

## Watershed Conservation Curriculum (WCC):

### A Cobb/Paulding Environmental Science Project

This new project provides professional development for high school Environmental Science teachers in Cobb and Paulding Counties of Georgia. A weeklong summer workshop with academic year support establishes a professional learning community among teachers via in-person and on-line collaborations. Teacher learning is supported by science curriculum coordinators from both school districts, local scientists including water monitoring specialists from Cobb and Paulding, and biologists from the Georgia DNR and The Nature Conservancy, and project developers (an ecologist and science teacher educator from Kennesaw State University). Project activities balance attention to developing content knowledge in the specific discipline with enhancing pedagogical skills for planning and implementing reform-based science teaching. The goals of this project are to use local watershed conservation experiences as a catalyst to (1) increase teachers' content and process knowledge of Environmental Science, (2) enhance teaching practices through development and implementation of a guided-inquiry curriculum, (3) engage teachers and select students in ecological fieldwork that contributes data used by water conservation officials, and (4) enhance student learning of Environmental Science content and process standards relating to watershed conservation. Anticipated start date is May 15, 2014. Summer activities include a May orientation meeting, a five-day summer workshop with two days in the field and three days of class/lab instruction. Academic year activities include four (3-hour) work sessions for collaborative planning, evaluation, and revision of project lessons; peer and PD support and presentation at a professional conference. Expected outcomes are congruent with project goals. **Anticipated end date is May 31, 2015.**

### WCC Project Activities Timeline

<i>Day</i>	<i>Focus</i>	<i>Activities</i>	<i>Hour(s)/ PLU (s)</i>
<i>May 15, 2014  After School Session and Asynchronous Discussions</i>	Orientation	(1) Project goals, objectives & calendar (2) Pre-assessments (identity/activism beliefs, content pretest, process pretest) (3) participants start using Edmodo site and explain asynchronous discussions based on experiences and readings	<i>2 hours for .2 PLU</i>
<i>June 2014 Five- day workshop Day 1 June 23, 2014</i>	Watershed Monitoring Techniques	(1) Introduction to watershed conservation (2) Water quality diagnostics: physical habitat, fish and invertebrate abundance (3) Learning monitoring tests and organism identification	<i>8 hours for .8 PLU</i>
<i>June 2014 Five- day workshop Day 2 June 24, 2014</i>	Water Monitoring in Cobb Watersheds	(1) Data collection of four water quality characteristics in several watersheds of the Chattahoochee River Basin (Adam & Erin)	<i>8 hours for .8 PLU</i>

<i>June 2014 Five-day workshop Day 3 June 25, 2014</i>	Analysis of Data	(1) Discussion and data processing (2) Initial development of lesson ideas and review of guided inquiry framework	<i>8 hours for .8 PLU</i>
<i>June 2014 Five-day workshop Day 4 June 26, 2014</i>	Water Monitoring in Paulding Watersheds	(1) Data collection of four water quality characteristics in several watersheds of the Etowah River Basin (with Tim Pugh)	<i>8 hours for .8 PLU</i>
<i>June 2014 Five-day workshop Day 5 June 27, 2014</i>	Analysis of Data	(1) Discussion and data processing (2) Compare the two sites and wrap-up (3) Instructional design assignments (in pairs)	<i>8 hours for .8 PLU</i>
<i>Sept. 13, 2014 Saturday</i>	Curriculum Development	(1) Applying the guided inquiry framework and Literacy Standards (2) Content Talks: 1.1:SEV3 a, b, c, d, e; and 1.2:SEV4 c, f. (3) Co-planning time	<i>3 hours for .3 PLU</i>
<i>Oct. 11, 2014 Saturday</i>	Curriculum Development	(1) Raccoon Creek Story (Bret Brent Katie) (2) Review Teacher KEYS Standards (3) Content Talks: 1.3:SEV5 a, c, d, e, f. (4) Co-planning time	<i>3 hours for .3 PLU</i>
<i>Oct. 18, 2014 Saturday</i>	WCC Watershed Monitoring Blitz!	Participating EnSci Teachers, each with select students, monitor a watershed, collecting the same data on the same day from multiple sites in Cobb and Paulding Counties.	
<i>Nov. 8, 2014 Saturday</i>	Curriculum Development	(1) Interpreting monitoring blitz data (2) Applying the Literacy Standards (3) Process Talks: GPS: SCSH3. a, b, c, d, e (3) Co-planning time	<i>3 hours for .3 PLU</i>
<i>Jan. 24, 2015 Saturday</i>	Curriculum Development and Prep. for GSTA	(1) Co-Planning Time (2) Practice GSTA presentations (3) Post-assessments (identity/activism beliefs, content posttest, process posttest)	<i>3 hours for .3 PLU</i>
<i>February 5-7, 2015</i>	GSTA Conference	Annual Conference of Georgia Science Teachers Association, Macon, GA \$2300 TQ Funding available for participant costs for attending GSTA to present on this project.	
<i>Feb-May 2015</i>	Project Wrap-Up	Complete watershed curriculum materials from this project, distribute across GA	

Total 50 hours = 5 PLUs