

CASE STUDY 2024-2025



Beyond the Bin: Education For Positive Change

August 2025



MISSOURI BOTANICAL GARDEN



Credit: Mary Buckendorf, Waste Audit with Gene Slay's Girls and Boys Club

CASE STUDIES AND LESSONS LEARNED FROM THE 2024-25 WASTE EDUCATION PROGRAMS

Leadership in Environmental Action Projects (LEAP) is a student action program that reduces, reuses and recycles trash from schools and communities and informs people about local solid waste and resource issues. LEAP uses student/community partnerships and cooperative learning to achieve these goals.

LEAP is a program of Missouri Botanical Garden's EarthWays Center with funding support from the St. Louis-Jefferson Solid Waste Management District and the Missouri Department of Natural Resources.

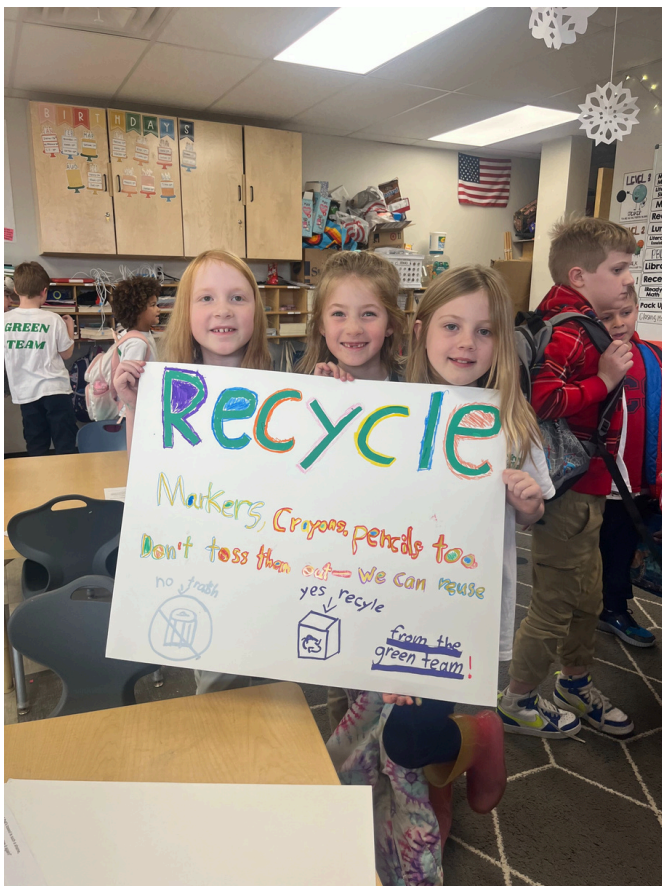
EARTHWAYS CENTER



Summary

For the 2024-25 academic year, many K-12 schools set new goals for waste reduction. Schools focused on building knowledge and habits in students through **“Beyond the Bin: Education For Positive Change”**. The following stories highlight the efforts to reduce waste in schools and communities across multiple program areas, including the Leadership in Environmental Action Projects.

The Leadership in Environmental Action Projects (LEAP) Program has been continuously supported by the St. Louis-Jefferson Solid Waste Management District since 1993. Through LEAP, students are encouraged to develop their own waste reduction projects and enact change within their communities through the use of the 8-Step Action Plan problem solving framework. The LEAP Program offers yearlong support of student action projects, called Special Projects, and on-demand programs for schools looking for expertise in a specific waste area. Three Special Projects were supported in schools and communities this year. These projects included work with **Hazelwood Central High School, Gene Slay’s Girls and Boys Club, and Premier Charter School**. School communities, teachers, and students were prepared and ready to build better practices this school year. Through the practices of building knowledge, gathering data, and creating educational campaigns, students and teachers have created more sustainable schools.



Credit: Top Photo: Anna McGraw, Recycling Posters at Premier Charter School
Bottom Photo: Mary Buckendorf, Waste Audit at Gene Slay's Girls and Boys Club



Leadership in Environmental Action Projects (LEAP)

Hazelwood Central High School's (HCHS) waste management prior to LEAP relied exclusively on custodial staff and an external vendor. Educators saw an opportunity: students could collect recycling, weigh paper and plastics, and maintain a running school-wide total of diverted material. This would turn recycling into a student-driven, real-world, problem-solving club.

Although there were many barriers that this program encountered such as delayed approvals, students not choosing to be in this class, and so forth, the team was able to conduct a preliminary waste audit. Results confirmed that paper and plastic were the most common items sent to landfill, underscoring the need for improved recycling systems and student engagement.

The Hazelwood Central educators were able to receive recycling bins and started to spark the important conversations with their students about sustainability and recycling within the schools.

However, the project stalled before full implementation. Teachers leading the initiative transitioned out of the school, but the project was passed on to a different class, Life- Skills Integration, where students are enthusiastic about taking leadership of recycling efforts.

Looking ahead, the recycling program at HCHS is expected to gain traction under new education leadership. With consistent student ownership and the Life-Skills Integration class, there is strong potential to overcome earlier barriers and embed sustainability into the school culture long-term.

Gene Slay's Girls and Boys Club

Gene Slay's Girls & Boys Club serves youth ages 6–16 at multiple sites in south St. Louis City. Before connecting with LEAP, members were not actively engaged in recycling or waste reduction. Through the Garden Club, run with partner Green St. Louis Machine, students had begun exploring sustainability topics. The LEAP “Decomposer Detectives” sessions provided an ideal opportunity to bring waste education to life through vermicomposting.

