

Environmental
Education Committee
Partnership for a Green City

2007-2008

**Annual
Report**

A Brief History

The Environmental Education Committee falls under the umbrella of the larger Partnership for a Green City of Louisville, Kentucky. The Partnership was originally the vision of Alan Dittmer, past Department Chair of Teaching and Learning in the College of Education and Human Development at the University of Louisville, and David Wicks, current Director of the Jefferson County Public Schools Center for Environmental Education. The Partnership became a reality in August of 2004 due to their persistence in bringing the Partners together to begin the discussion.

The Partnership consists of Louisville Metropolitan Government, the University of Louisville, and the Jefferson County Public School system. Combined, these institutions represent over 25,000 employees, 120,000 students, 500 buildings, 7,000 vehicles, and 25,000 acres of land.

Initially, the leaders of the three Partners were interviewed for vision and recommendations. Appointed Partner representatives participated in facilitated cluster meetings to identify potential projects and

Russ Barnett leads UofL students in the Louisville Environmental Justice Tour



collaborative opportunities focusing on environmental education, environmental management, and environmental health. The attention to environmental education as not only a contributing area but a central component of the organization is unique. Environmental education recommendations that emerged from these initial meetings included an environmental education collaboration with leadership from the UofL Center for Environmental Education; an outdoor classroom emphasis for schools with leadership from JCPS Center for Environmental Education, Brightside, and Metro Parks; and a green issues orientation and professional development with leadership from the Human Resources offices of each institution. More specifically, the recommendations made for the Environmental Education collaboration outlined the purpose, justification,

implementation, and tasks for what would be the Environmental Education Committee. The recommendations called for a strengthened collaboration of JCPS/UofL/Metro Centers for Environmental Education which would be part of the Kentucky Institute for Environment and Sustainable Development (KIESD), under the guidance of the Director, Russell Barnett, for administrative and grant support. Implementation recommendations included the hiring of a full-time, tenure-track environmental education faculty position in the UofL College of Education and Human Development (completed in August of 2006) and a joint UofL and Metro government appointment to focus on Metro Government EE programming for schools and the community. In addition, the following “key tasks” were included:

- Adopting the environmental education standards developed by the Kentucky

- Environmental Education Council (KEEC) and working with the UofL College of Education and Human Development to incorporate the standards into their preservice training program.
- Seeking approval for an environmental education endorsement at UofL through the Kentucky Professional Standards Board. This endorsement would be developed and administered through a collaborative effort between the JCPS Gheens Academy and the UofL College of Education and Human Development (CEHD).
 - Linking existing and future environmental education curricula to the JCPS Core Content guides. Coordinating Metro Government education programs to ensure that they support the JCPS scope and sequence and, with the help of Metro Government agencies, developing future environmental education curricula.
 - Professional Development—Developing and implementing a program for certified staff in JCPS to teach environmental education curricula identified above. Professional Development (PD) courses would be conducted using resources of UofL, JCPS, and Metro Government. Schools will be

linked with community based educators and Metro Government agencies.

- Providing UofL graduate and undergraduate students with environmental education experiences in local schools, environmental education organizations, and Metro Parks through graduate assistantships, internships, and in-class observations.
- Creating a position for a school-based environmental leader to promote environmental education, energy reduction, recycling, outdoor classrooms, and environmental clubs at every JCPS school.
- Conducting and disseminating environmental education research on the impact of environmental education on student performance and on the impact of environmental toxins on cognitive learning.

In March of 2006, all three Partners adopted the *Statement of Environmental Principles* as a framework from which to guide policy, make decisions, and identify ways that each can support sustainable practices (see Appendix A). In August of that year, the Partnership for a Green City held a series of meetings that consisted of three focus groups to celebrate the successes of the Partnership and plan for the future. After an initial

review, each day centered on the development of performance measures and priorities for a particular committee (Environmental Education, Environmental Management, and Environmental Health) of the Partnership guided by the *Statement of Environmental Principles*. The structure was centered on issues of:

- Sustainability
- New Projects
- Communication Strategies

This work led to a list of proposed outcomes and projects from which the Environmental Education Committee set priorities for the 2006-2007 year. Please refer to the *Environmental Education Committee of the Partnership for a Green City 2006-2007 Annual Report* for specific details regarding accomplishments from that year. The report can be accessed online at the UofL Center for Environmental Education's Website: <http://louisville.edu/education/research/centers/environmental-ed/environmental-education-committee.html>

Accomplishments in 2007-2008

In August of 2007, the Environmental Education Committee (EEC) of the Partnership for a Green City

reconvened after a summer hiatus. In an effort to maintain momentum leveraged from the previous year, the Committee took measures to encourage attendance and increase membership by actively recruiting and helping new members understand the role of the EEC. Some new members were introduced to the EEC through participation in the Environmental Education courses taught at the University of Louisville.

