

# **The Partnership for a Green City**

## **One Year Report**

Sponsored by:

University of Louisville  
Jefferson County Public Schools  
Louisville Metro Government

Fall 2005

## **The Partnership for a Green City Steering Committee**

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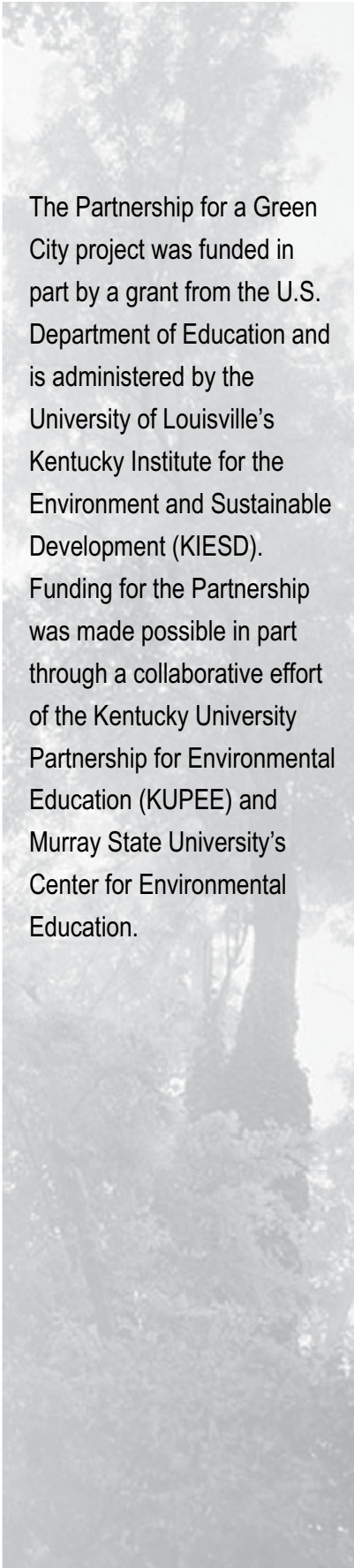
To get involved, contact any of the project facilitators

# Table of Contents

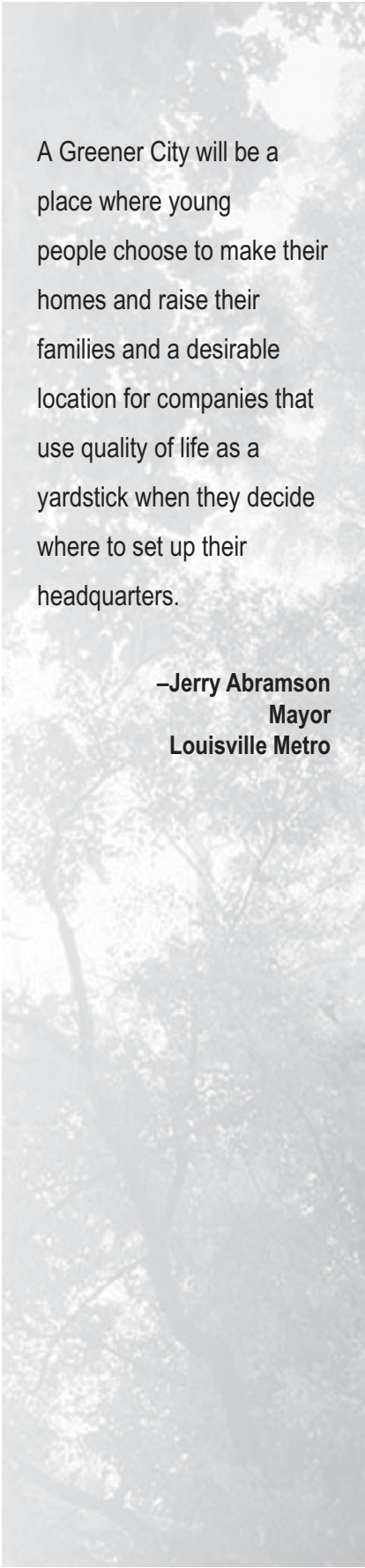
I.	Introduction .....	2
II.	Accomplishments .....	5
III.	Waste Management Committee .....	10
IV.	Green Purchasing Committee .....	13
V.	Energy Use Partnership .....	16
VI.	Environmental Education Committee .....	20
VII.	Outdoor Classroom Committee .....	22
VIII.	Environmental Health Committee .....	25
IX.	Interagency Coordinating Committee .....	27
X.	Principles and Standards Committee .....	27
XI.	Looking to the Future .....	28

## Appendices

A.	Project Participants .....	30
B.	Draft Statement of Environmental Principles .....	32
C.	MOA for Joint Purchasing .....	34
D.	Professional Development Courses Offered 2005-2006 .....	37



The Partnership for a Green City project was funded in part by a grant from the U.S. Department of Education and is administered by the University of Louisville's Kentucky Institute for the Environment and Sustainable Development (KIESD). Funding for the Partnership was made possible in part through a collaborative effort of the Kentucky University Partnership for Environmental Education (KUPEE) and Murray State University's Center for Environmental Education.



A Greener City will be a place where young people choose to make their homes and raise their families and a desirable location for companies that use quality of life as a yardstick when they decide where to set up their headquarters.

–Jerry Abramson  
Mayor  
Louisville Metro

## Introduction

**I**t's not easy being green. True, there are many reasons for cities to strive to be environmentally responsible. Community planners and advisors know that green cities are the most successful and prosperous. Studies have shown that cities that advocate best practices in environmental stewardship are cities that also have a diverse and growing population and enjoy a healthy economy.

Following the launch of the new Louisville-Jefferson County Metro government in 2003, Louisville leaders began to believe that there was a better opportunity to become a green city, to be more environmentally responsible, and to improve the health of our citizens. They based that assessment on recommendations from *Beyond Merger*, the 2002 report prepared by the Brookings Institution to address the issues that faced our community as we made the transition to merged government.

Louisville's path to becoming a model green city was hampered by significant barriers, according to the authors of *Beyond Merger*. Specific challenges identified were:

- The state of the health and education of our children,
- The need to reduce waste, make better use of energy and better manage our natural resources, and
- The need to build a green infrastructure.

The Partnership for a Green City began in August 2004 as a major step toward overcoming those challenges and improving Louisville's environmental practices. It represents a collaborative effort to improve environmental education, environmental health, and processes for waste reduction and energy management by three of Louisville's largest public entities: Louisville-Jefferson County Metro Government (Metro Government), the University of Louisville (U of L), and Jefferson County Public Schools (JCPS).

From the beginning, all Partners recognized the challenges of developing the Partnership. The sheer size of the three entities could threaten to derail the project before it got started. Together, these three institutions employ some 25,900 people, about five percent of the entire labor market in the community. JCPS and U of L enroll 120,000 students, more than 75 percent of all students in the community. They own more

than 500 buildings, 7,000 vehicles, and 25,000 acres of land in Metro Louisville. Together, they consume a significant amount of energy.

After recognizing the challenges, leaders of the three organizations agreed: if the barriers could be overcome, the payoffs would be huge. For the short-term, the committee members saw an immediate chance for collaboration of services, cost savings, and, best of all, three of the community's largest organizations working more closely together and sharing information on environmental challenges. They also agreed that, collectively, the Partners could be much stronger and achieve greater results. They could see that the coordination of efforts and cooperation would greatly magnify the results of the community's current environmental efforts. Most important, they were committed to the process itself.

The Partners also envisioned an environmentally sustainable city where people choose to live and work. Here at last was a chance to put together a model program of true partnership among organizations, all working toward one ultimate goal: **to make Louisville a better place to live.**

## The Organization

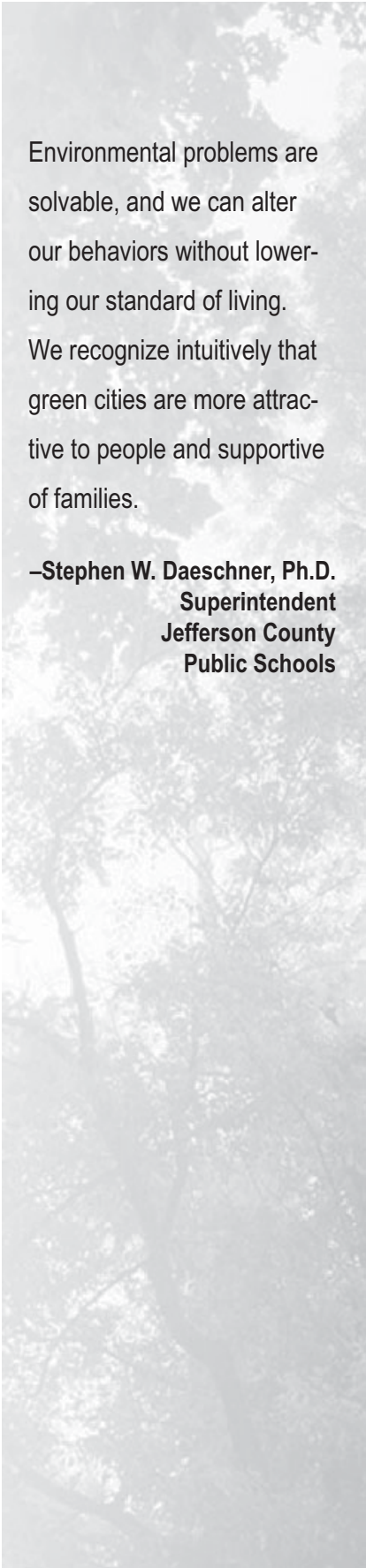
The Partnership began with \$51,000 in funding provided by the U.S. Department of Education through Murray State University. Organizationally, it was launched with a series of meetings to determine structure, goals and priorities. From those facilitated meetings came three objectives, identified as important for Louisville's future:

- Environmental Education – Develop strategies to further holistic environmental education in all three organizations.
- Public Health – Conduct research to assess the correlation between environmental exposures and health impacts that may affect student cognitive learning abilities or behavior.
- Environmental Management – Identify strategies for JCPS, U of L, and Metro Government to create sustainable, green public infrastructures.



