.
2. Find out the current Wilson and Pickwick dam releases from the TVA Lake information website, www.lakeinfo.tva.gov or call TVA River Operations at 865-632-6065.
3. Find the appropriate line on the travel time chart (Figure 9) closest to the recorded Wilson dam release value and read the water travel time off the chart. For the water intake location (assumed to be mile 213.1), take 213.1 and subtract from it the water travel time off the chart for the location of the spill.

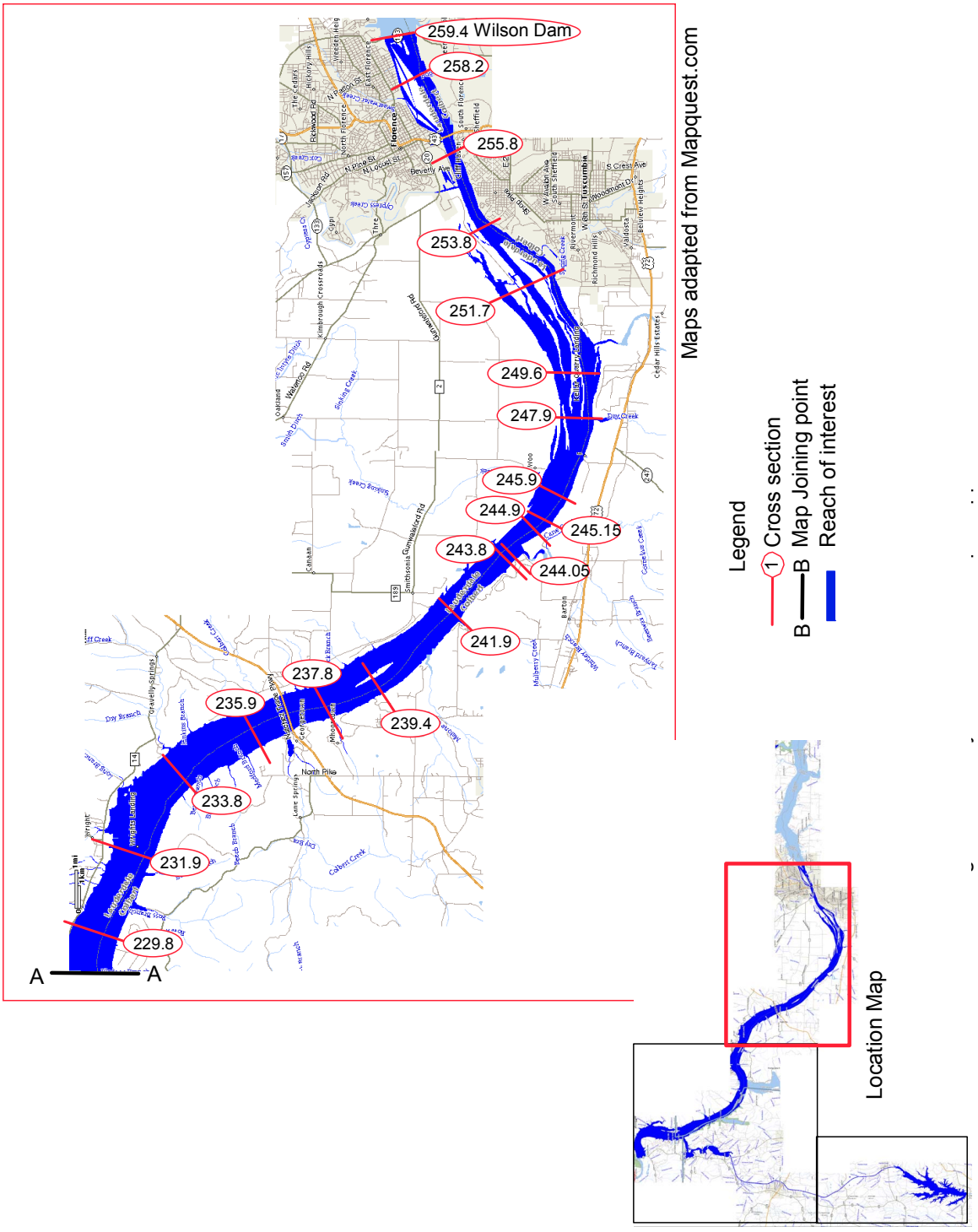

Figure 7. Study Area Location Map - Upper Pickwick Reservoir

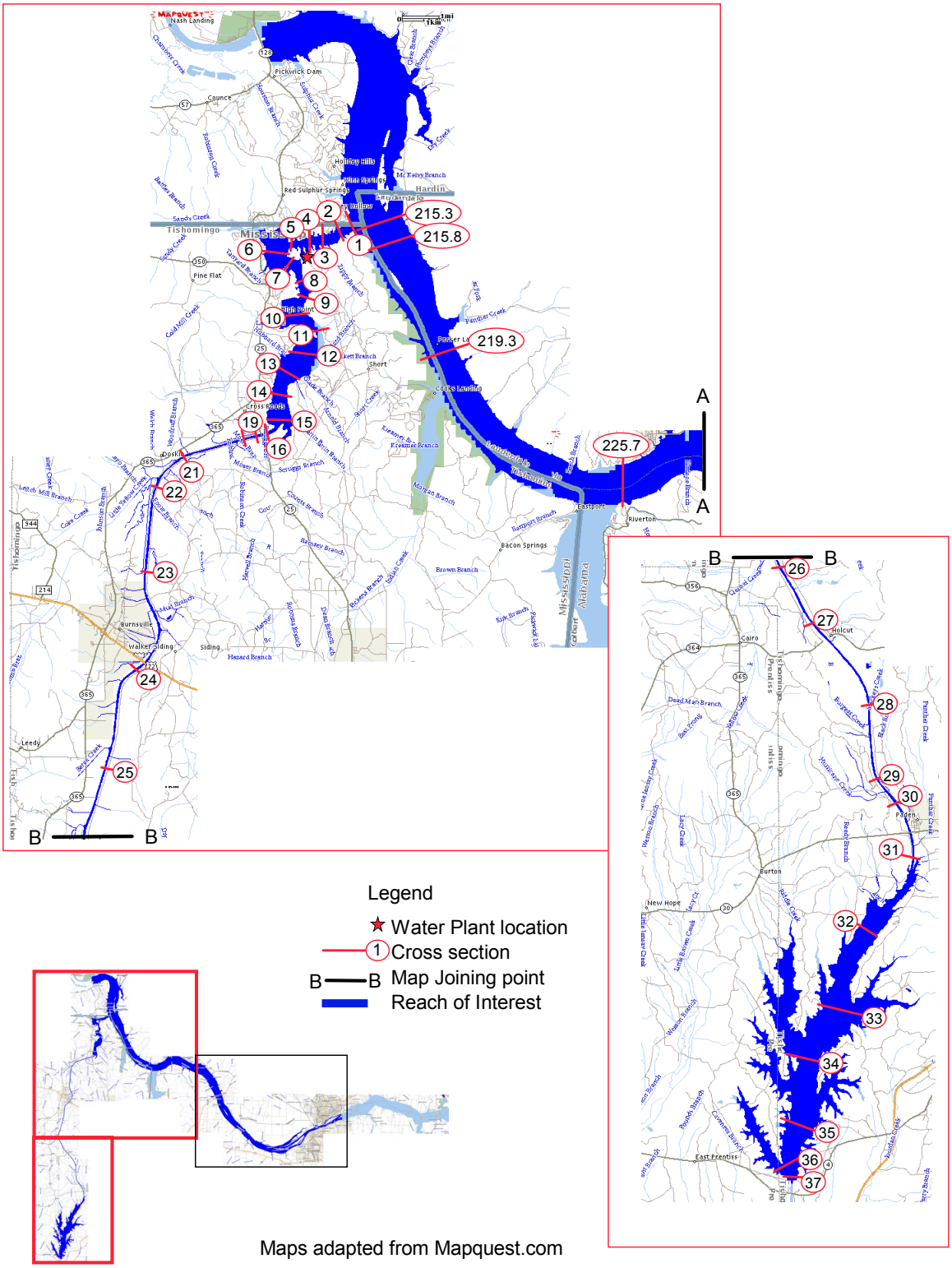

Figure 8. Study Area Location map – Lower Pickwick and Upper Tenn-Tom Waterway

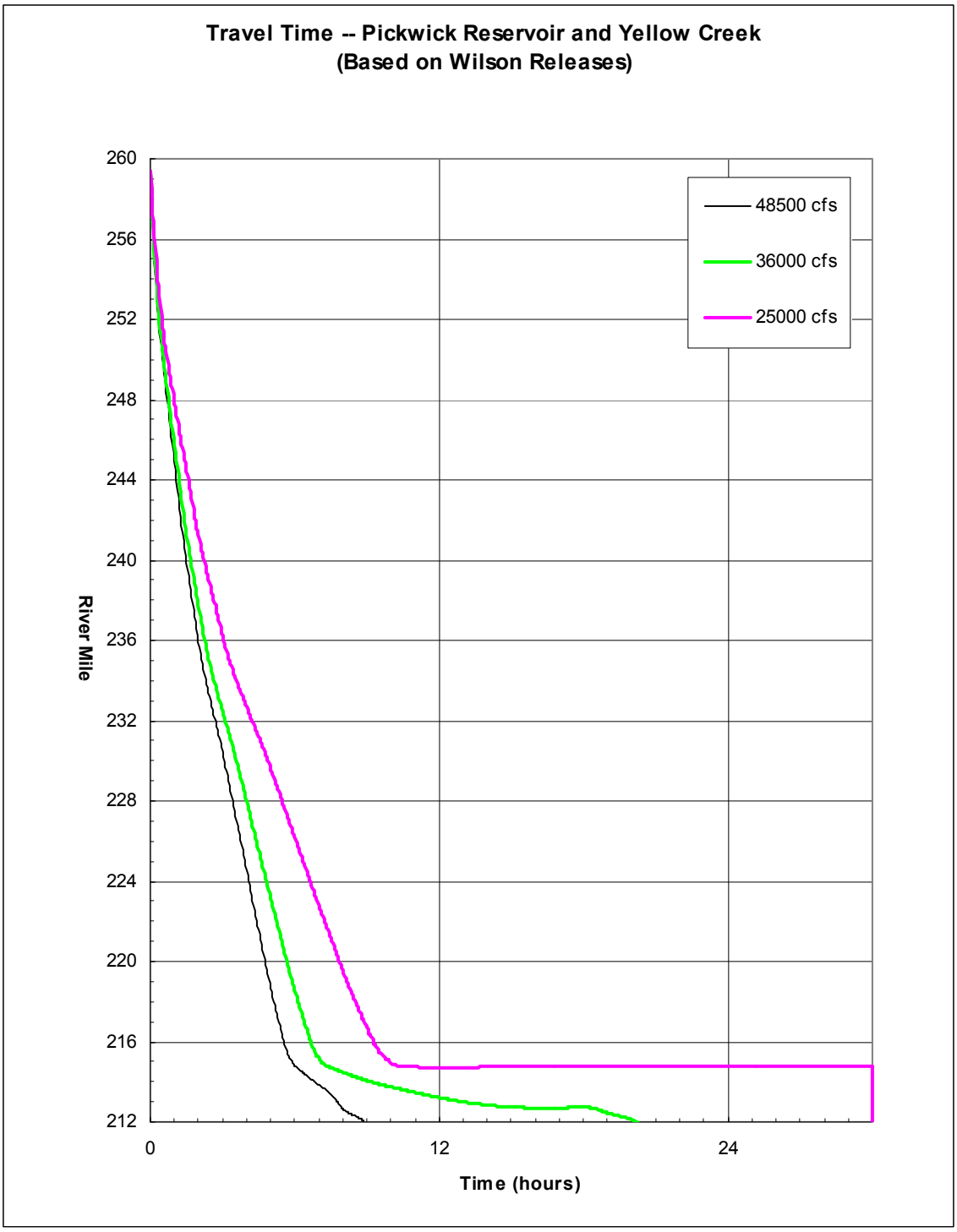

Figure 9. Pickwick/Tenn-Tom Waterway Travel Time Estimation Chart

The following example illustrates the procedure using Figures 7, 8, and 9.

EXAMPLE TRAVEL TIME CALCULATION: An oil spill occurs at the Sheffield dock, which is at TRM 253.8, at 0730 hours on 6/01/2004.

From TVA you find out that the expected daily average dam release at Wilson on that date is 34000 cfs, which is fairly close to the 36000 cfs line. Figure 9 is labeled based on discharge values at Wilson Dam. According to Figure 9, the corresponding time to TRM 253.8 is approximately 0.3 hours. The corresponding time to the Yellow Creek water intake (mile 213.1 if Tennessee River miles are carried down Yellow Creek) is 13.3 hours. Water travel time to the Yellow Creek water intake (mile 213.1 if Tennessee River miles are carried down Yellow Creek) using the 36000 cfs line = (13.3 hours-0.3 hours) = 13 hours after the spill occurred.