In response to feedback to the Steering Committee of the Partnership for a Green City, improvements in communication between all Committees were made. This initiative, led by the new Director of the Partnership Brent Fryrear, included a central calendar of Partnership meetings and events, a quarterly Chairperson's meeting, and a proposed website and/or newsletter.

Under the leadership of the EEC's co-facilitators, Teddie Phillipson-Mower, UofL CEHD faculty, and Donna Griffin, JCPS Resource Teacher, the Committee set priorities for the 2007-2008 year based on the work from the previous year. Working groups were renewed and created as needed to carry out the work of the Committee.

Members joined the working group(s) of their choice and helped develop goals, projects, programs, and outcome measures for the year.

Working Groups:

Some working groups functioned fairly independently while other projects required expertise from a variety of working groups. The working groups are arranged from the most independent to the least. Their accomplishments are as follows:

Research

Under the leadership and guidance of Barbara Burns this working group has made many positive contributions to the growth and development of environmental education research in our community. The prior year's success in engaging undergraduate UofL students in environmental education research, led to a

collaborative initiative with the UofL Honors Program. John Richardson, Director of the Honors Program, worked with University faculty across campus to develop an initiative that involved interdisciplinary study followed by research and service learning in the community. In the fall of 2007, undergraduate students in the UofL Honors Program were offered an opportunity to focus on the environment by selecting one of five courses (Introduction to Environmental Education; Reading the Natural Landscape; Urban Waters; Global Ecopolitics; and Reading, Writing and Toxics: Children's Health and Environmental Justice). An assignment completed by students in the courses taught by David Wicks, Barbara Burns, and Teddie Phillipson-Mower led to the *The EE Sampler* and a web based

UofL Honors Students present their findings and recommendations in a public forum.



reading and writing support tool for students and their teachers at the middle school level. This work was edited and developed by Donna Griffin. More information about this project is given under the Projects and Communications section in this document.

During the spring of 2008, Honors students had the opportunity to take one of two courses that focused on environmental research. Russ Barnett and Barbara Burns were the instructors for these research classes.

Under the direction of Barbara Burns in coordination with several graduate students who acted as supervisors, students from the University of Louisville, in collaboration with Jefferson County Public Schools, worked with the Metro Health Department. The Department of Psychological and Brain Sciences supported this collaboration with the University Honors Program as another interdisciplinary engaged teaching and research initiative with grass roots support. The goal of the course was to connect research to the community. Students focused on two major topics. The first was how to further support education about children's asthma to teachers, parents, staff and students. Students interviewed nurses, clinical

staff, insurance experts and physicians specializing in children's asthma. They evaluated national programs on asthma treatment and prevention. They prepared a final presentation for JCPS and the Metro Louisville Health Department. This presentation included a white paper that had recommendations for treatment and prevention. The second project focused on how to understand the barriers and challenges that Somali Bantu refugees face in using health care. These students learned about the Somali Bantu culture and participated in a focus group with Somali Bantu adults. They identified the challenges that were of most importance and evaluated these issues in relation to other national and regional programs. They prepared a white paper and final presentation to the Health Department. All students also conducted service learning hours at a community center or agency. In addition, they all presented five one-hour healthy living modules (prepared from previous semester) to elementary school students in JCPS.

Barbara Burns stated, "We appreciate the opportunity to contribute to the literature and to the education of KY on issues of such grave importance" and "We

appreciate the work of David Wicks and Russ Barnett who supported this work on environmental health and education."

Students in Russ Barnett's research course explored outdoor education in JCPS, the University residents' food habits, and stormwater management. These students posed a question, collected and analyzed data to address the question, formulated conclusions, and developed recommendations based on their findings. They presented their findings and recommendations in an open forum. The audience included University officials who are interested in further work in this area and possible implementation of some of the recommendations.

Youth Summit and the Kentucky Green and Healthy Schools / Earth Force Initiatives

Spear-headed by Brightside's community education manager, Julie Fried, this working group is focused on moving students to action in improving their school and community environment using the Kentucky Green and Healthy Schools (KGHS) initiative and the Earth Force CAPS (Community Action and Problem Solving) program as a framework.



JCPS teachers Angela Page and Molly Woofter present their ideas to others at the Earth Force training in Bowling Green in February.