In addition to the many environmental initiatives the three partners are already involved in, the Green City Partnership builds capacity to make great strides to improve the quality of life for all of our citizens.

–James R. Ramsey  
President  
University of Louisville



Environmental problems are solvable, and we can alter our behaviors without lowering our standard of living.

We recognize intuitively that green cities are more attractive to people and supportive of families.

–Stephen W. Daeschner, Ph.D.  
Superintendent  
Jefferson County  
Public Schools

Committees were formed from these three objectives:

- **Waste Management Committee** to initially address recycling but expanded to include the broader issues of waste management.
- **Green Purchasing Committee** to seek out joint “green” purchasing policies, practices and opportunities among the three Partners.
- **Energy Use Partnership** to pursue proven strategies to reduce energy use.
- **Environmental Education Committee** to focus on creating coherent environmental education programs for all Partners.
- **Outdoor Classroom Committee** to develop Partnerships between schools and Metro Parks and create professional development for teachers and curriculum for students.
- **Environmental Health** to create a research agenda to improve public health in all three entities.
- **Environmental Standards and Principles Committee** to establish a mutually agreeable set of environmental principles and standards to be used to guide policy decisions and programs in each of the organizations.
- **Interagency Coordinating Committee** to link the Partners with top leadership and facilitate coordination with other organizational initiatives.
- **Communications Committee** to design consistent internal and external communications messages.

The **Steering Committee** was formed as a cross-functioning team of partner representatives to oversee the project and assist the various committees in their planning. This committee also was charged with securing funding for recommended initiatives.

# Accomplishments

## Highlights of the Partnership's Work to Date

Since its beginning in August 2004, The Partnership for a Green City has realized an impressive list of accomplishments: external funding raised, operating costs lowered, environmental protection increased, environmental education expanded, joint positions established, new projects planned and implemented. All the more remarkable is that these accomplishments have been achieved through the collaborative efforts of almost 100 employees from Metro Government, the school district and University, with no budget (see Appendix A for a complete list of participants).

The accomplishments are a result of eight committees working on different goals and objectives which include energy use, waste management, buying green, environmental health, outdoor classrooms, environmental education, principles and standards and interagency coordination. The specific reports of these committees are included in this report; they outline in more detail the purpose and accomplishments of each committee. In addition to the individual committee reports that follow, the Partnership has had eight overarching benefits:

### *Partnering results in improved job performance*

We often speak about the need for “improved partnerships” but it is rare to truly enter into one. Early in the Project, staff from all three Partners recognized that the collaboration provided the opportunity to realize accomplishments that individually had been elusive. In one example of collaboration, the goals involve recycling. The University had wanted to increase its recycling efforts but was hampered by its inability to transport collected material to markets. On the other hand, Metro Government had established a goal to increase its recycling efforts and had the transportation capacity to pick up recyclables from the University. In one short meeting, an agreement was reached, and both the University and Metro Government were able to meet their goals.

A second example may result in significant energy savings. All three Partners spend more than \$35 million annually on energy. The major provider, LG&E, sends each month more than 600 bills for gas and

All of the participants in the green city projects can be very proud of the first year accomplishments and how much progress has been made, in some cases exceeding the most optimistic expectations. The sophomore year will be a challenge to match what was done, but both leaders and team members are up to the task. Louisville is on the map as a green city and it can only get better.

—Gordon Garner  
Consultant

The University of Louisville is participating in the partnership for a Green City Program. As a result of this participation, we have identified areas for energy reduction, some of which have been implemented while others are being considered.

The University looks forward to continuing as a partner in the Green City program so that other ideas may be brought forward to help us more efficiently utilize our tax dollars and be better stewards of the environment.

**–Larry Detherage  
Associate Vice President for  
Physical Plant  
U of L**

electricity to the three partners combined. Administrative costs to process multiple bills are high, while scrutiny to assure that bills are accurate is low. Working together, the Partners have jointly purchased a utility data system that will improve energy management. As part of the collaborative effort, LG&E is working to provide billing information electronically that will lower administrative costs not only for the Partners but also the utility company. In addition, all 28,000 employees and the 120,000 plus students can easily access the energy use data for their own studies and analysis. This will form the basis of a new energy education program for staff and students.

These are examples of how the Partnership has empowered employees to improve job performance while lowering costs. Empowered employees are able to create cultural changes within their organizations. All three Partners are public entities, and cost savings realized are benefits not only to the organizations but to the citizens of the community.

### ***Partnering builds capacity in each organization***

As job performance has improved, the capacity to perform necessary duties within each organization has improved. Employees have stepped back, observed and thought about the function they perform and how it can be improved in terms of efficiency and environmental protection. The Project has brought in experts from the outside to provide information. The Energy Committee sponsored a training session on energy management. The Outdoor Classroom Committee used a software program, CITYgreen, to allow students to map urban forests across the metropolitan area. The use of in-house experts and experts from across the nation has helped improve the capacity of the Partners to better perform their functions. This capacity building is transferable to other programs and other partners. This summer, the University of Kentucky, Lexington-Fayette Urban County Government and the Fayette County Public Schools initiated an identical partnership using the U of L/Metro/JCPS Partnership as their model.

### ***Shared expertise benefits all Partners***

One of the most critical achievements of the Partnership during the first year was perhaps one of the most unexpected: the realization that a wealth of expertise exists within the three organizations. Until the creation of the

Project, information from experts and existing programs had not always been available to other entities. For example, improved energy management was the goal of the Energy Use Partnership, and many of the programs being pursued by that committee had already been implemented by JCPS over the past three decades. Expertise in the purchase of environmentally friendly products existed at the University. Waste management expertise was available at Metro Government. Prior to this project, this expertise was not always available to the other Partners, and often they did not know that it existed.

### ***Partnering enables the advantage of efficiencies of scale***

Collectively the Partners employ 25,900 people who are a significant portion of the local economy. Using their collective purchasing power, the Partners have realized that they can obtain economies of scale that previously were unavailable to any one of them. When comparing waste disposal costs, the Partners realized that Metro Government had a lower bid for waste disposal. The University has taken advantage of this and now disposes all of its solid waste at a Metro transfer station, saving \$8,000 per year in disposal costs, time, fuel and truck maintenance costs that may be as high as another \$4,000. JCPS hopes to take advantage of this cost savings as soon as its current contract expires.

The Partners have issued a joint request for proposals to supply white paper to all three entities. Buying in large quantities potentially will mean savings for each Partner on a per unit cost basis and will provide a means for all to increase the use of recycled content paper. Although the Partnership has focused on improving administration with the goal of environmental protection, significant cost savings have already been realized through economies of scale.

### ***Partners able to attract additional external funding***

The Project to date has obtained more than \$880,000 in outside grants and contracts to fund individual projects. In many cases, funding agencies such as the U.S. Environmental Protection Agency and the Kentucky Office of Energy Policy have approached the Partners offering funding to support the Project, and then worked to develop specific proposals. Most of this funding would not have become available or been awarded to the Partners if any of the Partners had applied as a single organization.





### ***Partnering increases environmental education programs***

A key success of the Partnership has been an increase in environmental education programs. The Partners are sponsoring 85 Professional Development courses this year for K-12 and community teachers. In the first month, more than 570 teachers received professional training from University, Metro Government, and other educators. Metro Government and the University are supporting a position within JCPS to develop a plan to integrate Metro environmental education programs within the school district's curriculum and to provide professional development to teachers so they can take advantage of Metro facilities and resources. Using funds provided by the Metropolitan Sewer District, outdoor classrooms are being constructed at six public schools.

### ***Project being institutionalized within the Partners***

The Partnership has created many beneficial relationships that are likely to continue beyond the life of the Project. The long-term success of the Partnership is dependent on incorporating the goals and initiatives into each organization's operating procedures. The Principles and Standards committee has proposed a common set of principles to be adopted by all of the Partners. If adopted, it would institutionalize the role of each Partner in protecting the environment and operating in a sustainable manner. The Partnership has already created joint appointments with individuals working for two or more of the partners. A public health position is a product of the Environmental Health Committee between the University and school district. An education position is a jointly funded position of all three partners. Joint positions help institutionalize an ongoing collaboration between the Partners.

In the first year, the Partnership for a Green City has made significant contributions to Louisville's environment. Most of the accomplishments can be characterized as "low hanging fruit," capable of being quickly implemented. These successes have created an environment within which bolder action can take place. The Partnership also has become a model for each of the institutions: a model based on bottom-up collaboration, top-down support, stated goals and objectives, and a focused plan of action.

### *There is a growing awareness of the Partnership*

The Partnership has been recognized locally and nationally for its achievements and innovation. The Kentucky Environmental Quality Commission, the Kentucky League of Cities and the Kentucky Association of Counties joined together to recognize the Partnership for a Green City as an outstanding initiative that exemplified the concept of sustainability. The Partners were presented the award at a ceremony in Frankfort as part of the Earth Day celebration in April 2005.