NOTE that the model results are VERY dependent on the elevation difference between Bay Springs and Pickwick reservoirs are. The chart below assumes the elevation difference is negligible for the low flow scenario; therefore for the low flow scenario presented in the chart below, the spill will not reach the water intake because the line levels off to horizontal before reaching the river mile of the intake.

Because of the complex relationship between the Tennessee River and the Tenn-Tom waterway, if a spill were to occur and there were concern over contaminants reaching Yellow Creek, TVA should be contacted and the model should be run with real-time data. If there is no elevation difference between Pickwick and Bay Springs, or if the elevation at Bay Springs is greater than it is at Pickwick, there should be no flow-based transport of a contaminant to the Yellow Creek water intake.

A complete description of the methodology used to produce the above calculation is presented in the accompanying report, *Determination of Contaminant Travel Time on Pickwick Reservoir and Yellow Creek Embayment/Upper Tennessee-Tombigbee Waterway.*

SOURCES OF INFORMATION

Mississippi Department of Environmental Quality – Office of Pollution Control, State of Mississippi Water Quality Criteria for Intrastate, Interstate and Coastal Waters. Jackson, Mississippi: 1995.

USDA, 1997 Census of Agriculture, Volume 1 Geographic Area Series, "Table 1. County Summary Highlights: 1997."

USDA, National Agricultural Statistics Service, Agricultural Statistics 2003. United States Government Printing Office, Washington: 2003.

USDA, National Agricultural Statistics Service, Agricultural Chemical Usage – 1998 Field Crops Summary. United States Government Printing Office, Washington: 1999.

