

Summary of Comments and Responses for the 2008 305(b)/303(d) List of Waters

(Input from the public provided to EPD during the public notice comment period for the draft 2008 List of Waters and through oral and written comments received from attendees at the three public meetings held in Atlanta, Rome and Midway, Georgia in February, 2008).

Comments/Questions Regarding Fish Tissue

Comment: Some of the fish tissue data used for assessment of waters is old. Why are fish tissue samples not taken more frequently?

Response: Collecting fish and analyzing fish tissue for environmental contaminants is a very expensive process. EPD has an annual budget of \$30,000 per year for conducting fish tissue analysis across the State. EPD has been able to reduce the cost of gathering fish tissue data by utilizing the Georgia Department of Natural Resources' Wildlife Resources Division and Coastal Resources Division to conduct the fish collection portion of the task. The use of other State programs to collect the fish to be analyzed allows EPD to use more of its budget towards the laboratory analysis of the fish tissue rather than having to spend a large portion of it on collection of fish. It is also important to understand that contaminant levels in fish change very slowly over time. Therefore, it is not as important for fish tissue samples to be taken as frequently as other parameters that can change rapidly in a short period of time.

Comment: Does EPD have a list of streams that people should not eat fish from?

Response: Each year EPD prints a booklet entitled "Guidelines for Eating Fish From Georgia Waters". These guidelines are not intended to discourage people from eating fish, but should be used as a guide for choosing which type (species) and size of fish to eat from Georgia waters. The guidelines are non-binding recommendations EPD determines based on the body of water a fish comes from, the species of fish and the amount of fish a person consumes.

Georgia has more than 70,150 miles of rivers and streams and more than 425,382 acres of lakes, reservoirs and ponds, so it is not possible for the Department of Natural Resources (DNR) to sample every stream and lake in the State. However, high priority has been placed on the 26 major reservoirs that make up more than 90% of the total lake acreage. The Department has also made sampling fish in rivers and streams downstream of urban and/or industrial areas a high priority. The DNR also focuses attention on areas frequented by a large number of anglers.

Comment: Georgia has failed to use the best available science and disregarded EPA guidance in developing its List of Waters by relying on a default fish intake rate that underestimates the risk to its residents who consume fish from the Middle Savannah while ignoring relevant published regional fish consumption rates. Georgia should use the published higher fish consumption rates and modify the current human health standard, as the current standard is under protective.

Response: Georgia worked with EPA Region 4 to develop a protocol utilizing the EPA 2001 National Human Health Water Quality Criterion for Methylmercury in fish tissue to assess mercury tissue residue data in October 2001. The protocol was used to assess fish tissue mercury data in the 2002 303(d) List of Impaired Waters, and was formally adopted as a human health water quality standard in December 2002. The Georgia assessment protocol utilizes the EPA national general population fish intake rate of 17.5 grams per day in trophic-weighted calculations of mercury data, with the fish tissue standard set at 0.3 µg/g. Any alternate assessment method of mercury data and the human health standard for mercury in fish tissue would require amendment of the Georgia Rules For Water Quality Control, such as during the triennial review of standards.

The 1997 consumption survey of fishers on the Savannah River from New Savannah Bluff Lock and Dam to Hwy. 301, and the subsequent published papers reporting the findings were cited in the comments for the recommended site-specific daily fish intake rates (J. Burger et.al., 1999, 2001), and lower human health standard. Over the period of April-November on 54 varying days at different locations, 258 bank-side and boating fishers were interviewed. Georgia reviewed this study of local fish consumption patterns on the middle Savannah River, as well as other available sources of Georgia fishery-utilization data (DNR-WRD creel surveys), during the standard adoption process. The available information was not judged to be sufficient to develop alternate statewide, watershed-based or regional daily fish intake rates specific for Georgia.

Comment: Georgia did not use all available data sources in calculating fish tissue concentrations of mercury in the Savannah River.