**University of Louisville President James Ramsey (right), Metro Louisville Deputy Mayor Joan Riehm and Jefferson County Public School Superintendent Dr. Stephen Daeschner (left) accept a 2005 Earth Day Award from Lindell Ormsbee, EQC, for the Green City Partnership.**

The Partnership has appeared in national publications, has been the topic of discussion at national meetings and has generated interest across the U.S. The U.S. Environmental Protection Agency has expressed interest in the Partnership, noting that while there are many examples of green cities, green campuses and green schools, Louisville is the only example in the U.S. where a city, university and school district have partnered to work toward a sustainable community. The Partners have received information requests from across the nation on the Partnership.

The Partnership is a model for other Kentucky communities. The University of Kentucky, Fayette Urban County Government, and the Fayette County School District have established a similar Partnership to collaboratively work together on improving environmental sustainability. Bellarmine University in Louisville has initiated a collaborative relationship with Louisville Metro Government's Waste Management Department to increase its recycling rates.

Truly sustainable actions and decisions are those that enhance environmental integrity, economic prosperity and community livability. .... When Louisville and Jefferson County merged in 2003 the intent was to boost agency efficiency, urban vitality and regional cooperation. Now as the nation's 16th largest city – with almost 700,000 residents – a unique partnership has emerged to make Louisville a Green City as well.... The agencies found a number of significant opportunities to make Louisville one of the greenest cities in America, providing a setting for a healthier economy with substantial job growth, a more diverse citizenry and a place where young people will want to live and raise their families.

**–Kentucky Environmental Quality Commission**

The Partnership Waste Management Committee is identifying many solid waste issues that present possibilities to achieve significant environmental impacts as well as savings through economies of scale. Recycling is an area that we are looking forward to being able to achieve more by combining our efforts and our material streams.

**–Bob Schindler  
Director  
Metro Solid Waste  
Management**

## **Committee Reports**

### **Waste Management Committee**

Enhance waste management systems including increasing recycling and improving waste disposal efficiencies at the three institutions through potential cooperative efforts. The committee is seeking ways to combine efforts that will produce operational savings.

### **Progress Report**

Initially, the committee endorsed and recommended changing the name of the committee to the Waste Management Committee because, after much discussion, it quickly became evident that there are an equal number of efficiencies available in the solid waste management area as in recycling. Reflective of this name change, the committee began examining waste disposal issues common to the Partners and sought opportunities for efficiencies.

The committee conducted a waste audit (dumpster dive) at a U of L student residence facility to determine the potential for recovering recyclables from the waste stream. The waste audit was a precursor to establishing a pilot recycling program in some student residences. Metro Solid Waste helped the student association obtain containers and now provides pickup and recycling for the collected materials. In conjunction with this initiative, JCPS kicked off an effort to promote an increase in paper recycling in its buildings. The committee will work with JCPS to help create rewards and awards for schools achieving exemplary participation.

### **Recycling**

- Following the waste audit, a pilot dormitory recycling program was established during the spring semester



**U of L Student Government purchased recycling cans for university dorms. Every ton of material recycled saves \$24 in disposal costs.**

at U of L. Using a combination of carts and small dumpsters, recyclables are collected twice weekly by U of L and weekly by Metro Solid Waste. The operation continued in the fall semester.

- Metro was in need of a source for recycling spent fluorescent tubes in compliance with the Universal Waste Rule. Effective September 1, 2005, Metro Government was added to the contract to use the JCPS vendor.
- Metro Solid Waste Management has begun to help Bellarmine University with recycling in some of its buildings. While not directly connected to the Partnership, this activity is a direct result of Partnership activities. Students and staff at Bellarmine who were interested in increasing recycling heard about the Partnership project and asked Louisville Metro for help.

### ***Waste Disposal/Contracts***

This committee initially identified all the recycling or waste disposal contracts used by each entity. The goal was to look for opportunities to combine similar contracts to gain an economy of scale and hopefully yield fiscal and operational savings. The committee agreed that the containerized waste disposal contracts presented the best immediate opportunity to achieve an economy of scale savings. The next step is to develop a draft bid for services that can accommodate the operational needs of each Partner.

Once a draft contract specification is developed, the Waste Management Committee will work with the Green Purchasing Committee to put a contract out for bid. One hurdle to overcome will be to mesh the



**Fluorescent lights contain mercury that requires care in handling and disposal. Tony Phelps with Metro Solid Waste Management Department packs used tubes for recycling.**

JCPS Safety and Environmental Services will be conducting a pilot study this spring on the feasibility of adding aluminum cans and plastic bottles to the recycling stream in existing recycling dumpsters at every school. We are also looking at partnering with U of L when the recycling contract is rebid next summer.

**– Jim Vaughn  
JCPS Environmental  
Compliance Coordinator**

JCPS Safety and Environmental Services has saved over \$200,000 a year over the past 5 years through analysis and assessment of school waste needs as a direct result of data gathered during the original recycling pilot study and waste audit, prior to implementing the current District-wide recycling program 5 years ago. Since then, JCPS has collected over 100 tons of paper and cardboard per month.

**–Chuck Fleischer  
JCPS Environmental  
Compliance**

varying contract periods in order to reach a starting point for a consolidated contract.

As a result of discussions in Committee, the University of Louisville has begun to dispose of its waste at the Metro Waste Reduction Center on Meriwether Avenue. This enables U of L to utilize the lower price Metro pays for disposal as well as save time, mileage and fuel for the University because of a closer location.

### ***My School Recycles Self-Audit and Recognition Program***

Self-audit forms and Humpty Dumpster mascot posters were sent out to each JCPS school inviting them to participate in a “Recycling Self-Audit” program. Participating schools were recognized in addition to individual recognitions to those teachers, custodians, food service workers, staff and students deserving of special recognition for their efforts in supporting recycling. The school received a plaque, a Humpty Dumpster certificate, and a 3x5 Earth flag to display during America Recycles Week in November and Earth Week in April.

The presentations were made in person by various members of the Partnership for a Green City as well as First Lady Madeline Abramson. The JCPS Safety and Environmental Services Office coordinated the effort which was well supported by Metro Solid Waste Management Department,

the Center for Environmental Policy and Management, and the JCPS Center for Environmental Education. It is hoped that this activity will be repeated



**U of L students conduct “Dumpster Dive” on November 15, 2004, and determine that 40% of the waste discarded at dormitories could be recycled.**

each year to involve the rest of the schools in this worthwhile self-audit and recognition program.

The following 19 schools were recognized:

Churchill Park School, Cochrane Elementary, Fern Creek Elementary, Kennedy Montessori Elementary, Cochran Elementary, Cane Run Elementary, Byck Elementary, McFerran Elementary, St. Mathews Elementary, Gilmore Lane Elementary, Lincoln Elementary, Myers Middle, Brown School, Crums Lane Elementary, Greenwood Elementary, Tully Elementary, Barret Middle, Farnsley Middle, and Louisville Male High Schools.



Using Metro government's waste disposal contract will save the University \$8,000 a year in disposal costs.

## Green Purchasing Committee

Create the ability to pool and jointly purchase green products and services cost-effectively.

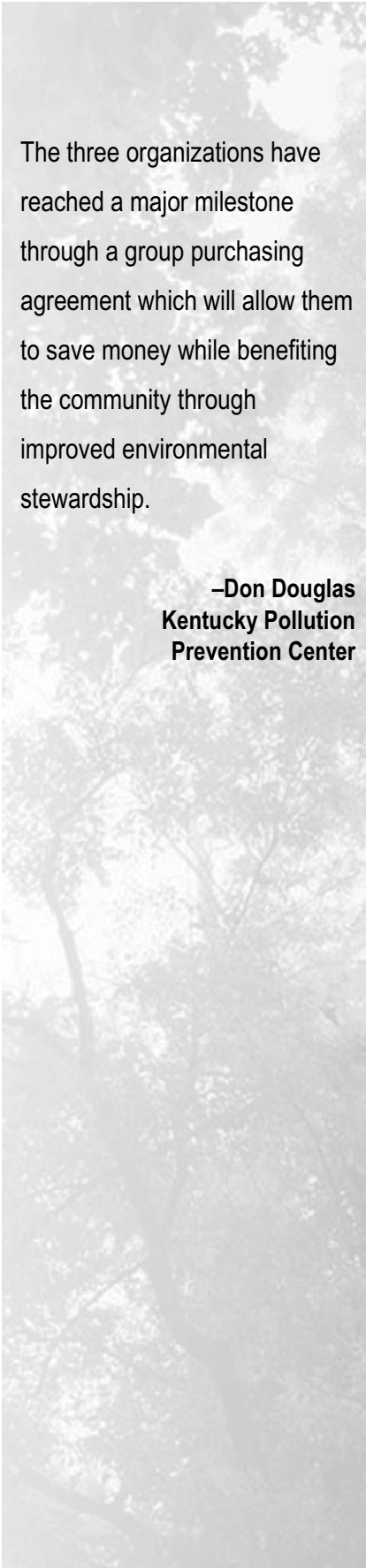
## Progress Report

The committee established one-year objectives as first priority:

- Inventory purchasing practices and policies
- Establish baseline data
- Develop green purchasing policy statement and definitions
- Provide employee awareness program

The Green City initiative will ensure that every child will grow up in a healthier environment where the spirit of learning and collaboration is the culture of the community and results in a better quality of life for all.

—Pat Todd  
Executive Director JCPS  
Gheens Academy and  
Student Assignment



The three organizations have reached a major milestone through a group purchasing agreement which will allow them to save money while benefiting the community through improved environmental stewardship.

