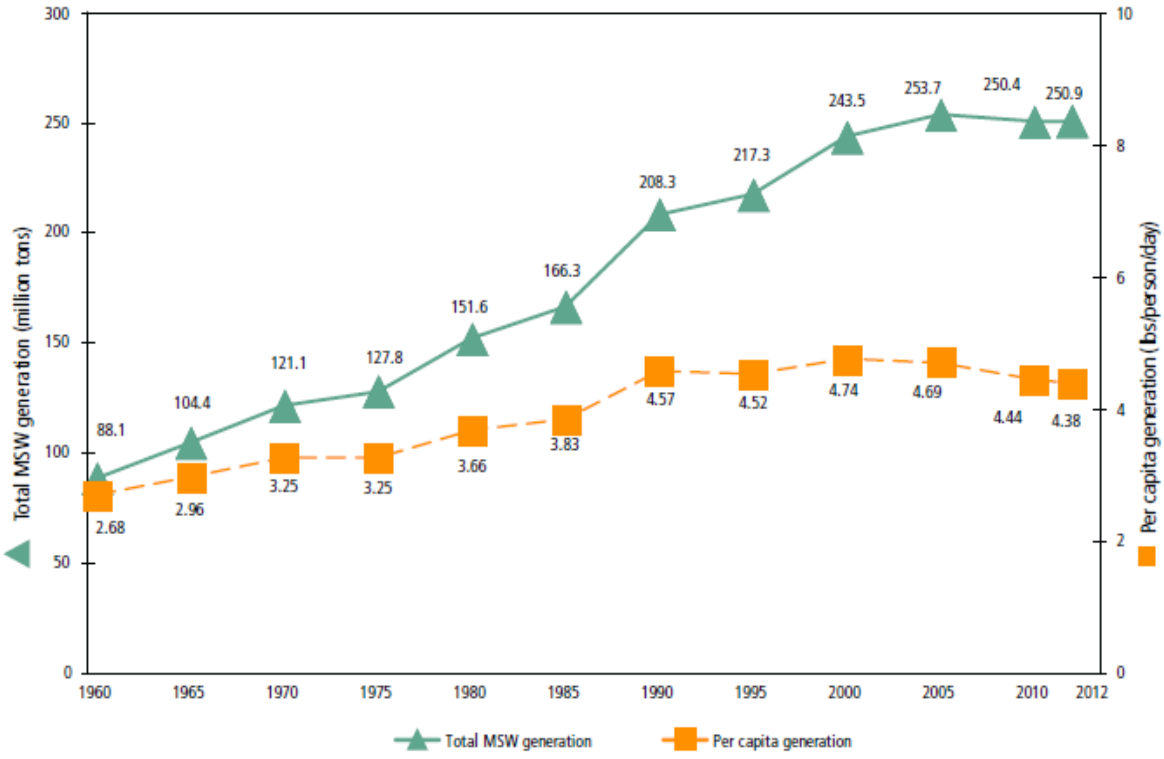
Breaking the ReCycle

With the constant environmental messaging pervasive in our society, it would be hard to believe that one would not understand the benefits of recycling. However, understanding the benefits and converting that knowledge into action is a separate matter. A 2011 study by GfK Custom Research North America showed that only 58% of Americans said that recycling was a regular part of their weekly activities. More concerning than the lack of participation was the number of respondents, 81%[1], who were confused by what exactly is recyclable.

The problem of recycling appears to be multifaceted when looking at the historical data over the last several decades. While as a society, recycling efforts have increased dramatically over the past 25 years, the amount of waste we are producing is also rapidly accelerating. The following chart produced by the EPA quantifies Municipal Solid Waste ("MSW") generation in contrast to per capita generation and illustrates the issue of the effects of a growing population.

Figure 1. MSW Generation Rates, 1960 to 2012



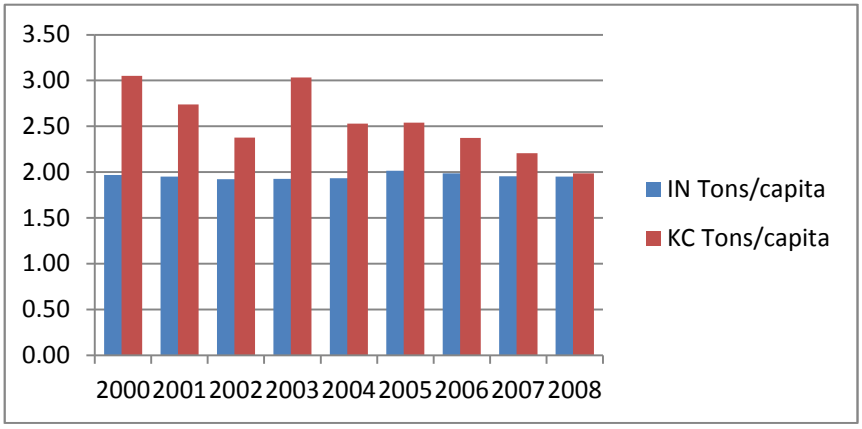
[1] U.S. short tons unless specified.