The UofL Center for Environmental Education through its membership in the Kentucky University Partnership for Environmental Education (KUPEE) is advocating for the implementation of both of these programs statewide. Jefferson County led in this effort during this academic year.

In the Fall and Spring, over 200 students, ages 10-18, from public, private, and parochial schools throughout Metro Louisville and the surrounding counties gathered at the Louisville Science Center for a day long Youth Summit sponsored by Brightside along with partners, UofL Center for Environmental Education and Jefferson County Public Schools. During these Summits, students shared their ideas and developed plans for student-led environmental projects guided by the KGHS

inventories which include *solid waste, indoor air quality, hazardous chemicals, green spaces, health & safety, energy, water, transportation, and instructional leadership.* Mayor Jerry Abramson, JCPS Superintendent Dr. Sheldon Berman, and Congressman John Yarmuth, along with several other influential members from the community, welcomed the students and commended their improvement efforts. Several members of the Partnership facilitated break-out sessions aligned with the KGHS inventories. Teachers accompanying their students to the Summit participated in a professional development on the implementation of the KGHS initiative at their school.

At the end of February, the UofL Center for Environmental Education sent seven inservice and two

preservice teacher delegates to Earth Force training in Bowling Green, Kentucky. The training included an overview of the Earth Force CAPS program which is based upon six steps to action. This program emphasizes the importance of students doing the work from start to finish. The students brainstorm ideas, vote, research/test their ideas, develop a realistic plan, implement the plan (action), and celebrate their accomplishments. They also develop the essential social skills needed to conduct an investigation. For example, students learn how to develop and collect data using surveys; call someone on the telephone for information; and interview members of the community.

The Earth Force CAPS program and the KGHS initiative complement each other and provide a detailed



Jefferson County Green and Healthy Schools

framework in which students can attain real action outcomes. Once schools complete the KGHS inventories the CAPS program can be implemented to move students to action in their community.

Outdoor Classrooms

Led by Darleen Horton, a local pioneer of outdoor classrooms and science teacher at Chenoweth Elementary, this working group chose to focus their efforts on utilizing outdoor classrooms to teach environmental education. Previously the group was divided between landscaping restoration and education.

This group's main goals were to expand the number of outdoor classrooms in and around the Louisville Metro Area and to educate teachers about outdoor classroom connections to curriculum, assessment, and the community.

Specifically, this working group:

1. Recommended using the Brightside Outdoor Classroom Registry database as a resource for educators to find local partners to assist in the design and implementation of their outdoor classroom.

2. Problem solved ways to manage outdoor classrooms. Specifically, in regards to inappropriate cutting of plant material in outdoor classrooms, this group emphasized the importance of communicating with grounds crews regarding outdoor classroom boundaries, and suggested utilizing wood chips to denote areas that are not to be mowed.

3. Provided an Outdoor Classroom Tour on April 23, 2008 for inservice teachers taking Teddie Phillipson-Mower's Environmental Education Teaching Methods course. Teachers toured Darleen Horton's outdoor classroom at Chenoweth Elementary, Tim Baker's outdoor classroom at Meyzeek Middle School located at the St. Peter Claver community garden (a collaborative project between ACTIVE Louisville and Meyzeek with MSD Supplemental Environmental Project funding), and Kaki Robinson's outdoor classroom at Kennedy Montessori. These classrooms served as models for teachers interested in learning more about starting their own outdoor classroom and developing collaborative interdisciplinary learning

opportunities for their school.

4. Arranged a second Outdoor Classroom Tour on June 6th, 2008 for educators interested in using the outdoors to enhance instruction.

5. Provided individual assistance to teachers with outdoor classroom questions.

6. Discussed a possible collaboration with the Alternative Energy Education working group to find ways to implement alternative energy technology in outdoor classroom education (i.e. solar panels to run pumps).

Alternative Energy Education

This group, led by Beth Inman, science teacher at Ballard High School, and Jason Sanchez from the Louisville Science Center, has spent most of the year focused on an event that would inform the community about different types of alternative energy available to them. They looked to involve professionals, businesses, local interest groups, and students to either present information or set up displays. Alternative Energy Day took place on Saturday, April 19, 2008 at the Louisville Science Center

from 12:30 – 4:00 PM. Approximately 300 people attended the event.