**–Don Douglas  
Kentucky Pollution  
Prevention Center**

- Develop interagency agreement
- Develop contract language and bid specifications for all three partners
- Issue Request for Proposals to purchase items to be identified
- Award contract
- Provide implementation training
- Measure and monitor program

The committee agreed to first target white copy paper (WCP) because it is common to all three partners and because two of the partners currently purchase WCP with recycled content. The initial step involved establishing a baseline matrix from the previous fiscal year purchase of WCP for all three organizations. Also, a draft Green Purchasing Policy statement was developed but not finalized.

A meeting was held in March 2005 with paper vendors to announce the plan to solicit a single bid for WCP for all three organizations. The meeting attracted 17 vendors and paper manufacturers. The purpose of the meeting was to obtain feedback from attendees and to address any concerns or issues that may arise from the vendors as a result of the project.

A Memorandum of Agreement (MOA) was developed and signed by the chief executives of all three Partners (Appendix C). The MOA is designed to allow all three Partners to purchase goods and services from one contract.

A draft bid specification document has been developed and submitted to all three Partners for review and finalization. The specifications require WCP with a minimum recycled content of 30 percent. This is consistent with the EPA Comprehensive Procurement Guidelines established for federal agencies and state agencies that receive federal monies. The proposed schedule to issue the bid solicitation for WCP is:

- Issue Bid: November 1- 15, 2005 (open for two weeks)
- Award Contract: December 15, 2005
- Contract Start Date: January 1, 2005 for U of L and Metro
- Contract Start Date: February 1, 2006 for JCPS

The Committee also is evaluating the bid solicitation method to use on future joint purchases. Metro has successfully used the reverse auction method over the past few years and has realized considerable savings.

The Committee initially considered this method for the joint purchase of WCP but decided to wait for future projects before pursuing this method in greater detail.

During its initial discussions, the Green Purchasing Committee learned that JCPS purchases copy machines, rather than using lease agreements as the other partners do. Because the copiers are purchased, the schools tend to retain them much longer than would ordinarily be the case if they had been leased. As a result, they possess a large number of older copiers that often have problems using recycled content WCP. To address this, a pilot study was completed at four JCPS schools to evaluate the possibility of using recycled content paper in their copiers. The four schools selected included both older and more recently constructed schools (older schools tend to use older copiers). The four schools that participated in the pilot study were: Male High School, Westport Middle School, Foster Elementary School and Shelby Elementary School.

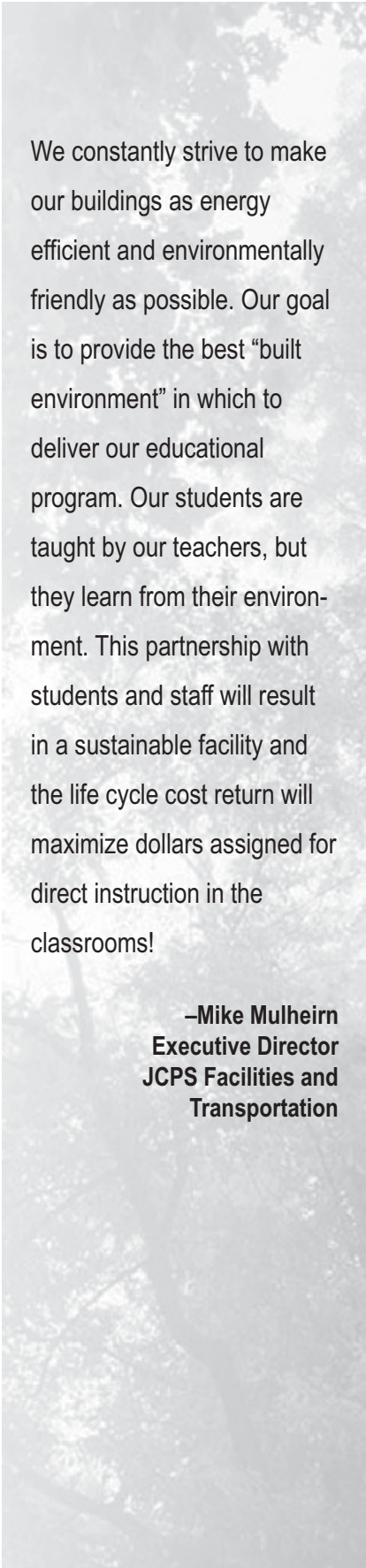
The pilot study was conducted from February 1, 2005 through May 30, 2005. The study determined that none of the schools experienced difficulties associated with recycled content WCP. Consequently, JCPS informed the committee that recycled content copy paper would be used on a regular basis for all schools in the future.

The committee is evaluating the next product/service to purchase using the joint purchase agreement. Environmentally friendly janitorial cleaning products were initially discussed, but no decision has been made at this time.

The Green Purchasing Committee is an extraordinary opportunity for the University of Louisville in a number of ways. First, in cooperation with our Green City Partners, Louisville Metro Government and Jefferson County Public Schools, we can lead the way as an example of community sustainable development. Second, even if the Partnership was not purchasing environmentally friendly commodities, pooling the buying power by the three entities will bring better pricing than when we bid the same commodities separately.

–Don Speer  
Director of Purchasing  
University of Louisville

Baseline Matrix for White Copy Paper								
	Metro		JCPS		U of L		Combined Totals	
	Total Costs	Total Quantities (reams)	Total Costs	Total Quantities (reams)	Total Costs	Total Quantities (reams)	Costs	Quantities
<b>Recycled</b>								
8 1/2 x 11	\$16,702	7,530	\$0	0	\$224,624	112,800	\$241,326	120,330
8 1/2 x 14	\$707	250	\$0	0	\$1,300	400	\$2,007	650
<b>Recycled (3HP)</b>								
8 1/2 x 11	\$0	0	\$0	0	\$20,700	9,200	\$20,700	9,200
<b>Virgin</b>								
8 1/2 x 11	\$59,747	27,970	\$612,386	287,160	\$0	0	\$672,133	315,130
8 1/2 x 14	\$4,882	1,800	\$7,582	3,400	\$0	0	\$12,464	5,200
<b>Total</b>	<b>\$82,037</b>		<b>\$619,968</b>		<b>\$246,624</b>		<b>\$948,629</b>	<b>450,510</b>



We constantly strive to make our buildings as energy efficient and environmentally friendly as possible. Our goal is to provide the best “built environment” in which to deliver our educational program. Our students are taught by our teachers, but they learn from their environment. This partnership with students and staff will result in a sustainable facility and the life cycle cost return will maximize dollars assigned for direct instruction in the classrooms!

**–Mike Mulheirn  
Executive Director  
JCPS Facilities and  
Transportation**

## **Energy Use Partnership**

Reduce energy use resulting in budget savings and a higher level of environmental stewardship; attract more project funding for energy efficiency (E<sup>2</sup>) projects and training; and create a forum to share ideas and experiences.

### **Progress Report**

To accomplish its purposes, the Energy Use Partnership (EUP) is providing an on-going mechanism for knowledge exchange and demonstration of proven E<sup>2</sup> methods and technologies. The EUP established eight objectives for improving the energy and environmental performance at the three organizations involved.

- Develop proposals for funding of energy efficiency projects/energy education programs.
- Identify a standardized electronic format for utility data to better track energy usage in buildings
- Perform E<sup>2</sup> audits at all organizations
- Identify and highlight successful energy programs
- Develop E<sup>2</sup> technology training for facilities personnel
- Promote alternative financing mechanisms, such as energy savings performance contracting
- Develop E<sup>2</sup> awareness training programs for all three Green City Partners by 2006
- Work with engineering firms to incorporate E<sup>2</sup> language into new building specifications

### ***Funding and Financing***

The EUP Partners have completed proposals to the Kentucky Division of Energy (KDOE) for a Building Energy Study for \$66,000 and an Energy Efficiency and Bio-based Products Outreach and Demonstration for \$49,450. The Partnership received a \$396,800 grant from the U.S. Department of Energy for an Active Solar Demonstration Project. In addition, \$5,000 of U.S. EPA Region 4 funds passed through the Air Pollution Control District, were used to purchase Energy Star Building Portfolio Manager software. The Partnership provided \$5,225 to purchase energy data management software.

A key goal is to promote alternative financing mechanisms for the years ahead. All of the activities of the past year are seen as setting the stage for new initiatives in the next 12 months. Our energy accounting solution will allow us to benchmark the agencies' entire portfolio of buildings to determine the best candidates for future projects. As the low cost and no cost energy efficiency initiatives ramp up, the time will come to begin looking at longer term capital investment type projects that may require agencies to consider alternative finance mechanisms. To address this issue, a two-day seminar on Energy Savings Performance Contracting will be held by the Kentucky Energy Services Coalition in Spring 2006.

### ***Technology***

The Energy Accounting sub-committee investigated numerous options for electronically tracking building energy usage and selected a web-based solution. LG&E is cooperating with the committee and has assigned staff to assist in transferring account information electronically directly to the service provider, Energy Watchdog Pro. Each agency has agreed to

participate and to pay an annual service fee.

In support, the Partnership has provided all of the funds necessary to launch the service with a year's worth of past billing installed so that there is enough information to begin benchmarking buildings right away. The program will be launched in one to two months,



**Coal is a predominant source of energy for the partners. Prices since 2004 have increased almost 100%.**

Metro Government welcomes the resources and initiatives that have resulted from our participation in The Partnership for a Green City's Energy Use Partnership. As the Partnership enters its second year, we look forward to continued implementation of facility improvements across Metro Government. And as fuel costs escalate, we look forward to a collaborative pursuit of fleet improvement issues.