Response: The mercury residue data utilized in the Savannah River assessment was Georgia DNR and EPA data only. Georgia and the South Carolina Department of Health and Environmental Control (SCDHEC) have communicated on recommended advisories for the Savannah, reaching comparable recommendations, but have infrequently exchanged numeric residue data. Since DNR and SCDHEC have comparable consumption frequency triggers and past data have been comparable, obtaining and incorporating SCDHEC in the Georgia trophic-weighted assessment calculations has not been pursued. The SCDHEC data are quality assured (Water Quality Rules, "Acceptance of Data"), and Georgia will pursue obtaining these data for shared

waters in Savannah River basin for subsequent assessments. Georgia will also investigate the Department of Energy – Savannah River Site dataset on the mainstem Savannah and utilize it in future assessments should it meet the quality assurance requirements. The data submitted by the Savannah RiverKeeper were utilized for screening as they did not meet the “Acceptance of Data” requirements for utilization in assessment calculations.

Comment: South Carolina has listed the Middle Savannah River, as well as other Savannah lakes and segments, as impaired for mercury in fish tissue. EPD should have considered this fact in its assessment.

Response: The SCDHEC 303(d) assessment methodology for assessing impairment based on fish contaminants does not use a numeric data calculation as Georgia does. A waterbody is listed as impaired by SCDHEC whenever any restricted consumption is recommended in their consumption advisories. Prior to the Georgia 2002 303(d) List when an alternate method was adopted, this assessment method was also used by Georgia. As a result, Savannah waterbodies that Georgia had previously listed as impaired were removed from the 2002 list, but remained on the SCDHEC list. The lowest restricted consumption recommendation used by both the SCDHEC and the Georgia DNR is one meal per week, with a comparable numeric trigger. As an example, Clarks Hill Lake (J. Strom Thurmond), is listed by SCDHEC as impaired for mercury in fish tissue as a result of a single restricted consumption advisory for largemouth bass over 16 inches. Largemouth bass under 16 inches, and 7 other species carry no restriction recommendations, as it does in Georgia.

Comments/Questions about Water Quality Standards

Comment: There were invalid assumptions made in the preparation of the Trophic-Weighted Residue (TWR) value numbers. Either the Georgia human health standard for mercury in fish should be lowered to afford more protection, or Georgia should assess a waterbody as impaired if any fish consumption warnings are present.

Response: See response above addressing Georgia’s work with the EPA to develop and adopt methylmercury standards. Although the numeric criteria are integral to the development of the 303(d) list, the public comment period for the draft 303(d) list is not the appropriate time for addressing concerns about criteria themselves. Comments regarding criteria are considered during the criteria adoption process itself and during triennial review when EPD reviews its water quality standards. EPD is obligated to use its current criteria when assessing State waters.

Comment: Does Georgia have many waters with more than one use?

Response: Chapter 391-3-6-.03(14) provides the use classifications for the Waters of the State of Georgia. If a water is not specifically named in this section of the Rules, then its use is “Fishing”. The vast majority of waters in the State have the use of “Fishing”. Very few waters have been assigned more than one use. The Chattooga River (Georgia-North Carolina State Line to Tugaloo Reservoir) and West Fork Chattooga River (Confluence of Overflow Creek and Clear Creek to confluence with Chattooga River) have dual uses of “Wild River” and “Scenic River”. The Chattahoochee River (Buford Dam to Peachtree Creek); the Chattahoochee River (Osanippa Creek to Columbus) and the Etowah River (Georgia Hwy 20 to Allatoona Dam) have dual uses of “Recreation” and “Drinking Water”.

Comment: What new standards can be expected in the near future?

Response: Georgia has already adopted nutrient criteria for a number of major lakes across the State. EPD is currently working to develop additional nutrient criteria for streams, lakes and estuaries. EPD will also be reevaluating the current dissolved oxygen criteria to ensure that they are appropriate for all areas of the State and to make changes as needed. In addition, EPD will reevaluate the bacteria criteria for the State and may adopt E. coli or Enterococci as an indicator organism instead of fecal coliform bacteria. Finally, EPD is planning to reevaluate and update the State’s water use classifications as part of the next Triennial Review process in 2010.

Comment: Does Georgia’s dissolved oxygen criteria account for depth and meteorological conditions (i.e. sun/clouds)?