Event participants included: GoodOil, LLC; KAFE (Kentuckiana Alternative Fuel Energy group); Sun/Wind Power Systems Inc.; Solar Energy Solutions, LLC; Watrous Associates Architects, PSC; and 4 Students from Meyzeek Middle School who presented the following:

- Robin Zhao and Serena Lian – “Hydrogen Production through Electrolysis”
- Sanal Gupte – “Hydrogen Production By Photolysis with Solar Energy”
- Neeraj Talegaonkar – “Go Green”

Food Projects

This working group, led by Carol Gunderson, Director of the Food Literacy Project at Oxmoor Farm, and Angelique Perez, PACS NOW trainer, focused their efforts on educating students, teachers,

and community members about urban agriculture, healthy eating, and buying food locally grown. They conducted several professional developments (see section below) and initiated discussions between farmers and Food Service workers at UofL and JCPS regarding the integration of local food into their menus. As a result of these discussions, UofL has pledged to purchase 10% of all their food served on campus from local sources. The group is now looking for schools in JCPS to work towards this. A local foods workshop for Food Service Managers from UofL and JCPS will be held at Oxmoor Farm on August 4th to solicit interest. Attendees will observe and learn about the value of local food and farm-to-school programs.

Throughout the year students have learned about the importance of eating healthy and buying local foods through several programs conducted by members of this group. Students and teachers

have visited Oxmoor Farm and learned about local foods through the Food Literacy Project; while the Pennyrile Allied Community Services Nutrition Outreach and Wholeness Program (PACS NOW) has provided a variety of nutrition education and outreach programs at many local schools. Additional MSD Supplemental Environmental Program Funding has been delegated to support Title I student Food Literacy Project field trips for the 2008-09 year.

Middle School Environmental Education Pilot Project

The Middle School EE Pilot Project of the Partnership for a Green City Education Committee has been a year of learning about how to use EE as the integrating context of the curriculum, as well as how to build the identity of being an EE school into the school culture. The following actions have been taken to this end:

- Faculty and staff received 18 hours of professional development which included developing their vision for EE at Lassiter, and how implementation would take place, both school-wide and through regular classroom instruction.



Lassiter Middle School Dwayne Robertson and environmental education teacher Jerry Durrall facilitate a brainstorming session with their students at the Environmental Youth Summit.

- Additional PD throughout the year included a joint effort of this working group with the Muhammad Ali Center for Peace and Justice, teaching the concepts of “Do No Harm” in relationship with the Environmental Principles of the Partnership for a Green City.
- Job Embedded PD was provided for classroom teachers in the use of environmental curriculum that supports classroom curriculum (Middle School EE Reading Enrichment Program, EE Sampler, Open Air Marketplace Curriculum)
- Collaboration with Metro Parks and the EE Committee chair at Lassiter to support native plant propagation in the greenhouse.
- Facilitation of faculty participation in Kentucky Green and Healthy Schools and Earth Force training.
- Presentation of school-wide or grade-level events through members of the Partnership for a Green City:

1.EE Kick-off Week including school wide viewing and discussion

of *An Inconvenient Truth*; “Do No Harm Assembly” presented to each grade level by the Mohammad Ali Institute for Peace and Justice; Berheim Forest Traveling Nature in Art Trailer presented by Brightside; classroom discussions of the Environmental Principles; and an EE Poster contest.

2.Energy Fair: The JCPS Center for EE and UofL preservice teachers presented the Energy Fair using equipment from the 2006 Ky. State Fair Educational Exhibit for all seventh graders to support the science module on Energy. A Journal was developed to connect the exhibits and hands-on experiments to science module content and Ky. Core Content for Assessment.

3.Blackacre field study for students with good attendance and good grades the first semester.

4.Coordination of the Humana sponsored project, *The Greening Book*, with all sixth grade students.

The Middle School EE Pilot Project is positioned for

advancement in the areas of creating an “EE identity” in the school culture, and systemic integration of EE into all content areas as appropriate. Barriers are the lack of resources to fund an on-site EE co-coordinator, and the need for increased teacher knowledge in the integration of EE into the classroom curriculum.

This project has the potential as a source for meaningful research at the local level, as well as providing a wide variety of EE learning opportunities for preservice teachers. Plans are being discussed at the school for the 2008-2009 school year, including a related arts class for all students in environmental education focusing on the outdoor classroom, and an EE coordinator focusing on integrating EE into the classroom curriculum. A summer writing PD has been planned that will be organized around *The EE Sampler* and the online expanded version, *Louisville Environmental Reader*.