**–Rudy Davidson  
Secretary  
Metro Cabinet for Public  
Works and Services**

As the cost of fuel continues to rise at an alarming rate, there has never been a more critical time to come together, share resources, and pursue energy efficient strategies. With the help of the Kentucky Pollution Prevention Center and the Kentucky Office of Energy Policy, Jefferson County Public Schools has been able to compare successes, avoid pitfalls, and capitalize on identified energy-saving opportunities with the other members of the Energy Use Partnership; thus becoming better stewards of our taxpayers' dollars and proudly accountable for our endeavors.

**–Kevin Stoltz  
JCPS Energy Auditor**

pending the development of a system for data transfer from LG&E. As part of this effort, U of L has begun to install electrical sub-metering on some of the buildings on the Belknap campus.

### ***Audits***

Kentucky Pollution Prevention Center secured funding to perform energy audits for the EUP. Energy audit training for students from U of L's J.B. Speed School of Engineering, the J. Graham Brown School and Waggener High School was completed in mid-March, and energy audits for 11 buildings were performed from March 14 through March 31. The audits included four classroom buildings at U of L, four JCPS schools, Louisville Metro Hall and the Metro Hall Annex as well as the Fiscal Court Building. Utility billing, heating/cooling systems, lighting, office equipment and building envelope for each facility were assessed and reports on energy usage and energy management opportunities identified in these buildings were completed by June 30.

Subsequently, each agency has begun to implement some of the low cost energy savings recommendations on a small scale. These efforts are ramping up and will be very important in the upcoming year. These recommendations included use of energy saving devices on vending machines and working with IT departments to ensure that the power management features of the agencies computers are activated with the right settings. Metro Government has recently completed an assessment of the mechanical systems in its buildings that identified some of the same improvements recommended in the E<sup>2</sup> reports and work on these items is being addressed.



**Students from U of L and area public schools conducted extensive energy audits as a part of the Green City initiative. The Kentucky Pollution Prevention Center at U of L co-sponsored the effort.**

### ***Expand E<sup>2</sup> Awareness***

The group has shared cumulative experiences for energy management improvements for the three organizations.

In addition, the group has invited guest speakers to provide energy information that is pertinent to EUP. John Davies, Director of the Kentucky Division of Energy presented information about U.S.EPA's Energy Star Program. Karen Reagor, Director of the Kentucky National Educational Energy Development (NEED) program, talked about energy curriculum being delivered to

Jefferson County schools. Melissa Howell with the Kentucky Clean Fuels Coalition shared the latest developments on availability of bio-diesel in the Louisville area with the agencies' fleet personnel .

Another goal of the committee was to incorporate E<sup>2</sup> language into new building specifications. As a result, EUP members held a two-hour meeting with representatives of AMEC Earth and Environmental to hear a presentation about the Leadership in Energy and Environmental Design (LEED) program. The LEED program awards recognition for energy efficient buildings and provides a set of guidelines for the construction of "green buildings." This meeting was attended by more than 20 participants including most of the top facilities personnel of the three organizations.

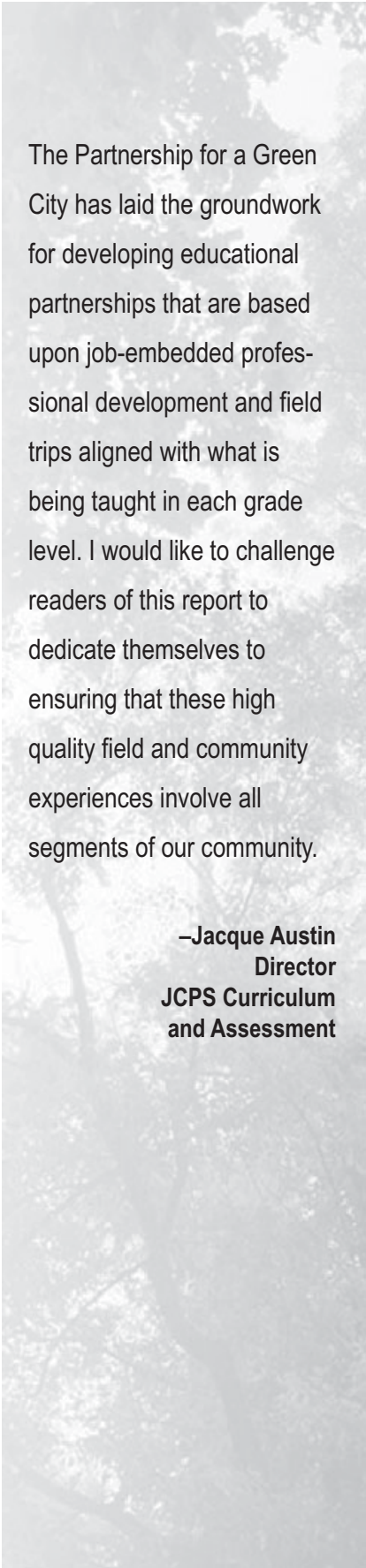
### ***Training***

With the Energy Efficiency and Bio-based Products Outreach and Demonstration funding, a three-day seminar was delivered on Cost-Effective Energy Management at which members of Metro, JCPS and the Louisville Water Company were present. The seminar was delivered in late May by Dr. Wayne Turner, professor at Oklahoma State University and nationally known in the field of energy management. Also, this funding was



**Each soft drink dispenser uses \$140 a year in electricity, energy paid for by the Partners. Pilots studies to reduce energy costs are underway.**





The Partnership for a Green City has laid the groundwork for developing educational partnerships that are based upon job-embedded professional development and field trips aligned with what is being taught in each grade level. I would like to challenge readers of this report to dedicate themselves to ensuring that these high quality field and community experiences involve all segments of our community.

–Jacque Austin  
Director  
JCPS Curriculum  
and Assessment

used by the Green City’s Green Purchasing Committee (GPC) to coordinate a half-day workshop in early June on the procurement of energy efficiency (Energy Star) and bio-based products. A third workshop, the Compressed Air Challenge, was held in August on energy efficiency in compressed air systems and was attended by members of Metro Government’s GSA department.

## **Environmental Education Committee**

Develop a comprehensive, long-term focus for environmental education, both in schools and in the community.

## **Progress Report**

### ***Professional Development***

Working with the six other committees of the Partnership for a Green City, the Committee created 85 three-hour and six-hour professional development sessions for teachers and interested community members, organized around three themes:

- Environmental Education: Strategies and Outdoor Classrooms,
- Kentucky’s Biodiversity and Watersheds,
- Environmental Issues and Community Investigations.

There are 62 different presenters, primarily from the Partnership, but also from state government and the University of Kentucky.

### ***Curriculum and Instruction Initiatives***

**Lincoln Foundation’s Natural Resource Academy:** Working with the U of L School of Arts and Sciences, the UK Tracy Farmer Center, the UK College of Agriculture, the Kentucky Department of Fish and Wildlife Resources and the Jefferson County Public Schools, the Lincoln Foundation offered its first Natural Resources Academy for minority high school youth. This next year, there are plans in the works to make the academy statewide. There has been discussion about adding a second track focusing on public health.

**Wild About Reading: An annotated guide to Children’s Environmental Literature:** Nine public school librarians met for five days to review the North American Association for Environmental


Education's environmental education guidelines, The Project Wild Curriculum, the JCPS elementary science modules and the JCPS Curriculum and Assessment Maps. The librarians and JCPS Center for environmental education staff created a searchable database of 280 books. U of L purchased a set of books and made them available for the Louisville Metro community. The committee also is working with the Kentucky Department of Fish and Wildlife Resources to host an online searchable database of the books ([www.kentuckyawake.com](http://www.kentuckyawake.com))

**In-depth workshops and graduate courses:** With the support of the Kentucky Council for Post Secondary Education, the committee offered two weeklong workshops. The first, *Urban and Rural Watersheds*, focused on ecological integrity of the Salt River Watershed Basin. The second, *The Biodiversity of an Urban Watershed Summer Teacher Academy*, focused on Beargrass Creek. With the support of the Metropolitan Sewer District, the Partners offered a multi-day course on CityGREEN, an ArcView extension developed by American Forests. The CityGREEN software quantifies the economic value of urban forests.

### ***Publications***

***Inside the Issue:*** The Office of the Superintendent wrote a one-page issues description for the Partnership for a Green City. This one-page statement was then printed, placed on-line and delivered to all 12,000 JCPS employees.

***Sustain: A Special Issue on Green Cities:*** U of L published an issue of *Sustain* which is a journal of environmental and sustainability issues, published by the Kentucky Institute for the Environment and Sustainable Development. The issue contained introductory articles by Dr. Stephen Daeschner of Jefferson County Public Schools, President James Ramsey of the University of Louisville, and Mayor Jerry Abramson. Other articles described the state of green city efforts in New York City; Portland, Oregon; Austin, Texas; and Eugene, Oregon. In other pieces, local authors discussed green spaces such as Louisville's Waterfront Park, the new green visitors center at Bernheim Forest, and Louisville's new vision as a 'City of Parks.'



Our environment is a learning lab where we connect the classroom to real life. This process in which students become environmentally literate adults is critical to the pursuit of a sustainable world.

—Donna Griffin  
Resource Teacher  
JCPS Center for  
Environmental Education  
Blackacre Field Office

Helping students become responsible, contributing members of their community is a rich by-product of teaching environmental science. By building the outdoor classroom with and for students, a wonderful door opened to make us all on-the-job environmentalists. Instead of stomping on bugs, my students now get on their hands and knees to observe invertebrates! Instead of polluting the environment, my students are now protectors and conservators of the land, water and air. I look forward to sharing our success so all elementary schools can take full advantage of their school campus.