USDA, National Agricultural Statistics Service, Agricultural Chemical Usage – 2001 Field Crops Summary. United States Government Printing Office, Washington: 2002.

USDA, National Agricultural Statistics Service, Agricultural Chemical Usage – 2002 Field Crops Summary. United States Government Printing Office, Washington: 2003.

USDA, Soil Conservation Service, Soil Survey of Tishomingo County, Mississippi. 1980.

INTERNET SOURCES OF INFORMATION

http://www.rtknet.org/rtkdata.html

http://www.deq.state.ms.us

http://www.epa.gov/enviro/index_java.html

Appendix A

Potential Sources of Contamination

Water Quality and Water Supply Intake Information

List of Acronyms

AST	Aboveground Storage Tank
BRS	Biennial Reporting System
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Act Information System
CESQG	Conditionally Exempt Small Quantity Generator
NPDES	National Pollution Discharge Elimination System
NPL	National Priorities List
RCRA	Resource Conservation and Recovery Act
SIC	Standard Industrial Code
SQG	Small Quantity Generator
TRI	Toxic Release Inventory
UST	Underground Storage Tank

Sources of Information

All information obtained for the Iuka, MS region in the source water assessment supplement project has been provided by the Mississippi Department of Environmental Quality; the Tennessee Valley Authority; Envirofacts, an Internet-accessed Environmental Protection Agency database, which provides the public with direct access to environmental information; and the Community Right-to-Know Act database, which is administered by the Office of Management and Budget (OMB) and the Unison Institute. The Internet addresses for these databases are listed on page 27 of this report.