Climate Change Education and Outreach Working Group

This working group is co-chaired by Angela Page, science teacher at Male High School, and Rachel Connolly, Director of the Rauch

Planetarium at UofL. The purpose of the group is to provide educational consulting and development specific to climate change for the Louisville community. One of the major goals of the group involves planning formal and non-formal high level education programs by involving scientists, researchers, educational specialists and other experts. Members of this working group are from the Climate Change and Environmental Education Committees of the Partnership for a Green City. The Climate Change Committee, led by Art Williams, Director of Air Pollution Control, was formed as a result of Mayor Abramson's climate change initiative, supporting the reduction of greenhouse gas emissions to 7 percent less than 1990 levels by 2012.

The Climate Change Education and Outreach Committee held two working day retreats during the spring semester. The first resulted in agreement of mission, direction, and method and the second, moderated by Gordon Garner, resulted in an outline of the document that will become the Louisville Climate Change Education and Outreach Plan.

Elementary students and their teachers step aboard the Spirit of Jefferson for a floating classroom experience called Water Wonders. Students chose three of the six Kentucky Core Content aligned classes offered during the trip down the Ohio River.

Projects and Communication:

EEC members as well as members of the local and regional EE community used the monthly meetings as a forum for communicating about projects, conferences, and EE initiatives. The following represents a snapshot of information exchanged through the EEC and emerged as opportunities for collaboration:

- Open Air Market Places Curriculum: The JCPS Center for EE Resource Teacher, Donna Griffin, worked with the JCPS Diversity and Multicultural Education Office and the Curriculum Resource Center to develop a curriculum based on open air markets around the world. The curriculum is based on photos taken by Aukram Burton, and makes content connections in social studies, science, and practical living with separate curriculum for elementary, middle, and high school. This curriculum has a variety of

applications for formal and non-formal educators, making it appropriate for many community resources providing EE.

This material was presented as part of the education exhibit at the 2007 Kentucky State Fair. Professional development was offered district-wide and was also offered at the request of members of the EEC to the food working group. This curriculum and the accompanying photos can be found at <http://www.jcpsky.net/Programs/oam/index.html>.

- Atherton student, Emily Goldstein, participated in an opportunity sponsored by the Louisville Zoo to focus attention on the new Glacier Run exhibit and tie the exhibit to conservation efforts. The Zoo delegated Emily, ambassador, and funded her trip to Manitoba where she joined 15 other students from around the world in observing and conducting research on polar bears and the effects of global warming. Upon



returning to Louisville she shared this eye-opening experience by speaking to several local groups, and is continuing to raise local awareness about the impact of global warming on the polar bears. She also recently attended a conference in Washington, D.C where she learned about the “Plastic Vortex” in the Northeast Pacific Ocean. She is working with the EEC to establish an action plan to reduce, reuse and recycle plastics in our community.

- **Water Wonders: A Floating Classroom:** This project is a collaboration of JCPS, UofL, the Belle of Louisville, Inc, and Louisville Water Co. Four days were planned (March 12, 17, 27, and April 2) to use the Spirit of Jefferson as a floating classroom called Water Wonders. Weather and high water caused cancellation of two of the dates. Classes participated in 3 of 6 stations including Non-point Source Pollution; Force and Motion on the Ohio River; Erosion, Sedimentation, Turbidity: Filtering River Water; Ohio River Tunes: Music as a Primary Source of Information; The History of Riverboats; and Freedom River: The Ohio as a boundary between slave and free states.

A total of 260 students and teachers participated over two days. A journal was developed for each student to use during the field study and as a connection to classroom instruction. Each teacher received a packet of instructional materials correlated to the Kentucky Core Content for Assessment to use for pre and post instruction.

UofL preservice teachers participated as instructional assistants at each learning station.

Teacher-feedback was very positive, indicating an interest in continuation of the floating classroom next year. A follow-up meeting of representatives of the presenting organizations indicated a strong interest in expanding this program in 2008-2009.

- **NAAEE Conference Presentation, November 15, 2007:** Teddie Phillipson-Mower and Emily Conn presented an overview of Brightside’s Youth Summit and what we have learned from our collaborative experiences at the North American Association for Environmental Education’s (NAAEE) Annual Conference. The presentation, *ENVIRONMENTALITY: Guiding Students to*

Environmental Stewardship, was developed by Teddie Phillipson-Mower, Emily Conn, Julie Fried, and Donna Griffin.