—Darleen Horton,  
Chenoweth Elementary

## Outdoor Classroom Committee

To assure that every school has access to an outdoor classroom, defined as open spaces available for teachers to use as a context for learning which may include school buildings, campuses, schoolyards, neighborhood parks and other community public lands and facilities within walking distances of the school.

### Progress Report

#### *Outdoor classroom support*

With financial support from the Metropolitan Sewer District, six west Louisville schools received \$6,000 each to develop outdoor classrooms. The schools are: Kennedy Elementary, Shawnee High School, Foster Elementary, Young Elementary, King Elementary, Carter Traditional and the Duvalle Education Center.



**Outdoor classrooms offer new opportunities for learning.**

Jeffersontown Elementary applied for an EPA environmental education grant and received \$5,000 to build an outdoor classroom at their school.

#### *Outdoor classroom survey:*

In February 2005, the committee prepared and distributed a survey to JCPS schools to discover outdoor environmental education needs. The results indicated the top four needs are:

- Professional development,
- Site development,
- Additional funds, and
- Curriculum

One major concern identified was the care of outdoor classrooms during the summer months. Schools most frequently requested the following items be added to their outdoor classrooms: water features, historic trees, gardens (vegetable, herb, butterfly), weather stations, composting sites, bird feeders, nature trails, study or picnic tables and amphitheaters. A significant finding was the number of elementary schools that use their school campus to support the implementation of the 17 elementary science module kits. Teachers indicated that the science modules they most often use outdoors are: animals 2 x 2, sunshine and shadows, air and weather, insects, food webs and food chains, earth materials, and solar energy.

### ***Publications***

In collaboration with the Blackacre State Nature Preserve Educational Program, an Environmental Education Curriculum guide for outdoor classrooms was published. The guide is correlated with the JCPS curriculum and assessment map. It provides suggested activities for every six-week block of school on every grade level from K-5.

A poster series entitled *Investigate the art and science of Outdoor Classrooms* was published and distributed.

### ***Use of GIS***

Two GIS programs were initiated by JCPS high schools to support outdoor classrooms through funding provided by the Metropolitan Sewer District (MSD). In *Project City Green*, Central High School students and their teachers are mapping the trees on school campuses, using CITYgreen Software. The software conducts complex statistical analyses of ecosystem services and creates easy-to-understand maps and reports. CITYgreen calculates dollar benefits of urban forests based on specific site conditions. The economic benefits of urban forests include storm water runoff reduction, air quality improvements, summer energy savings, carbon storage and avoidance, and tree growth. The students collected data on 25 school campuses and this fall will produce maps and the statistical analysis

In order to develop and maintain sustainable urban landscapes, we must understand and honor how natural systems function. Without this basic knowledge, we can't connect with nature or expect our kids to care about it. Outdoor Classrooms bring these critical natural elements within easy reach. What better way exists to experience, appreciate and learn about our urban environment than to be able to step outside into a schoolyard filled with native trees and flowers, designed with comfortable places to read or write or make art or put on a play or dig in the soil or plant a seed and watch it grow?

—Phyllis Croce  
MSD

We are pleased that Doss H.S. GIS students have the opportunity to use their computer skills to help JCPS elementary school teachers and students investigate their local environment. Making small-scale maps of a school's outdoor classroom provides my students with a real audience for their work. It helps us create connections between schools in the district and between the teachers and their communities, all the while learning map skills, a 4th grade core content social studies item.

–Shannon Gilkey  
Doss High School



**Central High School Students being recognized by the JCPS Board for their work promoting CityGreen**

data sheets. Their goal is to raise funds to enable them to conduct the analysis of all JCPS, Metro Government and U of L lands.

In another project, Doss High School to Career students are *mapping JCPS School Campuses*. In this project, they are creating school yard maps for teachers, when requested, using ArcGIS 9/1 software. So far, 93 teachers have requested outdoor classroom maps. When a school requests a map set, they receive two 35 x 50 inch maps, three 8 1/2 x 11 inch color maps and three 8 1/2 x 11 inch black and white maps. The maps are in 1:1000, 1:4000 and 1:6000 scale. Teachers are using the maps to plant their outdoor classrooms, as well as for instruction in map reading and design.

### ***Professional development***

The committee worked with the Partnership's Environmental Education Committee and produced a booklet of 82 environmental education professional development offerings including 12 specific sessions to assist with planning outdoor classrooms. More than half of the other offerings are designed to help teachers develop strategies and/or content knowledge for using their school campuses for learning. A description of the 82 professional development courses are listed in Appendix D.

## ***Legislation***

The Kentucky State Legislature passed a bill allowing and encouraging, but not requiring, every teacher to bring his or her students outside for 30 minutes of exercise daily (HB 172). The bill also requires every school to develop a plan for the school's physical activity environment. Plans are underway to combine the environmental investigation possibilities that support the curriculum and assessment map at the same time the students and teachers are doing their exercise.

## **Environmental Health Committee**

To fill information gaps that thwart effective delivery of public health programs including assessing linkages between health, school attendance and academic performance.

### **Goals**

- To develop a Registry for Environmental Public Health Issues. This goal involves creating an inventory of existing data systems that track public health concerns such as Asthma, cancer, birth defects, sleep apnea, immunization effectiveness and toxic exposure.
- To create awareness of Asthma as an increasing health risk locally and nationally and as a leading cause of student absenteeism nationwide and in JCPS particularly. Awareness will include evaluating community Asthma issues and recommending an educational agenda.

## **Progress Report**

### ***Environmental Health Tracking***

The first action of the committee was to prepare a letter of support for a grant proposal designed to support the creation of a state environmental registry. The grant, ***Academic Partners for Excellence in Environmental Public Health Tracking***, is a collaborative effort including U of L, Western Kentucky University, Eastern Kentucky University, and the Kentucky Department of Public Health. The grant is to develop a common vocabulary between information systems, inventory of databases and a means of

### **According to the Kentucky Environmental Quality Commission:**

The majority of evidence indicates that now, more than ever, the environment is influencing our health and the health of our children and may be contributing to Kentucky's:

**Pediatric Asthma rates**, which are among the highest in the United States.

**Pediatric cancers**, the leading cause of death by disease in children.

**Birth defects**, the leading cause of child mortality.

**Learning disorders**, affecting an estimated one out of four children.



pulling data from various sources to create meaningful links between environmental conditions and health outcomes. Notification of the grant is currently pending.

The committee took the initial steps of identifying existing local and statewide data systems concerned with healthcare and environmental conditions, such as air pollution, water quality, housing data, etc. The committee plans to identify stakeholders, gaps in current data collection, inventory processes, and conduct an inventory of the registry. Dr. Robert Esterhay will develop a format for gathering information on database efforts.

***Asthma Education***

The committee has been discussing Asthma in the Louisville Metro area. While aware of the disease’s impact on children and school attendance, as well as adults and work attendance, the committee still faced significant challenges as it began to determine the level of coordination among various organizations in the community involved in providing care and services. The committee also sought to identify the gaps. For example, JCPS does not currently collect data on cause of illness. This might be an area the committee could address. Discussion of the current programs for Asthma education were discussed, and options for extending that education included:

- JCPS professional educational programs with teachers,
- LMHD Mobile Health Unit,
- Improved awareness with existing programs,
- Bus posters and signage,
- Involvement of the American Lung Association and the American Health Education Association.

***Faculty Position***

The Jefferson County Public Schools and the University School of Public Health entered into an agreement to establish a joint position to address health issues that present obstacles to the students, education or progression within the classroom. Dr. Ruth Carrico was appointed to the position. One of the first initiatives of this joint position involves improving immunization rates.

## **Interagency Coordinating Committee**

Integrate the Partnership for a Green City project with other Louisville Metro Government, University, and School District collaborative projects.

### **Progress Report**

There are a wide variety of collaborative projects between the three partners that are ongoing. To improve this collaboration, each of the partners has identified staff with the mission of facilitating existing, and encouraging new, joint projects.

The Committee recommended to the Steering Committee that additional efforts were needed to improve communication from committees and their participants, to upper managers, and to individuals and institutions outside of the three partners. Ongoing efforts are being made to address these recommendations. As a result of this recommendation, a Communications Committee was established to assist in using existing internal and external communication channels to keep participants advised on efforts being made through the Partnership.

## **Principles and Standards Committee**

Develop written principles and standards to be used to guide policy, budget and program decisions being made by the Partners to incorporate environmentally sustainable ideals.

### **Progress Report**

The Committee was formed to include representatives of agency leaders, facility managers, and program managers from each of the Partners. The committee reviewed national and international principles and standards that have been adopted by other cities, campuses, and industries. It was decided to formulate a set of principles and standards specifically to meet the goals of the Partnership. The principles and standards were reviewed by all of the Partnership committee members, and have been approved by the leadership of each of the Partners. The draft of the principles and standards is in Appendix B.



## Looking to the Future

I believe we could and should have a tremendous impact on our 25,000 acres of common land. If we begin reforesting today the positive impact will increase exponentially, in multiple ways, in our near future. I feel this would be the best investment we could make for a green city.

–Bryan Thompson  
JCPS Center for  
Environmental Education

The achievements of the Partnership for a Green City have established a firm foundation for continued progress. The committees are all at various stages as they plan their future actions. The Energy Use Committee, for example, will be working to implement the recommendations to reduce energy consumption identified in energy audits of selected buildings. The Green Purchasing Committee has already identified janitorial supplies as its next target for joint purchase of environmentally beneficial products. A few new committees will be established in the next year, including one that will work to improve employee awareness of “green” operational practices.