Response: Chapter 391-3-6-.03(5)(g) states that the dissolved oxygen criteria are applicable at a depth of one meter below the water surface. If the depth of the water is less than 2 meters, then the dissolved oxygen criteria are applied at mid-depth.

The criteria do not account for meteorological conditions (sun vs. clouds). EPD is aware that the concentration of algae in a waterbody can impact the concentration of dissolved oxygen since algae will release oxygen during photosynthesis (which will be higher on sunny days) and will take up oxygen during respiration at night. This phenomena helps explain why a diurnal dissolved oxygen profile can be seen in some waters where concentrations are highest during the day and lowest early in the morning before sunrise. It is important to note; however, that the dissolved oxygen criteria provided in the Rules and Regulations for Water Quality Control establish minimum oxygen concentrations necessary to protect aquatic health as opposed to predicting what the concentration should be at any given time of day.

Comment: Does Georgia plan to establish a single numeric dissolved oxygen criterion?

Response: Georgia's Rules and Regulations establish dissolved oxygen criteria (for non-trout stream waters) of 5.0 mg/l as a daily average and 4.0 mg/l as an instantaneous minimum. However, Part 391-3-6-.03(7) of the Rules also recognizes that there are some areas of the State (particularly in South Georgia) where a waterbody may naturally have a lower dissolved oxygen concentration than this. The Rules further state that if low dissolved oxygen is a natural condition of a water then the water is not in violation of water quality standards. As discussed above, EPD is going to reevaluate its dissolved oxygen criteria. It is possible that this reevaluation will lead to the adoption of new numeric criteria for dissolved oxygen for certain parts of the State (such as in the slow moving waters of South Georgia). It is also possible that instead of adopting new numeric criteria, EPD will use or modify the existing language regarding natural water quality to better describe what natural dissolved oxygen concentrations are throughout the State.

Comment: EPD needs to adopt criteria for sediment. There are streams that are impaired biologically due to sediment, but they are not listed this way.

Response: EPD has a narrative criteria for turbidity in its Rules and Regulations for Water Quality Control in Chapter 391-3-6-.03(5)(d) that states that waters shall be free from turbidity that results in a substantial visual contrast in a water body due to a man-made activity. This rule is in place to help ensure that best management practices are in place to prevent excessive sediment from entering State Waters due to man's activities. Georgia has not listed any streams as impaired specifically due to sediment. Instead, EPD uses the health of the biological community in a water as a surrogate for excessive sediment and other conditions that could negatively impact the biological integrity of a water. These waters are included on the 305(b)/303(d) list of waters as "Bio F" for impairment of the fish community or "Bio M" for impairment of the macroinvertebrate community. EPD has typically written total maximum daily loads (TMDLs) for sediment when a water is assessed as impaired for "Bio F". The U.S. EPA wrote TMDLs for sediment for the waters in Georgia that it assessed as impaired for "Bio M" in the past.

Comments/Questions Regarding the Use of Data from Different Sources

Comment: How does EPD use data from various sources?

Response: EPD uses water quality data for a number of different purposes. Chapter 391-3-6-.03(13) of the Rules and Regulations for Water Quality Control states that if an individual or group wishes to submit data for listing assessment purposes, then that group or individual first needs to submit and receive approval of a sampling and quality assurance plan (SQAP). This requirement is in place to ensure that the data used for listing assessment purposes is of high quality. If data were collected by EPD, its contractors, or by someone under a SQAP, then

it can be used for listing assessment purposes. Data that are submitted that do not meet these qualifications can be used for other purposes. Some of these uses include 1) use in models developed by EPD for various purposes; 2) assist EPD in determining where future monitoring needs to be conducted; 3) assist EPD in determining the source of pollution.

Comment: There are other data that have been collected that EPD did not use in its assessment of waters.