- **Book Recommendations:** Several members of the EEC submitted summaries of their favorite environmental books which were posted on the UofL Center for Environmental Education website, <http://louisville.edu/education/research/centers/environmental-ed>. Also included were recommendations from Wendell Berry, UofL President Ramsey and past Kentucky Governor Ernie Fletcher.
- **X-stream Clean-up, March 15:** Several members of the EEC participated in an Ohio River clean-up sponsored by Living Lands and Waters, with funding from MSD and the Natural Resource Conservation Service. Brightside donated trash bags. Several tons of garbage and debris were removed from the banks of the river, most notably, an old car. Efforts were made in some locations to recycle plastic that was picked up. Volunteers in these locations took plastic bottles home to wash them out and place them in local recycling bins. With the help of student activist, Emily Goldstein, and Brightside’s Julie Fried,

the EEC would like to work with Living Lands and Waters to implement this for all sites during next year's clean up.

- **Beargrass Creek Restoration Project:** With initial funding from MSD Supplemental Environmental Program dollars, Angela Page's Advanced Placement Environmental Science class at Male High School worked with Tonya Swan at Jefferson Memorial Forest to restore an area along Beargrass Creek at the intersection of Grinstead Drive and Lexington Road. This improvement project was recognized by Mayor Abramson and several other prominent members of the community who dedicated a plaque of recognition in their honor which stands amid the restoration site. Currently MSD and Metro Parks with funding from KY Department of Transportation and MSD are collaborating to expand the restoration area into a storm water infiltration area at Grinstead and Lexington Road.

Students enrolled in Environmental Education Teaching Methods enjoy the first stop, Chenoweth Elementary School, of the Outdoor Classroom fieldtrip. Darlene Horton is a nationally recognized teacher who uses the outdoors as a context for learning.



- **The EE Sampler:** Teddie Phillipson Mower, David Wicks and Barbara Burns taught environmental classes in the UofL Honors Program in the fall. As a cross course assignment, their classes wrote pieces in different writing genres using the environment. The writing genres were those required of middle school students in Kentucky core content. Donna Griffin worked with each of the classes, providing instruction for the development of a writing piece in each genre in the categories of personal writing (memoir, narrative, essay), transactive writing (persuasive letters, editorials, feature articles, informational writing, reviews), and literary writing (short story, plays, monologues, poetry). The purpose in this is to provide middle school students instructional material that would serve as models for their own writing, while learning about the environment and related issues in our own

community. *The EE Sampler* contains selections from the entire document, the on-line *Louisville Environmental Reader*. Thirty of the one hundred twenty-five written pieces submitted were selected to be published in *The EE Sampler* by a committee of middle school teachers and environmental educators. Donna Griffin developed the webpage including a set of instructional tools for each genre. The complete *Louisville Environmental Reader: Exploring Local Issues, Events, and Experiences* can be found at: www.jefferson.kyschools.us/ee

- **Earth Day Perspectives:** In honor of Earth Day, several EEC members contributed articles to this online collection of Earth Day perspectives. The complete collection can be found in the April issue of *Global Connections*, the newsletter of the JCPS Center for Environmental Education and the JCPS Diversity/Multicultural Education Office at: <http://www.jcpsky.net/Programs/mcconnections/GlobalConnect/GlobalConnect/Archives/0708Issues/April08.htm#cedmhop>.
- **UofL Environmental Education Program:** There were two Environmental

Education courses offered this year: Introduction to Environmental Education in the fall and Environmental Education Teaching Methods in the spring. These courses were developed to be part of an Environmental Education Endorsement Program for inservice teachers. Work continues to prepare for School, University and State application for the EE Endorsement program. The classes can be used as elective credits in the MAT program and complete the requirements for areas of concentration for either the Rank I or MEd programs as well.

- **Xpedition Project:** Michael O'Toole and his students from Saint Xavier High School, along with UofL Professor of Geography and Geosciences, Keith Mountain, traveled to Tanzania, Africa on June 2, 2008 to study the rapidly retreating glaciers of Mt. Kilimanjaro. Through hands-on study of the various climates and eyewitness accounts of the shrinking glaciers of Mt. Kilimanjaro, these students aim to raise awareness of the causes of and possible solutions to global climate change through local outreach to the youth of our community. These students are a valuable resource and

will be invited by committee members to share their experiences with local youth and to move members of the community to action. Julie Fried from Brightside has tentatively scheduled the Xpedition students to speak at the Fall 2008 Youth Summit. More detailed information regarding the Xpedition project can be found at: www.xpeditiononline.com.

Professional Development:

Professional Development (PD) emerged as an outcome of the need to create a common understanding of EE content knowledge and methods among the partners. The following sessions were presented as a collaboration of the EEC. The audience included UofL preservice teachers, JCPS teachers, employees of JCPS, UofL, and Metro Government, non-formal educators, and other interested community members.