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Site	Distance from Intake	Description	Page
1	Intake	Short Coleman Surface Water Treatment Plant/Pickwick Intake	A-4
2	0.06 miles	Boat Ramp (Nearest Intake)	A-5
3	0.14 miles	Marine Fleeting	A-6
4	0.19 miles	Marine Fleeting	A-7
5	0.61 miles	Mississippi Department of Economic and Community Development	A-8
6	0.63 miles	Short Coleman Surface Water Treatment Plant	A-9
7	0.63 miles	Mooring Cell	A-10
8	0.63 miles	Mooring Cell	A-11
9	0.64 miles	Mooring Cell	A-12
10	0.65 miles	Mooring Cell	A-13
11	0.74 miles	Mooring Cell	A-14
12	0.76 miles	Mooring Cell	A-15
13	0.79 miles	Mooring Cell	A-16
14	0.82 miles	Mooring Cell	A-17
15	0.83 miles	Ergon Terminaling Incorporated, Yellow Creek	A-18
16	0.90 miles	Marine Fleeting	A-19
17	1.03 miles	Marine Fleeting	A-20
18	1.18 miles	Grand Harbor Condominium and Marina	A-21
19	1.23 miles	Marine Fleeting	A-22
20	1.33 miles	Marine Fleeting	A-23
21	1.50 miles	Lee Spry Marine	A-24
22	1.60 miles	Aqua Yacht Harbor Incorporated	A-25
23	1.74 miles	Boat Ramp (Nearest Sportsman One Stop)	A-26

INDEX TO APPENDIX A (CONTINUED)

Site	Distance from Intake	Description	Page
24	1.83 miles	Spring Creek Bridge	A-27
25	1.87 miles	Sportsman's One Stop	A-28
26	2.06 miles	Goat Island Boat Ramp	A-29
27	2.35 miles	Barge Loading/Unloading	A-30
28	2.65 miles	Water Way Incorporated	A-31
29	2.95 miles	Barge Loading/Unloading	A-32
30	3.04 miles	Otha's Quick Stop	A-33
31	3.80 miles	Pickwick Pines Resort Incorporated	A-34
32	4.08 miles	Alliant Southern Composites, LLC	A-35
33	5.13 miles	Scruggs Boat Ramp	A-36
34	5.24 miles	Hwy 25 Bridge	A-37

Site: 1

Intake

Distance from Intake: 0.0 miles
Latitude: 34.81393
Longitude: -88.20361
Address: NA
City: Iuka
State: MS
Zip: 38852
County: Tishomingo
Telephone: (662) 423-2715
Contact: Travis Kitchens
Title: Treatment Plant Operator

NA - Not Applicable

Site: 2

Boat Ramp (Nearest Intake)

Miscellaneous

Distance from Intake: 0.06
Latitude: 34.98300
Longitude: -88.22789
Address: Near Intake
City: NA
State: MS
Zip: NA
County: Tishomingo
Telephone: NA
Contact: NA
Title: NA

NA - Not Applicable

Site: 3

Fleeting Area

Miscellaneous

Distance from Intake: 0.14 miles
Latitude: 34.98201
Longitude: -88.23109
Address: NA
City: Iuka
State: MS
Zip: 38852
County: Tishomingo

NA - Not Applicable

Note: According to the "Tennessee River Navigation Charts," these fleeting areas are run by McDonald Marine and are to only be three barges wide. However, during field inspection it was noted that barges were 4 wide. These barges are tied together to the barge nearest the shore which is tied off with large rope/chain to trees on the banks.

Site: 4

Fleeting Area

Miscellaneous

Distance from Intake: 0.19 miles
Latitude: 34.98239
Longitude: -88.23267
Address: NA
City: Iuka
State: MS
Zip: 38852
County: Tishomingo

NA - Not Applicable

Note: According to the "Tennessee River Navigation Charts," these fleeting areas are run by McDonald Marine and are to only be three barges wide. However, during field inspection it was noted that barges were 4 wide. These barges are tied together to the barge nearest the shore which is tied off with large rope/chain to trees on the banks.

Site: 5

Mississippi Department of Economic and Community Development Yellow Creek Facility*

Facility

Distance from Intake: 0.61 miles
Latitude: 34.97580
Longitude: -88.23977
Address: 43 County Road 370
City: Iuka
State: MS
Zip: 38852
County: Tishomingo
Telephone: (662) 423-7032
Contact: Arlie South
Title: Cognizant Official
SIC: 4952
Type of Facility: Sewerage Systems
FRS ID: 110008501291
NPDES: MS0044954
Number of Outfalls: 5
Permitted Contaminants: DO, BOD, pH, TSS, TRCl, Fecal Coliform, Sludge Settleability

Toxic Release Inventory (TRI) Information

TRI ID: NA

Hazardous Waste Facilities (RCRA, BRS) Information

Hazardous Waste Handler ID: NA

Comprehensive Environmental Response, Compensation, and Liability Act "Super Fund" Information (CERCLIS)

CERCLIS: NA
NPL Status: NA

NA - Not Applicable
*Barge-rail-truck terminal with industrial sites and loading docks: 420-ft. concrete loading dock with 1000 ft. of mooring and handling space, and a secondary concrete paved cellular pad. 200-ton and 150-ton capacity cranes, forklifts with a capacity of up to 80,000 lbs. with fork or ram. Amenities: 900-acre industrial park, six acres paved outdoor storage with two 20,000 and
15,000-sq.-ft. humidity controlled indoor/outdoor warehouses. Two 25-ton overhead cranes. Certified truck scales. Heavy-gauge steel processing slitting, leveling and cut to length.