1

[1] http://www.call2recycle.org/recycling-surveys-offer-some-surprising-results-waste-recycling-news/

In Indiana, municipal solid waste per capita trends appear to be consistent with the national data presented. According to a 2013 study by Ball State University, less than 10% of materials that are thrown away by Hoosiers are truly considered trash. [2] This same report indicates that 65.8% of the items that regularly fill landfills are actually recyclable, with 16.8% representing compostable material including food scraps and yard trimmings, and 9.7% in the other recoverable category. This leaves only 7.6% of remaining items such as sharps and diapers that are considered non-usable, non-recyclable items.

How do the Kosciusko County waste trends compare to the Ball State study? The following graph, plotted using data from the 2008 Annual Report of Indiana's Department of Environmental Management, illustrates the state and county level of landfill tons per capita from 2000 to 2008. (It is important to note that the above national graph is showing total generation, while the State of Indiana data below denotes actual tons that have reached landfills).



As the data indicates, Kosciusko County started the new millennium significantly above Indiana's average in tons of waste filling landfill space per capita. However, while the state stayed largely stagnant through 2008, Kosciusko trended downward over the decade and now ranks just above the state mark at 1.99 tons/capita vs 1.95 tons/capita. These downwards trends are the result of community efforts to reduce the amount of "non-waste" that is placed in our landfills through both recycling and reduction efforts. However, there is still an opportunity in our county to improve overall participation and reduce the percentage of waste that is actually thrown away. So what more could be done to address this waste?

As was discussed earlier in this section, of the 65.8% of items currently found in Indiana landfills that are actually recyclable, the largest two categories consist of paper and plastic items. [3]

[2] Indiana Recycling Coalition, July 2013, "Indiana's Recycling Industry" Stacey Wheeler
[3] Municipal Solid Waste Characterization Study of Indiana, 2012

Table 3-5: MSW Composition from Different Indiana Waste Origins					
Materials	**U**	**S**	**R**	**U/S**	**S/R**
Paper	**27.88%**	**31.38%**	**31.36%**	**29.63%**	**31.37%**
OCC and Kraft Bags	10.76%	9.63%	10.73%	10.20%	10.18%
Newspaper	4.23%	7.03%	4.43%	5.63%	5.73%
Magazines	1.66%	3.78%	2.42%	2.72%	3.10%
High Grade/Office	4.98%	3.94%	5.10%	4.46%	4.52%
Mixed Recyclable Paper	1.05%	1.01%	2.07%	1.03%	1.54%
Compostable Paper	4.76%	2.89%	4.96%	3.83%	3.92%
Other Non-recyclable, Non-compostable Paper	0.43%	3.10%	1.65%	1.77%	2.38%
Plastic	**17.27%**	**14.62%**	**16.61%**	**15.95%**	**15.62%**
#1 PET Non-Deposit Beverage Containers	1.22%	1.44%	1.20%	1.33%	1.32%
#1 PET Deposit Beverage Containers	0.91%	1.36%	1.14%	1.13%	1.25%
#1 PET All Other Containers	0.94%	0.34%	0.64%	0.64%	0.49%
#2 HDPE Containers	1.69%	1.37%	1.81%	1.53%	1.59%
# 6 Styrofoam	0.59%	1.03%	1.12%	0.81%	1.07%
All Other Numbered Containers (#3,4,5,6,7)	0.72%	0.83%	0.97%	0.77%	0.90%
Other Plastic – NOT Numbered	6.03%	3.87%	4.29%	4.95%	4.08%
Film/Wrap/Bags	5.19%	4.37%	5.45%	4.78%	4.91%

Paper and plastic items make up over 40% of the recyclable items that make their way to the landfill each year representing an excess of 40,000 tons per year in KC alone. Eliminating a large percentage of these two categories would nearly double the useful life of county landfills, provide feedstock for local manufacturers, and decrease the financial burden for local taxpayers. While there is still work to be done to reach the average recycling percentage in Indiana, Kosciusko County has implemented many initiatives to drive education concerning recycling and reduction of waste.