As working groups developed their focus, the need for professional development was assessed. The following PDs are the outcomes of this process:

- **Food and Agriculture, October 3, 2007:** This PD exposed teachers to the inquiry-based programs of

the Food Literacy Project at Oxmoor Farm, a non-profit education agency partnering with a working farm to demonstrate the viability and positive impact of urban agriculture.

- **Open Air Marketplaces: An Interdisciplinary Approach to Understanding the World, October 18, 2007:** Through a guided tour of a photo exhibit, this workshop explored interdisciplinary approaches to the study of open-air marketplaces around the world, and their relationship to various aspects of human communities. K-12 teacher guides and CDs were available to participants. The workshop was a collaborative effort of the JCPS Diversity and Multicultural Education Office, the JCPS Center for Environmental Education, and the JCPS Curriculum Resource Center. For additional information, please visit <http://www.jefferson.k12.ky.us/Programs/oam/index.html>!
- **Garden Professional Development with ACTIVE Louisville, November 7, 2007:** ACTIVE Louisville, a five-year Active Living by Design grantee, joins Metro government agencies with community non-profits to promote active living in the

Clarksdale HOPE VI Revitalization area and the surrounding neighborhoods of Phoenix Hill, Smoketown, and Shelby Park. Part of their mission has been focused on revitalizing farmers markets, specifically the Smoketown / Shelby Park Farmer's Market, and the newly created St. Peter Claver Community Garden to promote healthy eating. On November 7th there was a Garden PD facilitated by a panel of experts including ACTIVE Louisville staff members and others from the community.

- **Outdoor Classroom Tour and Professional Development:** A tour of three outdoor classrooms at Chenoweth Elementary, St. Peter Claver (Meyzeek Middle School), and Kennedy Montessori was conducted for teachers enrolled in the UofL EE Teaching Methods graduate course. A representative from each site discussed issues related to the planning, development, and implementation of the outdoor classroom at their site.
- **First Learnings, June 10, 11, and 12th:** This three day PD for people who work with the preK-early childhood level was sponsored by PACS NOW and the Food



On the left, youth from the Smoketown neighborhood sell vegetables they grew with the Food Literacy Project at the farmers' market. On the right, students from the Urban League help the farmers save the potato crop from pests.

Literacy Project. The PD emphasized food and nutrition - especially agriculture. The purpose was to support teachers in educating for healthy lifestyles. Over 700 participants were involved.

- **Farm-to-School, August 1:** Oxmoor Farm will host a workshop for UofL and JCPS Food Service Managers through the Food Literacy Project. The three hour PD at the farm will include a field walk and cooking demonstration. The purpose of the PD is to build on the demand for locally grown food.

Service Learning:

As part of the goal to embed environmental education in the training of preservice teachers, service learning projects are being incorporated into initial certification courses at the UofL College of Education and Human Development.

The EEC has played an important part in helping to develop opportunities for this program.

In the fall of 2007, students enrolled in the General Methods and Exploring Teaching courses were offered three environmental education choices for service learning opportunities – Blackacre Nature Preserve; Oxmoor Farms; and the Louisville Youth Summit. In the spring offerings included the Louisville Youth Summit; Floating Classroom: Water Wonders; and Blackacre Nature Preserve. Both courses have included an environmental education component in which staff from the UofL Center for Environmental Education facilitate a Project WILD workshop as an introduction to EE. Afterwards, the students are offered the opportunity to extend their learning through application in a service learning

experience. The Exploring Teaching course includes a service learning component as a graded assignment in which they give a creative account of their service experience.

This program has become popular with the UofL faculty and students because of the benefits in learning as documented by the presentations given and lesson plans developed by the pre-service teachers.

Future Goals and Directions

As the EEC enters the 2008-09 academic year, we will continue to build on the momentum and strength experienced from the past. According to EEC members, the structure developed this past year provided opportunities for networking and collaboration, a sense of accomplishment and action, and inclusive participation opportunities.

General initiatives:

- Work toward identification of indicators and other outcome measures to be used as evidence of success and/or needed focus in each working group and the EEC as a whole.
- Work with all three Partners to infuse environmental stewardship

and education into existing frameworks.

- Work as an educational support group to other Committees of the Partnership.
- Seek ways to be proactive in issues of environmental education and the needs of the citizens of the Commonwealth of Kentucky.
- Continue to work toward and/or modify priorities as determined at the September 2007 meeting.

Specific initiatives for continued work:

- Through the UofL Center for Environmental Education, JCPS Center for Environmental Education and Louisville Metropolitan Government, we will begin to develop a comprehensive Environmental Education Plan that will help coordinate environmental education in the region. We recognize the autonomy of each partner and will encourage each entity to bring a well developed strategic plan to the table.
- We will continue to design and implement Faculty Development workshops in the Department of Teaching and Learning at UofL. In addition, we will expand Faculty Development to include the greater UofL community.