Site: 6

Short Coleman Surface Water Treatment Plant

Facility

Distance from Intake: 0.63 miles
Latitude: 34.97407
Longitude: -88.21792
Address: 801 County Road 989
City: Iuka
State: MS
Zip: 38852
County: Tishomingo
Telephone: (662) 423-2715
Contact: Travis Kitchens
Title: Treatment Plant Operator
SIC: 4941
Type of Facility: Water Supply
FRS ID: 110011052216
NPDES: MS0049751
Number of Outfalls: 1
Permitted Contaminants: Total Recoverable Aluminum, Total Residual Chlorine, Total Recoverable Iron, pH, Total Dissolved Solids, Total Suspended Solids

Toxic Release Inventory (TRI) Information

TRI ID: NA

Hazardous Waste Facilities (RCRA, BRS) Information

Hazardous Waste Handler ID: NA

Comprehensive Environmental Response, Compensation, and Liability Act "Super Fund" Information (CERCLIS)

CERCLIS: NA
NPL Status: NA

NA - Not Applicable

Site: 7

Mooring Cell

Miscellaneous

Distance from Intake: 0.63 miles
Latitude: 34.97921
Longitude: -88.23555
Address: NA
City: Iuka
State: MS
Zip: 38852
County: Tishomingo

NA - Not Applicable

Site: 8

Mooring Cell

Miscellaneous

Distance from Intake: 0.63 miles
Latitude: 34.97898
Longitude: -88.23539
Address: NA
City: Iuka
State: MS
Zip: 38852
County: Tishomingo

NA - Not Applicable

Site: 9

Mooring Cell

Miscellaneous

Distance from Intake: 0.64 miles
Latitude: 34.97858
Longitude: -88.23552
Address: NA
City: Iuka
State: MS
Zip: 38852
County: Tishomingo

NA - Not Applicable

Site: 10

Mooring Cell

Miscellaneous

Distance from Intake: 0.65 miles
Latitude: 34.97876
Longitude: -88.23545
Address: NA
City: Iuka
State: MS
Zip: 38852
County: Tishomingo

NA - Not Applicable

Site: 11

Mooring Cell

Miscellaneous

Distance from Intake: 0.74 miles
Latitude: 34.97692
Longitude: -88.23628
Address: NA
City: Iuka
State: MS
Zip: 38852
County: Tishomingo

NA - Not Applicable

Site: 12

Mooring Cell

Miscellaneous

Distance from Intake: 0.76 miles
Latitude: 34.97670
Longitude: -88.23643
Address: NA
City: Iuka
State: MS
Zip: 38852
County: Tishomingo

NA - Not Applicable

Site: 13

Mooring Cell

Miscellaneous

Distance from Intake: 0.79 miles
Latitude: 34.97879
Longitude: -88.23751
Address: NA
City: Iuka
State: MS
Zip: 38852
County: Tishomingo

NA - Not Applicable

Site: 14

Mooring Cell

Miscellaneous

Distance from Intake: 0.82 miles
Latitude: 34.97849
Longitude: -88.23818
Address: NA
City: Iuka
State: MS
Zip: 38852
County: Tishomingo

NA - Not Applicable

Site: 15

Ergon Terminaling Incorporated, Yellow Creek

Facility

Distance from Intake: 0.83 miles
Latitude: 34.97750
Longitude: -88.23833
Address: 35 County Road 370
City: Iuka
State: MS
Zip: 38852
County: Tishomingo
Telephone: (601) 933-3123
Contact: Jake Neihaus
Title: Cognizant Official
SIC: 5171
Type of Facility: Petroleum Bulk Stations and Terminals
FRS ID: 110002205952
NPDES: MS0034193
Number of Outfalls: 4
Permitted Contaminants: pH, Total Suspended Solids, Oil & Grease

Toxic Release Inventory (TRI) Information

TRI ID: NA

Hazardous Waste Facilities (RCRA, BRS) Information

Hazardous Waste Handler ID: NA
Hazardous Waste Handler Type: NA

Comprehensive Environmental Response, Compensation, and Liability Act "Super Fund" Information (CERCLIS)

CERCLIS: NA
NPL Status: NA

NA - Not Applicable

Site: 16

Fleeting Area

Miscellaneous

Distance from Intake: 0.90 miles
Latitude: 34.97325
Longitude: -88.22742
Address: NA
City: Iuka
State: MS
Zip: 38852
County: Tishomingo

NA - Not Applicable

Note: According to the "Tennessee River Navigation Charts," these fleeting areas are run by McDonald Marine and are to only be three barges wide. However, during field inspection it was noted that barges were 4 wide. These barges are tied together to the barge nearest the shore which is tied off with large rope/chain to trees on the banks.

Site: 17

Fleeting Area

Miscellaneous

Distance from Intake: 1.03 miles
Latitude: 34.97207
Longitude: -88.22599
Address: NA
City: Iuka
State: MS
Zip: 38852
County: Tishomingo

NA - Not Applicable

Note: According to the "Tennessee River Navigation Charts," these fleeting areas are run by McDonald Marine and are to only be three barges wide. However, during field inspection it was noted that barges were 4 wide. These barges are tied together to the barge nearest the shore which is tied off with large rope/chain to trees on the banks.