Next year the project will focus on taking actions to institutionalize the Partnership, establish more formal structures, measure success, and act as a model to the broader community. Transforming core values and operational practices of the three institutions toward environmental sustainability will require concerted efforts.

### *Environmental Principles and Standards*

Draft Principles and Standards have been developed, and their adoption will provide a foundation for the transformation of values and operational practices of the partners. Implementation of these Principles and Standards will require significant changes of the culture and individuals of all three entities. These sea changes will occur by increasing the awareness of, and identifying what each of us can do to support, sustainable practices. The Partnership will broadly distribute and promote the environmental principles and standards after they are adopted by the Jefferson County Board of Education, the University of Louisville Board of Trustees and the Louisville Metro Council. Increased communication and training will be required to promote a transition toward environmental sustainability.

### *Full-Time Director*

Overall management of the Partnership has been conducted through the collaborative efforts of individuals from each of the partners. An initiative such as this cannot survive if coordinated by people with other full-time job responsibilities; therefore the Partnership will explore establishing a

full-time director for the project. A stable funding source based on the demonstrated tangible and intangible benefits of the project will be needed to support this position.

### ***Accountability***

A system of environmental accountability, measuring the benefits of the Partnership, is a necessary next step. To date the benefits measured have focused on individual projects, e.g., energy savings, reduced cost of waste disposal, and lower white paper costs. These benefits have focused on tangible benefits. Intangible benefits may prove to be the greatest achievements of the Partnership, e.g., improved educational achievements, better management of natural resources, and improved public health. The environmental accountability system needs to provide a measure of how the Partnership has improved environmental sustainability through strategic planning, budgeting, management and educational activities undertaken by each of the partners. To evaluate and document the work and results of the program, the Partnership will explore hiring an independent external contractor.

### ***Summary***

From the beginning, one of the primary goals of the Partnership has been for the University, school district and Metro Government to be models for environmental sustainability, creating programs that other organizations could emulate. The objective was to serve as an example for students and employees, the broader community, businesses, and other cities, school districts and universities, to encourage them to modify how they live and work to incorporate environmentally sustainable practices.

Despite the goal, the Partnership has largely worked internally during these first months, using internal resources to implement each of the projects. Inclusion of individuals outside of the Partners has been limited. The idea was to “get our own house in order” before talking to others about environmental sustainability. But now the Partnership is ready to share its successes and be a model and guide for the rest of the Commonwealth.

Few things have a more positive impact on civic pride than the visual appeal of a clean and green city. The strength of the Partnership sends a clear and distinct message to residents and visitors alike that this is a priority for Louisville Metro. The synergy created by the Partnership for a Green City will be a great catalyst in ensuring that our community is green and beautiful and a place people are proud to call home.

I strongly believe that the investment the Partnership has made in education will pay great dividends. I am pleased that Brightside has been able to contribute to this effort as there is certainly no more important factor in making sure that a green city is part of our future than to educate our youth. Engaging the teachers is the best possible way to reach the thousands of students who will some day be the community leaders that will ensure the continued legacy of a clean and green city.”

**Cynthia Knappek**  
**Executive Director**  
**Brightside**

# Appendix A

## Project Participants

### JCPS

### U of L

### Metro

#### Steering

David Wicks

Allan Dittmer  
Russell Barnett

Cass Harris

#### Interagency Coordinating

Jane Charmoli  
Kim Wilson

Dan Hall  
Deborah Wilson

Carol Butler

#### Principles and Standards

Carol Haddad  
Mike Mulheirn  
Pat Todd  
Robert Rodosky

Larry Owsley  
William Pierce  
Mitchell Payne  
William Brammell

Tom Owen  
Bud Schardein  
Rudy Davidson  
Ron Wolf  
Mike Heitz  
Susan Rademacher  
Bonnie Biemer  
John Huber  
Barry Barker  
Geoff Hobin

#### Energy Use Partnership

Mike Mulheirn, Co-Chair  
Kevin Stoltz  
John Lee  
LeeAnn Nickerson  
David Swann  
Amy Lowen

Cam Metcalf, Co-Chair  
Sieglinde Kinne  
Mary Joyce Freibert  
Sri Iyer  
Jan Wilt  
Chris Wooton  
Larry Detherage  
Kenneth Dietz  
Paul Lederer  
Tina Pierce  
Keith Sharp

O'Dell Henderson  
Ed Meece  
Tom Raderer  
James Mok  
James Hunt  
LaDonna Bemus  
Kim Statts  
Phyllis Fitzgerald  
Michelle Stites  
Cynthia Lee  
Art Williams

#### Waste Management

Chuck Fleischer  
Jim Vaughn

Bill Brammell  
Jim Slayden  
Lucian Young  
Don Douglas, Facilitator

Bob Schindler, Chair  
Cass Harris

## **Green Purchasing**

Linda Ballman

Don Speer, Chair  
Lorrie Winfrey  
Sue Russell  
Lissa McCracken, Facilitator  
Don Douglas, Facilitator

Craig Bowen  
Bob Cromis

## **Environmental Education**

Jacqueline Austin, Co-Chair  
Amy Herman  
Dorcas James  
Keith Look  
LeAnn Nickerson  
Donna Griffin

Dean Robert Felner, Co-Chair  
Becki Newton  
Cheryl Kolander  
Clara Leuthart  
Jean Ann Clyde  
Thomas Tretter  
Rebecca Crump  
Margaret Pentecost

Art Williams  
Cynthia Knapek  
Marcelle Gianelloni  
Theresa Mattei

## **Outdoor Classroom**

David Wicks, Chair  
Shawn Canady, Central HS  
Caryn Walker, Brown  
Vera Prater, Fern Ck El  
Shannon Gilkey, Doss HS  
Jim Fegenbush  
Lewis Hammond  
Bryan Thompson  
Donna Griffin

Margaret Carreiro

Christa Weidner  
Allan Nations  
Julie Shinton  
Bennett Knox  
Phyllis Croce  
Cheryl Bersaglia  
Terry Wooden  
Tonya Swan

## **Environmental Health**

Bonnie Ciarroccki

Dr. David Tollerud, Co-Chair  
Ruth Carrico  
Dr. Robert Esterhay  
Carol Hanchette  
Faye Jones  
Irma Ramos  
Robert Slayton  
Rebecca Stuttsman  
Barbara Parker

Judy Nielsen, Co-Chair  
Sheila Andersen  
Art Williams  
Matt Zahn  
Cathy Hinko, Metro Housing  
Coalition  
Kay Vance, Passport  
Brennan O'Banion, KDPH  
Amy Vissing, Passport  
Fran Crawford, Passport

## **Communications**

Allison Martin

Chris Wooten, Chair  
Denise Fitzpatrick

Lauren Roberts

# **Appendix B**

## **UNIVERSITY OF LOUISVILLE JEFFERSON COUNTY PUBLIC SCHOOLS LOUISVILLE METRO GOVERNMENT**

### **D R A F T**

#### ***STATEMENT OF ENVIRONMENTAL PRINCIPLES***

**PREAMBLE:** As stewards of Louisville Metro and of all its resources, we understand the interdependence of humans with 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, 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, soils and forests. We will protect and conserve non-renewable natural resources through efficient use, careful planning and collaborative land management programs. We will reduce use of substances that may cause environmental damage to the air, water, earth or 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 with native species. We will enhance, enlarge and protect our urban forests. We will practice responsible water use.

## **Reduction and Disposal of Wastes**

We will combine resources to reduce or eliminate wastes through source reduction, reuse and recycling for our own facilities and operations and for the Metro area in general. We will handle and dispose 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 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, Partner 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.

# Appendix C

## MEMORANDUM OF AGREEMENT

between the

**Louisville/Jefferson County Metro Government**

and

**Jefferson County Public Schools**

and

**the University of Louisville**

pertaining to:

### **Cooperative Purchasing**

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**THIS AGREEMENT** is made and entered by and between the Louisville/Jefferson County Metro Government, (hereinafter "Metro Government") and, Jefferson County Public Schools (hereinafter "JCPS") and the University of Louisville (hereinafter "UofL").

**WHEREAS**, Metro Government, JCPS and UofL (hereinafter collectively the "Parties" or individually the "Party") are agencies or public entities for the Commonwealth of Kentucky; and

**WHEREAS**, the Parties have formed The Partnership for a Green City (hereinafter the "Program") to make cooperative purchases for the benefit of the local community and environment; and

**WHEREAS**, this Memorandum of Agreement (hereinafter "MOA") sets forth the rights and duties of the Parties with regard to such purchasing.

**NOW, THEREFORE**, for consideration, the Parties agree as follows:

#### **1. PURCHASING PROCESS:**

1.1 Upon agreement of the Parties, any Party may serve as the issuing Party for any procurements pursuant to this Program. Unless otherwise preferred by any Party, UofL shall serve as the issuing Party of procurements on behalf of the Parties. The issuing Party shall ensure that the procurement process complies with the minimum requirements of each of the Parties. Each Party shall timely review and submit information necessary for the preparation of any prospective procurement.

1.2. The issuing Party shall consult with the other Parties regarding the form and content of any prospective procurement.

1.3. Each Party shall submit any specific purchase orders directly to the applicable vendor and pay for such orders according to the terms of the purchase agreement.

1.4. Each Party shall be considered an independent Party and shall not be construed to be an agent or representative of any other Party. Therefore, no Party shall be liable for any acts or omissions of another Party or for the purchase orders of any other Party.

**2. CONSIDERATION:** No payments shall be made between the Parties for services provided pursuant to this MOA. The sole consideration shall be the economy of purchasing, the benefit to the Commonwealth, and the mutual waiver and release hereby agreed to by the Parties for any claims, liabilities or damages whatsoever incurred as a result of this MOA.