- Opportunities for internships and service learning will continue to be refined and developed among Partners. For example, students involved in the Environmental Honors Program will compose environmental writings of different genre to be included in the online *Louisville Environmental Reader* for middle school students.
- The Green and Healthy Schools / Earth Force working group will continue to provide support to KGHS participants by:
 1. Recruiting and assigning mentors and resource specialists to individual schools
 2. Organizing a Youth Summit in the Fall and Spring for students to network and share their ideas and improvement projects
 3. Sending more KGHS teachers to Earth Force training.
- The outdoor classroom working group's future goals include the continuation of professional development to support the building of outdoor classrooms; a continued emphasis on using outdoor classroom areas to teach environmental awareness; and an increased integration of environmental education across the curriculum. In addition, this group would

like to set up parent and student groups to assist with summer maintenance of outdoor classrooms and to create ownership within the school and community.

- **The Alternative Energy Education working group's future goals include:**
 1. **Creating an interactive alternative energy**

display to educate students. Ultimately, the display would be transported to other events around the community.

2. **Participating in community events that promote sustainability and raise awareness**

about alternative energy.

- **The Middle School Environmental Education Pilot Project working group will continue to work with Lassiter Middle School Environmental Education Magnet school as they implement EE back into the school.**

Appendix A: Statement of Environmental Principles

Statement of Environmental Principles

As stewards of metro Louisville and of all its resources, we understand the interdependence of humans and the environment. We must apply thoughtful and creative planning to achieve a thriving economy built on the principles of sustainability. We must foster conservation, pollution prevention, and restoration of ecosystems with both public policy and personal behavior. We must promote a common agenda for Louisville as a green city, preserve and enhance the quality of life for our citizens and future generations, and widen recognition of the importance of good stewardship of the community's natural resources.

• **Leadership Commitment and Measures**

We will implement these principles by demonstrating community leadership and collaborative planning and by adopting best environmental practices. We will establish goals, objectives, and indicators; conduct an annual self-evaluation of our progress; and jointly issue a public report.

• **Sustainable Use and Protection of Natural Resources**

We value and conserve natural resources and will seek to preserve and make sustainable use of our air, water, soil, and forests. We will protect and conserve nonrenewable natural resources through efficient use, careful planning, and collaborative land-management programs. We will reduce the use of substances that may cause environmental damage to the air, water, earth, and its inhabitants. We will safeguard all habitats affected by our facilities and operations, especially the public lands we manage, while promoting biological diversity. We will conserve open spaces through comprehensive planning.

• **Land and Water Management**

We will promote natural areas for biological diversity, protect areas along streams and water bodies, and plant native species. We will enhance, enlarge, and protect our urban forests. We will practice responsible water use.

• **Reduction and Disposal of Waste**

We will combine resources to reduce or eliminate waste through source reduction, reuse, and recycling in our own facilities and operations and for the metro area in general. We will handle and dispose of all waste using safe and responsible methods.

• **Energy Use**

We will conserve energy and improve the energy efficiency of our buildings, vehicles, and equipment and of the goods and services we use. We will use environmentally safe and sustainable energy sources, while achieving savings. We will increase our use of energy from renewable sources.

• **Transportation**

We will build and redevelop our community to minimize transportation demands, while providing pedestrian- and bicycle-friendly pathways and an effective public transit system. We will work to reduce vehicle miles traveled in the community, while implementing the vision of our organizations using energy-efficient vehicles.

• **Purchasing Products and Services**

We will pool our knowledge and resources to jointly purchase green products and services. We will work with our suppliers to adopt sustainable approaches and solutions. We will partner to create a stronger market for environmentally friendly and regionally produced products and services.

• **Design and Management of the Built Environment**

We will design, build, restore, and manage our facilities and neighborhoods in ways that promote and protect health and safety. We will use school campuses, partners' buildings, and lands as settings for learning.

• **Public Health**

We will monitor our policies and practices to assess and reduce public health risk. When potential risks are identified, we will identify and implement solutions.

• **Environmental Education**

Through environmental education, we are committed to developing and supporting environmentally literate citizens. We will involve colleagues, students, and citizens in demonstrating the ability to implement these principles.

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Partnership for a Green City

UofL



Jefferson County
Public Schools
Shaping the Future

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Adopted:
December 15, 2005

Adopted:
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