Site: 18

Grand Harbor Condominium and Marina

Facility

Distance from Intake: 1.18 miles
Latitude: 34.99203
Longitude: -88.21376
Address: 325 CR 380
City: Iuka
State: MS
Zip: 38852
County: Tishomingo
Telephone: (731) 689-5272
Contact: Paul Callins
Title: Cognizant Official
SIC: 6513
Type of Facility: Operators of Apartment Buildings
FRS ID: 110008520582
NPDES: MS0052795
Number of Outfalls: 4
Permitted Contaminants: DO, BOD, pH, TSS, Chlorine, Fecal Coliform, Sludge Settleability

Toxic Release Inventory (TRI) Information

TRI ID: NA

Hazardous Waste Facilities (RCRA, BRS) Information

Hazardous Waste Handler ID: NA

Comprehensive Environmental Response, Compensation, and Liability Act "Super Fund" Information (CERCLIS)

CERCLIS: NA
NPL Status: NA

NA - Not Applicable

Site: 19

Fleeting Area

Miscellaneous

Distance from Intake: 1.23 miles
Latitude: 34.96869
Longitude: -88.22522
Address: NA
City: Iuka
State: MS
Zip: 38852
County: Tishomingo

NA - Not Applicable

Note: According to the "Tennessee River Navigation Charts," these fleeting areas are run by McDonald Marine and are to only be three barges wide. However, during field inspection it was noted that barges were 4 wide. These barges are tied together to the barge nearest the shore which is tied off with large rope/chain to trees on the banks.

Site: 20

Fleeting Area

Miscellaneous

Distance from Intake: 1.33 miles
Latitude: 34.96609
Longitude: -88.22667
Address: NA
City: Iuka
State: MS
Zip: 38852
County: Tishomingo

NA - Not Applicable

Note: According to the "Tennessee River Navigation Charts," these fleeting areas are run by McDonald Marine and are to only be three barges wide. However, during field inspection it was noted that barges were 4 wide. These barges are tied together to the barge nearest the shore which is tied off with large rope/chain to trees on the banks.

Site: 21

Lee Spry Marine

Facility

Distance from Intake: 1.5 miles
Latitude: 34.96883
Longitude: -88.23281
Address: 89 County Road 351
City: Iuka
State: MS
Zip: 38852
County: Tishomingo
Telephone: (662) 424-9577
Contact: Lee Spry
Title: Cognizant Official
SIC: 3732
Type of Facility: Boat Building and Repairing
FRS ID: 110002464547
NPDES: MS0052132
Number of Outfalls: 2
Permitted Contaminants: pH, Total Suspended Solids, BOD, Oil & Grease, Total Nitrogen

Toxic Release Inventory (TRI) Information

TRI ID: NA

Hazardous Waste Facilities (RCRA, BRS) Information

Hazardous Waste Handler ID: MSR000001032

Comprehensive Environmental Response, Compensation, and Liability Act "Super Fund" Information (CERCLIS)

CERCLIS: NA
NPL Status: NA

NA - Not Applicable

Site: 22

Aqua Yacht Harbor Incorporated

Facility

Distance from Intake: 1.60 miles
Latitude: 34.98911
Longitude: -88.25106
Address: 3832 Highway 25 North
City: Iuka
State: MS
Zip: 38852
County: Tishomingo
Telephone: (662) 423-2222
Contact: Rodney Vanhoose
Title: Cognizant Official
SIC: 4493
Type of Facility: Marina
FRS ID: 110008521796
NPDES: MSU089022 and MSG120058
Number of Outfalls: 1
Permitted Contaminants: pH, Total Recoverable Lead, Oil & Grease, Benzene

Toxic Release Inventory (TRI) Information

TRI ID: NA

Hazardous Waste Facilities (RCRA, BRS) Information

Hazardous Waste Handler ID: NA
Hazardous Waste Handler Type: NA

Comprehensive Environmental Response, Compensation, and Liability Act "Super Fund" Information (CERCLIS)

CERCLIS: NA
NPL Status: NA

NA - Not Applicable

Site: 23

Boat Ramp (Nearest Sportsman One Stop)

Miscellaneous

Distance from Intake: 1.74 miles
Latitude: 34.99583
Longitude: -88.24977
Address: Mississippi/Tennessee State Line off Highway 25
City: Counce
State: TN
Zip: 38326
County: Harden

NA - Not Applicable

Site: 24

Spring Creek Bridge

Bridge

Distance from Intake: 1.83 miles
Latitude: 34.9930
Longitude: -88.2520
Address: Highway 25 over Spring Creek
City: Iuka
State: MS
Zip: 38852
County: Tishomingo
Telephone: (662) 423-9104
Contact: Dean McRae Engineering, Inc.
Title: County Engineer

NA - Not Applicable

Site: 25

Sportsman One Stop

Storage Tank

Distance from Intake: 1.87 miles
Latitude: 34.99795
Longitude: -88.25068
Address: 12935 Highway 57
City: Counce
State: TN
Zip: 38326
County: Hardin
Telephone: (731) 689-3737
Contact: Unknown
Title: Manager

Storage Tank Information

Tank Type: UST
Number of Regulated Tanks (UST): 3
Number of Tanks (AST): 0
Potential Contaminants: Gasoline
Facility Sequence Number: NA
SIC: 5411
Type of Facility: Convenience Store

NA - Not Applicable

Site: 26

Goat Island Boat Ramp

Miscellaneous

Distance from Intake: 2.06 miles
Latitude: 34.95605
Longitude: -88.23032
Address: 99 County Road 346
City: Iuka
State: MS
Zip: 38852
County: Tishomingo

NA - Not Applicable

Site: 27

Barge Loading/Unloading Dock

Miscellaneous

Distance from Intake: 2.35 miles
Latitude: 34.95581
Longitude: -88.21960
Address: NA
City: Iuka
State: MS
Zip: 38852
County: Tishomingo