Response: As discussed above, in order to be used for listing assessment purposes, data need to be collected under an approved SQAP. This is to ensure that the data used in the assessment is of high quality. Guidance for submitting a SQAP can be found on EPD's website at: http://www.gaepd.org/Files_PDF/techguide/wpb/SQAP-gwf_1.pdf. In addition, EPD can only include data in our assessment if we have access to it. EPD issues a public notice requesting data to be submitted for use in assessing State Waters in the development of the 305(b)/303(d) list of waters. This notice was issued on March 30, 2007 and data were to be submitted by June 30, 2007. This notice was either sent electronically or by mail to everyone on EPD's Water Rules mailing list. This list is sent to over 1,000 individuals including State and Federal Agencies and local governments; environmental groups, and others who have been asked to be placed on the notification list. If individuals want EPD to use their data for assessment purposes, then they need to be sure to provide it to us.

Comment: Is EPD confident that the data it will receive through implementation of the State-Wide Water Plan will be of consistent quality?

Response: Data collected by EPD or its contractors will be collected under a quality assurance plan that will ensure their quality. Data collected by outside groups that are to be used for listing assessment purposes will be collected under a Sampling and Quality Assurance Plan as described above. EPD will assess the quality of other data collected and will use it for various purposes, such as 1) use in models used by EPD for various purposes including criteria development; 2) assisting EPD in determining where future monitoring needs to be conducted; 3) assisting EPD in determining the source of pollution.

Comments/Questions Regarding the Listing of Specific Waterbodies

Comment: Burwell Creek and Little Dry Creek in the Coosa River Basin should be listed as impaired for fecal coliform bacteria based on data collected by the Coosa River Basin Initiative.

Response: EPD has reviewed the fecal coliform data submitted by the Coosa River Basin Initiative on February 28, 2008 for Burwell and Little Dry Creeks. It does not appear that the fecal coliform data provided to EPD was collected under

an approved SQAP and it will not be used for the 2008 305(b)/303(d) list. However, EPD will be happy to work with the Coosa River Basin Initiative to submit an approvable SQAP so that data collected can be used in future lists. Guidance for submitting a SQAP can be found on EPD's website at: http://www.gaepd.org/Files_PDF/techguide/wpb/SQAP-gwf_1.pdf. EPD can use the data that have already been submitted for screening purposes (i.e. to help us determine what bodies of water we may need to monitor in the future).

Comment: The Coosa River should not have been listed as being impaired for temperature. If EPD considers all available data between 2002-2007 then temperature is violated less than 10% of the time and should therefore have been assessed as Supporting.

Response: The majority of the physical/chemical water quality data that is used for assessment of Georgia's waters is collected at a frequency of once or twice a month. EPD may therefore have a total of 12 to 24 data points to assess at the end of a year of sampling. Georgia's Listing Assessment Methodology was written with this frequency in mind and it allows for a 10% excursion rate of the temperature criterion. The 10% excursion rate is included because it is recognized that certain parameters including dissolved oxygen, pH, bacteria, turbidity and water temperature, vary through a given period of time due to natural conditions and an occasional excursion of the criteria is not believed to cause an impairment of a water and its uses.

Use of continuous monitors greatly increases the amount of data that is available for assessment. For instance, in 2007, the continuous monitor located in the Coosa River at the State Line was set to take readings every hour. EPD has close to 8,000 temperature data points for this year. The availability of so much data allows EPD to have a clearer picture of what the water quality is at any given period of time. For instance, the continuous monitor at the State line showed that there were excursions of the temperature criteria every day in August of 2006 and 2007 (except for August 28, 2007). The continuous monitor data at the DNR State Dock near Rome also showed that there were excursions of the temperature criteria nearly every day in August 2006. Even though there may have been an excursion rate of less than 10% (if all the data from the last five years were evaluated), the fact that there were long continuous periods of time where the criterion was consistently exceeded (i.e. the month of August for several years) led EPD to use its best professional judgment to list the water as impaired for temperature.

Comments/Questions Regarding Total Maximum Daily Loads (TMDLs)

Comment: When will EPD finish its dissolved oxygen TMDL for the Coosa River?

Response: EPD is hoping to release its draft TMDL for dissolved oxygen for the Coosa River by June 30, 2008.

Comment: When EPD writes a TMDL, how many parameters does it cover?