Three sessions were implemented at the Soulard and Dutchtown campuses. During the first session, students were fascinated yet hesitant about worms. Gradually, curiosity overcame reluctance, and most participants eagerly handled worms by the end. In the second session, students conducted a waste audit using meal leftovers. Initially disgusted, they grew engaged, classifying trash and predicting outcomes. This helped them understand data collection, weight vs. volume, and categories of waste. By the third session, students were connecting food waste directly to worm care.



Credit: Dana Gulizia, Waste Audit at Hazelwood Central High School

The program extended beyond club members. At the Green Gala, Garden Club participants presented their worm farm to an audience of over 330 children and adults. Their confidence in explaining vermicomposting transformed them into ambassadors for sustainability. Even non-Garden Club youth now check on the worms regularly, expanding the impact across the organization.

The worm farm is now a permanent part of the Garden Club. During the school year, members maintain it, and during summer camp, caring for worms is integrated into programming. Youth ownership of the project ensures continuity, with members invested in feeding and protecting the worms over time.

Premier Charter School

Premier Charter School in South St. Louis launched its first-ever Green Club this year, engaging 1st and 2nd grade students in school-wide sustainability efforts. Before participating in LEAP, the school had no sustainability team or formal green practices in place. The Green Club provided a platform for students to explore environmental topics and take tangible steps to make their school community more eco-conscious.

The club began with a guiding question: How can we, as young environmental leaders, work together to make our school and community greener, healthier, and more sustainable? In response, students conducted a campus walk to identify needs and proposed solutions- which in their case was needing more recycling bins around their campus.

After finding the problem areas within the school, we worked with educators and the students to conduct a waste audit, implement a recycling system throughout the school, and learn about reusing materials. Classroom bins were personalized with student-created characters to promote engagement, especially among early learners.

To increase awareness, students created a website and digital presentation featuring recycling tips, a quiz, a game, and a video tutorial. Plans are underway to create a school-wide recycling contest and a student-authored book about the club's journey, goals, and how others can get involved.

Looking ahead, the recycling bins are being used amongst the 1st and 2nd grade hallways and sustainability efforts are connecting to academic units across multiple grades—from Kindergarten's Earth stewardship lessons to 8th grade's "Going Green, Growing Green" project.



Credit:

Top Photo: Mary Buckendorf, Decomposer Detectives at Gene Slay's Girls and Boys Club

Bottom Photo: Anna McGraw, Waste Audit at Premier Charter School

STEM Events: A Focus on Families

EarthWays Center built on the success of previous STEM Saturday events, which had connected families to information about sustainability, waste, recycling and composting. In the summer of 2024, EarthWays formed a partnership with the STL Summer Adventure through St. Louis Public Library and St. Louis County Library to present a Sustainable STEM Night at Missouri Botanical Garden. This event connected families with community organizations to support students learning about Science, Technology, Engineering, and Math, but also supported them learning about how to reduce waste in their homes and communities. Due to popularity, we were able to continue this partnership this past summer and saw an even better response seeing double the number of attendees compared to 2024.

For this evening, families registered through their local library to attend a free night at the Garden with activities provided by partner organizations that centered on sustainability, recycling, waste reduction, creative reuse, and composting. Organizations that provided activities included St. Louis County Department of

Public Health, Great Rivers Greenway, Forest ReLeaf, Brightside St. Louis, and All Hands on Deck. Families could watch a puppet show about recycling, learn about compost, and see how to reduce food waste in St. Louis. Buses were provided for families from two library sites to ensure that those without transportation would have access to the event.

The libraries helped to provide registration and promotional support, while partner organizations provided activities. The Garden's Outdoor Youth Corps staffed the evening both helping families receive giveaways but also created their own table where they taught about tree identification. This was a great evening to showcase different community programs and how to connect with them at any age.



Credit: Kassie Knight, Missouri Botanical Garden, Ben Winkler - St. Louis County Department of Public Health

Challenges and Next Steps

Beyond the Bin: Education for Positive Change

Over the past year, schools participating in waste reduction efforts have demonstrated both inspiring progress and valuable lessons. A standout success has been the ability of participating schools to set clear, achievable goals—building strong foundations for long-term sustainability. Across the board, there was a shared understanding that the LEAP project is more than a one-time effort; it's a launchpad for meaningful, lasting change.

Still, challenges remain. One of the most persistent is the need for deeper institutional engagement. It's clear that when school leadership is involved from the beginning, the potential for success grows significantly. With this in mind, we're working closely with Hazelwood Central to ensure that both educators and administrators are well-prepared and aligned for the upcoming school year.

Looking Ahead

As we move into a new school year, the EarthWays Center is committed to going beyond the bin—supporting schools in using sustainability as a tool for learning, leadership, and community change.

Our focus is on building even more flexibility into the LEAP Program, helping teachers find creative ways to integrate student-led sustainability projects into their unique schedules and classrooms. We recently updated our waste audit forms and tools which we expect to use in the new school year.

We're also continuing to empower educators and student sustainability champions in forming strong Green Teams—ensuring every school has the support and structure needed to turn ideas into action.

By helping students and teachers “**Beyond the Bin,**” EarthWays Center has helped create the foundation for schools to engage in larger sustainability projects for years to come.



Credit: Olivia Dove, Missouri Botanical Garden, Quinn Swope at Library STEM Night

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