NA - Not Applicable

Site: 28

Water Way Incorporated

Facility

Distance from Intake: 2.65 miles
Latitude: 34.95703
Longitude: -88.20539
Address: 751 County Road 989
City: Iuka
State: MS
Zip: 38852
County: Tishomingo
Telephone: (662) 423-0081
Contact: Jim Shillito
Title: Public Contact
SIC: 3261, 3088, 3711, 2821, 3713
Type of Facility: Vitreous China Plumbin Fixtures and China and Earthenware Fittings and Bathroom Accessories (3261), Plastics Plumbing Fixtures (3088), Motor Vehicles and Passenger Car Bodies (3711), Plastics Materials, Synthetic Resins, and Nonvulcanized Elastomers (2821), and Truck and Bus Bodies (3713)
FRS ID: 110002342607

Toxic Release Inventory (TRI) Information

TRI ID: 38852WTRWY751CR

Hazardous Waste Facilities (RCRA, BRS) Information

Hazardous Waste Handler ID: MSR000005090

Comprehensive Environmental Response, Compensation, and Liability Act "Super Fund" Information (CERCLIS)

CERCLIS: NA
NPL Status: NA

NA - Not Applicable

Site: 29

Barge Loading/Unloading Dock

Miscellaneous

Distance from Intake: 2.95 miles
Latitude: 34.94617
Longitude: -88.21881
Address: NA
City: Iuka
State: MS
Zip: 38852
County: Tishomingo

NA - Not Applicable

Site: 30

Otha's Quick Stop

Storage Tank

Distance from Intake: 3.04 miles
Latitude: 34.96222
Longitude: -88.24687
Address: 3641 Highway 25 North
City: Iuka
State: MS
Zip: 38852
County: Tishomingo
Telephone: (662) 424-9502
Contact: Jeff Ward
Title: Owner

Storage Tank Information

Tank Type: AST
Number of Tanks: 5
Potential Contaminants: Gasoline and Diesel
Facility Sequence Number: NA
SIC: 5411
Type of Facility: Convenience Store

NA - Not Applicable

Site: 31

Pickwick Pines Resort Incorporated

Facility

Distance from Intake: 3.80 miles
Latitude: 34.98091
Longitude: -88.28138
Address: 472 Highway 350
City: Iuka
State: MS
Zip: 38852
County: Tishomingo
Telephone: (662) 424-9940
Contact: David McMeans
Title: Cognizant Official
SIC: 4952, 6552
Type of Facility: Sewerage Systems (4952), Land Subdividers and Developers, except Cemeteries (6552)
FRS ID: 11002748688
NPDES: MSU020140
Number of Outfalls: Unknown
Permitted Contaminants: Unknown

Toxic Release Inventory (TRI) Information

TRI ID: NA

Hazardous Waste Facilities (RCRA, BRS) Information

Hazardous Waste Handler ID: NA

Comprehensive Environmental Response, Compensation, and Liability Act "Super Fund" Information (CERCLIS)

CERCLIS: NA
NPL Status: NA

NA - Not Applicable

Site: 32

Alliant Southern Composites, LLC

Facility

Distance from Intake: 4.08 miles
Latitude: 34.95312
Longitude: -88.20291
Address: 751 County Road 989, Bldg 1000
City: Iuka
State: MS
Zip: 38852
County: Tishomingo
Telephone: (662) 423-7791
Contact: Lisa Johnson
Title: Regulatory Contact
SIC: 3769
Type of Facility: Guided Missile and Space Vehicle Parts and Auxiliary Equipment, Not Elsewhere Classified
FRS ID: 110002475553
NPDES: NA
Number of Outfalls: NA
Permitted Contaminants: NA

Toxic Release Inventory (TRI) Information

TRI ID: NA

Hazardous Waste Facilities (RCRA, BRS) Information

Hazardous Waste Handler ID: MSR000004820
Hazardous Waste Handler Type: SQG, Hazardous Waste Biennial Reporter

Comprehensive Environmental Response, Compensation, and Liability Act "Super Fund" Information (CERCLIS)

CERCLIS: NA
NPL Status: NA

NA - Not Applicable

Site: 33

Scruggs Bridge Boat Ramp

Miscellaneous

Distance from Intake: 5.13 miles
Latitude: 34.9169
Longitude: -88.24468
Address: Northeast of highway 25 Bridge over Tennessee Tombigbee Waterway
City: Iuka
State: MS
Zip: 38852
County: Tishomingo

NA - Not Applicable

Site: 34

Highway 25 Bridge

Bridge

Distance from Intake: 5.24 miles
Latitude: 34.9150
Longitude: -88.2480
Address: Highway 25 Tennessee Tombigbee Waterway
City: Iuka
State: MS
Zip: 38852
County: Tishomingo
Telephone: (662) 423-9104
Contact: Dean McRae Engineering, Inc.
Title: County Engineer

NA - Not Applicable

Appendix B

Agriculture – Tishomingo County

AGRICULTURE TISHOMINGO COUNTY (2002 CENSUS OF AGRICULTURE)

- Land in Farms (acres) 52,546
  - Land in Woodland (acres) 25,621
  - Total Cropland (acres) 18,759
  - Pasture (acres) 6,258

Crops	Livestock	Poultry
Corn	Beef Cows	Layers and Pullets
Cotton	Hogs and Pigs	Broilers
Hay/Alfalfa	Sheep and Lambs	
Soybeans	Horses and Ponies	

AGRICULTURAL CHEMICAL USAGE IN COUNTIES IN THE SWPA

The agricultural chemical usage estimates are based on data compiled by the National Agricultural Statistics Service from the 2002 field crops summary and the 1997 – 2003 agricultural statistics. The rates of chemical application were estimated from 1997 to 2003. The results that refer to on-farm use of herbicides and pesticides on the targeted crops of corn, wheat and hay are for the 1997 crop year. Upland cotton and soybeans are also included for rates of chemical use. Pesticide data were collected late in the growing season or after the farm operator had indicated that planned applications were completed.