**3. PERIOD OF PERFORMANCE:** The effective dates for this MOA will be from October 15, 2005 through June 30, 2008. This MOA shall not be modified except by the written agreement of all Parties. No work may begin under this MOA until all Parties have signed it. The MOA will be reviewed in January 2008 and may be renewed upon the written agreement of the Parties.

**4. TERMINATION:** Any Party may terminate this MOA on thirty days written notice to the other Parties. In the event of termination, any purchasing obligations incurred prior to the effective termination date shall remain the responsibility of each Party.

**5. CONFLICT OF INTEREST:** The Parties certify, by the signatures of duly authorized representatives on this MOA, that they are legally entitled to enter into this MOA and that they shall not be violating, either directly or indirectly, any conflict of interest statute of the Commonwealth of Kentucky by the performance of this agreement.

**6. RECORDS:** The Parties shall maintain during this MOA, and for not less than five years from the date of its termination, complete and accurate records of all the services provided hereunder. The Parties shall allow the other Parties, at any reasonable time, to inspect and audit those records by authorized representatives of its own or of any public accounting firm selected by it.

**7. ENTIRE AGREEMENT:** This MOA is the entire agreement and understanding of the Parties with respect to the subject matter set forth herein and this MOA supersedes any and all prior and contemporaneous oral or written agreements or understandings between the Parties relative thereto. No representation, promise, inducement, or statement of intention has been made by the Parties that is not embodied in this MOA. This MOA cannot be amended, modified, or supplemented in any respect except by a subsequent written agreement duly executed by all of the Parties hereto.

**8. SUCCESSORS:** This MOA shall be binding upon and inure to the benefit of the Parties hereto and their respective heirs, successors and assigns.

**9. SEVERABILITY:** If any court of competent jurisdiction holds any provision of this MOA unenforceable, such provision shall be modified to the extent required to make it enforceable, consistent with the spirit and intent of this MOA. If such a provision cannot be so modified, the provision shall be deemed separable from the remaining provisions of this MOA and shall not affect any other provision hereunder.

**10. COUNTERPARTS:** This MOA may be executed in counterparts, in which case each executed counterpart shall be deemed an original and all executed counterparts shall constitute one and the same instrument.

**APPROVED AS TO LEGALITY AND FORM:**

  
Assistant Jefferson County Attorney

9/23/05  
Date

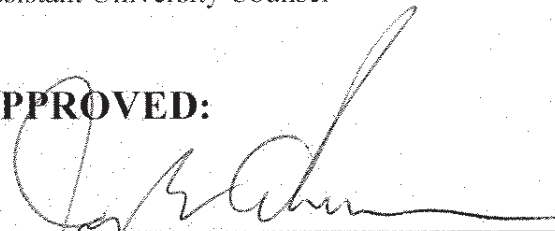
  
Assistant General Counsel

9/23/05  
Date

  
Assistant University Counsel

Sept. 20, 2005  
Date


**APPROVED:**

  
Louisville/Jefferson County Metro Government

Oct. 25, 2005  
Date

  
Jefferson County Public Schools

October 11, 2005  
Date

  
University of Louisville  
1128

Oct 17, 2005  
Date

# Professional Development Courses Offered 2005-2006

## Appendix D

	Theme 1: Environmental Education Strategies and Outdoor Classrooms	Theme 2: Kentucky's Biodiversity and Watersheds	Theme 3: Environmental Issues and Community Investigation
<b>Aug.</b>	<p>8/29/05 Intro to Blackacre</p> <p>9/07/05 Eco-DRAMA: School Based EE partnership</p> <p>9/08/05 Building an Outdoor Classroom that Supports Science *</p> <p>9/12/05 Using the Historic Homestead to Teach Social Studies</p> <p>9/21/05 Living in Water</p> <p>9/22/05 Planning for an Outdoor Classroom</p> <p>9/28/05 Using Braille Field Guides to Study Insects</p> <p>9/29/05 The World Around Us - Louisville Science Center</p> <p>9/30/05 Kentucky Forests* Project Learning Tree</p> <p>9/30/05 Planning for an Outdoor Classroom</p> <p>9/30/05 What's In A Name? Using plant names to teach*</p>	<p>9/01/05 Exploring Beargrass Creek</p> <p>9/07/05 Kentucky Wildflowers</p> <p>9/12/05 Exploring the Salt River</p> <p>9/26/05 Terrestrial Insects</p> <p>9/28/05 Plant Life of Kentucky</p> <p>9/29/05 Kentucky Trees</p> <p>9/30/06 Introduction to Canoeing</p>	<p>9/08/05 Introduction to Jefferson Memorial Forest</p> <p>9/14/05 Environmental Issues that Face Louisville's west end.</p> <p>9/15/05 Food, Farming and the Environment</p> <p>9/26/05 Kentucky's #1 water pollution problem</p> <p>9/28/05 Smart Growth and Land Use</p> <p>9/28/05 Pollution Prevention: The Preferred Option for Waste Management</p> <p>9/30/05 Water Quality 101</p>
<b>Sept.</b>			
<b>Oct.</b>	<p>10/05/05 Pure Tap Adventures in Water* a Learning Curriculum</p> <p>10/06/05 It's everywhere; Louisville Water Co's K-2 curriculum</p> <p>10 /10/05 Writer's Notebook, Science Notebook, and Nature Journaling</p> <p>10/20/05 Using the Outdoor Classroom to Connect Science</p> <p>10/24/05 The World Around Us* The Louisville Science Center</p> <p>10/25/05 Understanding Soil-Make it Live</p> <p>10/27/05 Scientific Process: The Short Form</p>	<p>10/03/05 Exploring Biodiversity at the Louisville Zoo</p> <p>10/10/05 Urban Forests</p> <p>10/19/05 Investigating Adaptation and Evolution at the Louisville Zoo</p> <p>10/25/05 Of Woods and Water*</p>	<p>10/06/05 Energy use in your school: conducting audits and implementing strategies to reduce.</p> <p>10/12/05 Waste Management: Be a Solid Waste Survivor</p> <p>10/13/05 Olmstead Parks: Cherokee and Seneca</p> <p>10/20/05 Olmstead Parks: Iroquois Park</p> <p>10/27/05 Olmstead Parks: Shawnee and Chickasaw Parks</p>
<b>Nov.</b>	<p>11/02/05 AWAKE: All Wild about Kentucky's Environment</p> <p>11/10/05 Rigby in the Outdoor Classroom</p> <p>11/14/05 Aquatic Wild</p> <p>11/28/05 Investigating the Environment as an Integrating Context</p> <p>11/30/05 Outdoor Classrooms: Planning, Development, and Instruction</p>	<p>11/03/05 Nature Photography</p> <p>11/09/05 Using Native Plants to Attract Birds</p> <p>11/16/05 Introduction to Native Plants</p>	<p>11/02/05 Promise and Betrayal: Universities and the Battle for Sustainable Urban Neighborhoods</p> <p>11/03/05 Preventing transmission of infectious disease: Human health and the environment</p> <p>11/03/05 Asthma and Lead Poison: impact and strategies for prevention</p> <p>11/03/05 Introduction to Toxicology</p> <p>11/15/05 Community Investigation of Air Quality</p>

# Professional Development Courses Offered 2005-2006

	<b>Theme 1: Environmental Education Strategies and Outdoor Classrooms</b>	<b>Theme 2: Kentucky's Biodiversity and Watersheds</b>	<b>Theme 3: Environmental Issues and Community Investigation</b>
<b>Feb.</b>	2/01/06 Outdoor Classrooms: Earning seed money with your environmental school plan 2/08/06 Introduction to Blackacre 2/08/06 Mapping Your School Yard 2/09/06 The World Around Us - The Louisville Science Center 2/27/06 AWAKE: All Wild about Kentucky's Environment 2/28/06 Infusing Core Content into your Outdoor Classroom 2/23/06 How to begin an Outdoor Classroom	2/16/06 Exploring Biodiversity at the Louisville Zoo 2/23/06 Beargrass Creek and GIS (Geographic Information Systems)	2/09/06 Introduction to Jefferson Memorial Forest 2/15/06 Mapping Urban Forestry 2/22/06 Air Cadets or Air heads: A teacher's tool kit for exploring air pollution 2/22/06 Energy & the Growth of North America, a KY State Fair thematic workshop
<b>Mar.</b>	3/01/06 Project Wild 3/03/06 Developing a Backyard Habitat 3/03/06 Intro to GIS (Geographic Information Systems) 3/06/06 Wild About Reading 3/13/06 Soils 3/22/06 Pure Tap Adventures in Water* a Learning Curriculum 3/23/06 It's everywhere; Louisville water company's new K-2 curriculum	3/15/06 Water Quality / Stream Assessment 3/20/06 Aquatic Insects 3/29/06 Exploring Beargrass Creek 3/20/06 Of Woods and Waters	
<b>Apr.</b>	4/20/05 It's All Down Hill from Here: Using a stream to teach history, earth science, biology, creative writing, and physics.	4/19/06 Plant Life of Kentucky 4/25/06 Weeds of Kentucky 4/25/06 Kentucky Birds 4/26/06 Kentucky Aquatic Life 4/27/06 Kentucky Wildflowers	4/20/06 Identification of Invasive Plants and Methods of Removal 4/24/05 Exploring the Five Themes of Geography with Lewis & Clark 4/25/06 Ecological Restoration of the Tyler-Schooling Property along Floyd's Fork
<b>May</b>			5/01/06 Energy & the Growth of North America, a KY State Fair thematic workshop