



MEMORANDUM

TO: Dr. Mary Gay Maxwell, Chair
City of Austin Environmental Board

FROM: Edward D. Peacock, PE, Section Manager
Water Resource Evaluation Section
Environmental Resource Management Division
Watershed Protection Department

DATE: November 10, 2010

SUBJECT: Staff publications available via the Internet

The Water Resource Evaluation (WRE) Section of the City of Austin Watershed Protection Department is tasked with water pollution detection, tracking and forecasting through environmental monitoring and assessment. A key performance measure for the WRE Section is to produce short reports detailing the methods and findings of our water quality monitoring efforts. These reports serve not only to document our activities, but also to effectively share the scientific findings we accumulate over time with citizens and other water quality professionals. The short reports have replaced previous multi-year summary reports as more user-friendly targeted documents for more clear and direct communication of results.

All of the WRE Section reports are available to the public via Internet through a customizable query user interface at this URL: <http://www.ci.austin.tx.us/watershed/publications/default.cfm>. I have attached an annotated listing of the reports produced by WRE staff in fiscal year 2010. Additionally, the raw data used to generate the reports may be queried by the public in real-time as the data is verified and approved by our staff at this URL: http://www.ci.austin.tx.us/wrequery/query_form.cfm

We invite the Board to review these reports at your convenience, and we plan on bringing future reports to your attention on an annual basis. We will discuss several of the reports during our briefing at the November 17, 2010 regular Environmental Board meeting. As always, staff remain available to brief the Board in more detail on any of these reports. Please contact me at (512) 974-2224 or at ed.peacock@ci.austin.tx.us if you have any questions.

Sincerely,

Edward D. Peacock, PE
Water Resource Evaluation Section
Watershed Protection Department

cc:

Victoria J. Li, PE, Director Watershed Protection Department
Nancy McClintock, Assistant Director, Watershed Protection Department
Jon Beal, City of Austin Environmental Board
Robin Gary, City of Austin Environmental Board
Mary Ann Neely, City of Austin Environmental Board
James Schissler, City of Austin Environmental Board
J. Robert Anderson, City of Austin Environmental Board
Eva Hernandez, City of Austin Environmental Board

Attachment 1. Annotated list of reports produced by the WRE Section in FY2010.

SR-10-01. Comparison of Intermittent and Continuous Discharges on Bear Creek in WASP7.3 for Phytoplankton and Benthic Algae.

An EPA water quality model known as WASP is developed to evaluate the potential impacts of the Hays County WCID#1 wastewater discharge to Bear Creek, the first wastewater discharge in the Contributing Zone of the Barton Springs/Edwards Aquifer.

SR-10-02. Analysis of in-vivo chlorophyll-a and optical brighteners using a Trilogy fluorometer.

An alternative, more cost-efficient method for measuring chlorophyll-a and optical brighteners in water is evaluated using a new lab instrument.

SR-10-03. Bear Creek Receiving Water Assessment—2009.

Monitoring data from upper Bear Creek suggests that the existing permitted wastewater land application facility serving the Belterra Subdivision may be degrading Bear Creek water quality. (Updated and republished as SR-10-10)

SR-10-04. Impacts of the City of Burnet draft wastewater discharge permit on Hamilton Creek and Lake Travis.

A water quality model is used to evaluate the potential water quality impacts to Lake Travis from a proposed amendment to the City of Burnet's wastewater discharge permit with the Texas Commission on Environmental Quality. (Not available yet due to settlement negotiations)

SR-10-05. Action Plan Items Related to EII Site Scores-Fiscal Year 2009.

Components of the Environmental Integrity Index (EII) scores are used to identify significant changes in water quality for 5 specific problem types.

SR-10-06. Temporal Trend Analysis of Long-term Monitoring Data at Karst Springs, 2009.

Statistical analysis of long-term changes in water quality monitoring data at Barton Springs and 5 other related Karst springs are evaluated using multiple regression methods.

SR-10-07. Diel dissolved oxygen patterns and aquatic life use assessment.

Diel (24-hour) dissolved oxygen averages from 318 deployments at 38 stream sites in Austin are evaluated for spatial and temporal patterns and compared to TCEQ procedures for identifying dissolved oxygen impairments.

SR-10-08. Estimating impervious cover from county tax records, and impacts of impervious cover on hydrology in the Walnut Creek watershed, Austin, Texas.

A method for estimating impervious cover from local tax appraisal information is identified and used to identify potential degradation from increasing development in the flow patterns of Walnut Creek over time.

SR-10-09. First year analysis of Lake Walter E. Long.

The results of the first year of environmental monitoring of water, sediment and algae on Lake Walter E. Long in east Austin are presented.

SR-10-10. Bear Creek Receiving Water Assessment: January 2009-March 2010.

Additional monitoring data from upper Bear Creek are used to further identify potential water quality impairments from the existing wastewater effluent land application facility. (Under review by COA Law Department)

Attachment 1. Annotated list of reports produced by the WRE Section in FY2010 (continued)

SR-10-11. Ultrasonic Algal Control Literature Review.

Potential methods for regulating the growth of algae using ultrasonic methods are reviewed with potential applications in Barton Springs Pool.

SR-10-12. Mabel Davis Pond Algae Bloom Update.

The results of an investigation into an algal bloom in the pond at Mabel Davis Park potentially related to the old landfill are presented.

SR-10-13. Lake Austin and Lake Travis Algae Counts

Degrading trends in daily algal count data (provided by the Austin Water Utility) in Lake Austin at the drinking water treatment plant intakes are identified.

SR-10-14. A Review of Lake Austin Sediment Quality, 1987-2009.

Spatial and temporal patterns in the quality of sediments in Lake Austin from 1987 to 2009 are assessed with recommendations for future monitoring.

SR-10-15. Onion Creek Report Update, 2010.

Environmental monitoring data from the Onion Creek watershed including water quality and biological data are evaluated for the period of record.

SR-10-16. Walnut Creek Update Report, 2010.

Environmental monitoring data from the Walnut Creek watershed including water quality and biological data are evaluated for the period of record.

SR-10-17. Bull Creek Update Report, 2010.

Environmental monitoring data from the Bull Creek watershed including water quality and biological data are evaluated for the period of record.

SR-10-18. Impacts of Stream Hydrologic Characteristics on Ambient Water Quality and Aquatic Health in the Austin, Texas Area.

Statistical analyses of USGS flow metrics with Environmental Integrity Index scoring parameters to predict aquatic life potential in Austin area streams using modeled flows under different development scenarios.