AGRICULTURAL CHEMICAL USAGE BY CROP

Corn

In 1997, Atrazine was reported to be the most commonly used herbicide in 1997 with Nicosulruron and Glyphosate being the next two greatest applied herbicides to corn fields. In addition, Lambda-cyhalothrin was the most widely used insecticide to planted corn acreage at this time. Table 1 shows a complete list of herbicides and insecticides applied to Mississippi corn crops in 1997.

Upland Cotton

In 2007, 100 percent of upland cotton acreage in the state of Mississippi had herbicide applications, while 94 percent of this planted acreage also had insecticide applied. 17 percent of the area was also treated with fungicide, and 95 percent had some other type of chemical applied to it. Glyphosate was reported to be the most commonly used herbicide, while the acephate was the most widely used insecticide applied. Table 2 shows a complete list of treatments applied to Mississippi cotton crops in 2003.

Hay/Alfalfa

Across Mississippi 648,809 acres of hay/alfalfa was planted. Seven percent of hay/alfalfa growers used the herbicide 2,4-D. This was the most widely used herbicide

with 7 percent of acres being treated. The most common used insecticide was carbaryl. A complete list of chemicals applied in 1997 to hay and alfalfa crops in the state of Mississippi is displayed in Table 3.

Soybeans

An average of 99 percent of Mississippi soybean fields had herbicide applied to it in 2000, with five percent also treated with insecticides. Less than one percent of the soybean acreage had fungicides applied to it. The most widely applied herbicide, by far, is glyphosate, which was applied to 78 percent of the acreage. A complete listing of herbicides, insecticides and fungicides used in the state of Mississippi is listed in Table 4.

Active Ingredients - Corn

Herbicides:	Insecticides:
2,4-D	Carbaryl
Acetochlor	Carbofuran
Atrazine	Chlorpyrifos
Bromoxynil	Esfenvalerate
Cyanazine	Lambda-cyhalothrin
Dicamba	Methomyl
Dimethenamid	Methyl parathion
Flumetsulam	Permethrin
Glyphosate	Phorate
Imazethapyr	Tefluthrin
Metolachlor	Terbufos
Nicosulfuron	
Paraquat	
Pendimethalin	
Primisulfuron	
Prosulfuron	

Table 1. List of Herbicides, Insecticides and Fungicides Used to Treat Corn Crops, Mississippi, 1997

Active Ingredients - Cotton

Herbicides:	Insecticides:	Fungicides:
2,4-D	Acephate	Etridiazole
Carfentrazone-ethyl	Acetamiprid	Mefenoxam
Cyanazine	Aldicarb	Metalaxyl
Diuron	Cyfluthrin	PCNB
Fluometuron	Cypermethrin	
Glyphosate	Dicrotophos	Other Chemicals:
Linuron	Esfenvalerate	Bacillus cereus
MSMA	Imidacloprid	Cyclanilide
Norflurazon	Indoxacarb	Ethephon
Pendimethalin	Lambda-cyhalothrin	Mepiquat chloride
Prometryn	Malathion	Paraquat
Pyrithiobac-sodium	Triamethoxam	Sodium chlorate
Trifluralin	Zeta-cypermethrin	Thidiazuron
		Tribufos

Table 2. List of Herbicides, Insecticides and Fungicides Used to Treat Upland Cotton Crops, Mississippi, 2007

Active Ingredients - Hay/Alfalfa	
Herbicides:	**Insecticides:**
2,4-D	**Carbaryl**
Dicamba	**Malathion**
Glyphosate	

Table 3. List of Herbicides, Insecticides and Fungicides Used to Treat Hay/Alfalfa Crops, Mississippi, 1997

Active Ingredients - Soybean		
Herbicides:	**Insecticides:**	**Fungicides:**
2,4-D	**Benzoic acid**	**Azoxystrobin**
Acifluorfen	**Lambda-cyhalothrin**	
Chlorimuron-ethyl	**Methyl parathion**	
Cloransulam-methyl		
Glyphosate		
Imazaquin		
Pendimethalin		
Trifluralin		

Table 4. List of Herbicides, Insecticides and Fungicides Used to Treat Soybean Crops, Mississippi, 2002

Appendix C

Documentation and Instructions

ArcView Compact Disc

Media Disk Contents

File Folder: Delivery For SWA

ArcMap Project: FinalMap.mxd

This project uses ArcMap version 9.2.
Any person wishing to manipulate the data should first move the entire file folder to the C drive on their computer.

To open the project, select and open FinalMap.mxd.

Geodatabase Contents:

Feature Classes
WaterIntake
FinalSites*
Livestock_Clip
WaterCrossings_Clip
Septic
BuffOutline_Clip
Roads_Clip
milestreams
EntireStudyArea
LULC_Clip1

Raster Datasets
24KDRG

**Sites selection layer (visible in the Table of Contents in the .mxd file) exists as layer only for map production. Any analysis should be done on the FinalSites feature class only.*

Documents sub-folder:

Maps (Full size, .tif format)

FinalMap.tif "SWPA for Short Coleman Surface Water Treatment Plant – Yellow Creek"

RefMap.tif "Area of the Pickwick Watershed Upstream and Downstream of the Yellow Creek Water Intake"

Miscellaneous Data

SiteTable11_10_08.xls Excel spreadsheet containing each site as well as intake informatio