Response: Most TMDLs address a single parameter. EPD typically writes TMDLs on a watershed or basin approach. For example, if there were 30 stream segments in the Chattahoochee River Basin that were impaired for fecal coliform bacteria, then EPD would write a single TMDL which would apply to all 30 streams. A waterbody can have more than one TMDL written for it. Therefore if a water were listed as impaired for fecal coliform bacteria and pH, there would be a TMDL written for fecal coliform bacteria and another one written for pH. There are cases where a TMDL will address more than one parameter. For instance, if a TMDL is written for low dissolved oxygen, it may address multiple causes for low dissolved oxygen including biochemical oxygen demand, nitrogen, phosphorus and temperature.

Comment: When will the Enterococci TMDLs be written for the beaches?

Response: The "Priority" column on the 305(b)/303(d) list of waters provides the year by which EPD plans to draft TMDLs. According to the information provided in this column, EPD plans to draft Enterococci TMDLs for beaches in the Ogeechee River Basin by 2014, in the Satilla River Basin by 2015, and in the Altamaha Basin by 2016. If resources allow, EPD will draft the TMDLs before these dates.

Questions/Comments Regarding the Listing Assessment Methodology

Comment: The minimum frequency measurement for metal and organic compounds should be higher than twice per year.

Response: EPD has a finite sampling budget and analysis of metals and organic compounds is expensive. If EPD were to require more frequent sampling for these parameters in order to make a listing assessment decision, then this would result in less money being available for sampling additional sites and/or additional parameters. Also, once EPD began using clean sampling and analytical techniques for metals, few waters have been identified as being impaired for metals. The organic priority pollutants are also rarely found in concentrations above their instream criteria. Therefore, it is prudent for EPD to use its limited monitoring budget to sample a larger number of waters and to concentrate on parameters that are more likely to be causing impairments than to require more frequent testing for metals and priority pollutants. In 2008, EPD placed waters into Category 3 if the priority pollutant data exceeded the criteria one time in a three-year period. Placement of a water in Category 3 will serve as a reminder that more data need to be collected to make a listing decision.

Comment: Four streams in the Coosa River Basin were assessed as no longer being impaired due to fecal coliform. How did EPD make this decision?

Response: EPD will remove fecal coliform as a cause of impairment if we receive new data that indicate that the fecal coliform bacteria concentrations are at or below the State criteria in accordance with the State's Listing Assessment Methodology. For instance, if only one year of new data is available, the Listing Assessment Methodology states that EPD may remove fecal coliform as a source of impairment if four consecutive geometric means are in compliance with water quality criteria and no exceedence of the winter maximum water quality criteria occur. If fewer than four geometric means were collected during the year (such as if a monitoring plan calls for less than a full year of data), GA EPD may consider a water eligible for delisting if there are at least two summer geometric means available for assessment that meet the criteria. If multiple consecutive years of new data are available, fecal coliform may be removed as a cause of impairment if 10% or fewer of the geometric means exceed the criteria.

Comments/Questions Regarding the Format of the List of Waters

Comment: EPD should consider adding a column of information to the list of waters that provides the dates of the data used to make the assessment. This way people will know whether the decision was made based on recent data or if it was based on old data (in which case the condition of the water may have changed since the data were taken).

Response: EPD acknowledges that this type of information could be useful to the public; however, it would also be labor intensive for the State to enter and maintain this type of information in its database. EPD will study the issue and determine whether it is feasible to include this information in the 2010 list. Even if EPD does not include this information in future lists, an individual or group may contact EPD to determine when data used to assess a specific water or group of waters were collected.

Comment: It would be helpful if electronic links to TMDLs were included in the 305(b)/303(d) list of waters.

Response: While the 305(b)/303(d) list of waters itself does not include electronic links to TMDLs, EPD does have electronic copies of the TMDLs organized by River Basin on its website at:

http://www.gaepd.org/Documents/techguide_wpb.html#tmdl

In addition, EPD also has a pdf document on its website that lists all the waters for which TMDLs have been completed. This list is also organized by River Basin and this document contains links to electronic copies of both the TMDL and the TMDL implementation plan. The web address for this documents is:

General Comments/Questions

Comment: What are the major issues with the waters in Northwest Georgia?

Response: Water impairments in Northwest Georgia include 1) high PCB concentrations in fish tissue in some waters in the Coosa River Basin including the Conasauga, Coosa, Coosawattee, Etowah, and Oostanaula Rivers; 2) low dissolved oxygen levels in the Coosa River at the State line; 3) high phosphorus levels in Lake Weiss and 4) numerous stream listings for fecal coliform bacteria.

Comment: What is the impact of a stream being placed on the 303(d) list?

Response: If a stream is on the 303(d) list, then a TMDL will be written for it. A TMDL is a calculation of the maximum amount of pollutant, from both point and non-point sources, that a waterbody can receive and still adhere to the minimum water quality standards developed by the State of Georgia. A TMDL implementation plan will also be written which will identify actions that can be taken to improve water quality and hopefully bring the water back into compliance with water quality standards.

Being on the 303(d) list also impacts permittees who discharge to a water on the list. NPDES permits for municipal and industrial wastewater treatment plants cannot allow for an increase in the permitted load of the pollutant of concern. In addition, industries that have an industrial stormwater permit are required to determine if their discharge is within one linear mile upstream of an impaired stream segment. If there is an impaired stream in the vicinity, then they are required to sample for the parameter of concern if it may be found in their stormwater. The Phase I and Phase 2 Municipal Separate Storm Sewer System Permits require municipalities to reduce the amount of the pollutant of concern in the stormwater once a TMDL is completed. Many municipalities are also required to conduct watershed assessments and to develop watershed protection plans as part of their wastewater treatment plant permits. The municipalities are strongly encouraged to sample impaired waters for the parameter of concern as part of the watershed assessment/protection plan process. Finally, under Section 319(h) of the Clean Water Act, grant funds are available for stream restoration and are distributed via a competitive process. Priority for awarding grants is given to projects that execute TMDL implementation plans and/or watershed management plans to address and/or alleviate the pollutant of concern on the 305(b)/303(d) list.

Comment: What is EPD doing about perfluorooctanoic acid (PFOA)?

Response: PFOA stands for perfluorooctanoic acid, a synthetic (man-made) chemical that does not occur naturally in the environment. Companies use PFOA to make fluoropolymers, substances with special properties that have thousands of important manufacturing and industrial applications. EPA began investigating PFOA because it is very persistent in the environment, it was being found at very low levels both in the environment and in the blood of the general U.S. population. PFOA is considered to be an emergent pollutant and little is known about its potential toxicity. EPD plans to conduct a study this year in the Coosa River Basin. Eight sites will be sampled three times on the Coosawattee, Oostanaula and Conasauga Rivers.

Comment: What other substances are we not looking for in water (emergent pollutants)?

Response: Research into emergent pollutants is typically conducted at the national level (U.S. EPA) or at Universities. Pharmaceuticals are currently receiving a lot of attention.

Comment: What type of additional monitoring may be accomplished under the Comprehensive Water Management Plan?

Response: EPD will be hiring additional personnel to implement the Statewide Comprehensive Water Management Plan. It is planned that a number of these workers will be sent to the District Offices in order to increase our ability to monitor State waters. EPD will also be conducting special projects along the Coast. One such project will be the design of estuary models to help the State determine what the natural dissolved oxygen concentration of these waters is.

Comment: Has EPD adopted the EPA Region IV sampling protocol?

Response: U.S. EPA Region IV does not have a surface water quality sampling protocol that States are required to adopt. Georgia EPD has developed a Quality Assurance Manual which has been submitted to U.S. EPA. It establishes sampling protocols and quality assurance measures to be used by our monitoring personnel. Persons submitting data under an approved Sampling and Quality Assurance Plan are required to adhere to Georgia Quality Assurance Manual.

Comment: The word "data" is plural and there are a number of grammatical errors regarding the use of this word throughout the 305(b)/303(d) documents.

Response: EPD has made the necessary corrections to the documents.