Current State of Recycling in Kosciusko County:

The Kosciusko County Solid Waste Management District was formed in 1991 with the purpose of reducing waste directed to landfills and today operates as the KC Recycling Depot with a mission of "Diverting waste, saving natural resources and keeping Kosciusko a safe place". The organization is a unit of government that is partially funded by landfill tipping fees that are collected from taxpayers through a solid waste annual fee of 0.0016% of assessed property values. For a home assessed at $100,000, the landfill tipping fee is $1.60 and is collected through Kosciusko County property taxes. In 2014, the KC Recycling Depot received $87,000 of fees from property taxes to fund its recycling efforts for the county. In 2014, the KC Recycling Depot recycled over 3.8 million pounds of waste that consisted primarily of recycled post-consumer goods that are collected at 9 consumer sort stations located throughout the footprint of the county.

The nine recycling stations in Kosciusko are located at Claypool, Leesburg, Mentone, Milford, North Webster, Pierceton, Silver Lake, Syracuse, and in Warsaw at the KC Depot headquarters located on 220 South Union Street. Importantly, during 2014, the KC Recycling Depot also collected 100,000 pounds of household hazardous waste consisting of chemicals and paints, batteries, mercury, sharps (biohazard waste), oil, antifreeze, oil filters, smoke alarms, and propane tanks. In addition, the Depot collected 176,000 pounds of electronics, 28,000 pounds of reuse room paint and 40,000 pounds of old tires. A dedicated electronic drive in November 15, 2014 collected 36,000 pounds of old TV's and electronics that are made of valuable resources and materials including metals, plastics, and glass. The electronic drive attracted 273 cars that dropped off materials from areas within and outside the county lines.

Overall, in 2014, the KC Recycling Depot recycled 1,903 tons (3.81 million pounds) which represents 1.10% of the 172,109 tons of garbage that was deposited at the county landfill.[4] In 2015, the KC Recycling Depot made significant strides to broaden the types of consumer recyclable products able to be collected at the 9 stations and significantly, also migrated to "single-stream recycling" method, which is the emerging trend in recycling. Kosciusko county residents and businesses are now able to stop sorting materials and collect all recyclables in a combined manner instead of separating items into separate bins. Studies show single stream recycling increases participation in communities up to 30% more and in some cases, higher. [5] In fact, the towns of Kosciusko County with curbside recycling demonstrated the following recycling participation rates for 2014:

Town with Curbside Recycling:	**Recycling Participation Rate** [6]
Warsaw	12.6%
Winona Lake	28.4%
Syracuse	17.3%
Etna Green	17.9%

The townships with curb-side recycling are charging residents for this service through their town assessments. The remaining towns of the county that have not elected to offer curb-side recycling are able to use the KC Recycling Depot 9 recycling centers and their residents are also able to negotiate individual recycling contracts with third parties that offer the service. These individual arrangements are likely more expensive than a centralized township initiative, do not contribute as much in raising recycling participation rates as compared to a centralized arrangement and have not been measured in this study.

The vendor that is providing single stream recycling to Kosciusko county has a facility that processes recycling materials collected from municipalities and subscription customers throughout Michiana as well as within a 100 mile + radius of Elkhart. The

[4] KC Recycling Depot, "District Recycling in Tons" and IDEM Landfill Statistics, 2014
[5] Wasteawaygroup.com "Recycling works- preserving our natural resources"
[6] KC Recycling Depot, town recycling totals in tons as a percent of municipal solid waste and recycling totals combined, 2014

new technology greatly increases the recovery of recyclables and is able to process over 450 tons of material every day. One ton equals 2,000 pounds and the 3.8 million pounds of consumer recycling collected at the recycling stations in Kosciusko County last year alone equates to 1,900 tons, an amount easily processed in a single week at the material recovery facility.

"Recycling Works" processing includes a series of mechanical screens, magnets, eddy-current separators, optical scanners and hand pickers for sorting and processing recyclable paper, glass, plastics, aluminum and metals. As materials move along conveyor belts, a set of screens separates the paper and cardboard while crushing glass items. Powerful magnets remove tin, steel and other metal. Reverse magnets known as eddy currents cause aluminum cans to fly off the conveyor belt and into a bin for bundling. Separated items are collected and compressed into bales for shipping to paper mills, metal smelting operations, plastic and glass reclaimers who further process the recycled materials for reuse in the marketplace. The new technology greatly increases the recovery of recyclables every day and as much as 98.0% of all collected items are recycled.

KC Recycling Depot impact on Warsaw School System:

In addition to collecting recyclable materials, the KC Recycling Depot provides education about the importance of "Reduce, Reuse and Recycle to Kosciusko Counties-young and old". The Depot provides an education resource, Sarah Fruit, who is teaching an IDEM (Indiana Department of Environmental Management) approved curriculum and provides education to the Warsaw School District to teach students and teachers the proper recycling methods and what it takes for a community to be successful at recycling. Students are taught the 3 R's to "REDUCE, REUSE and RECYCLE and to Rethink, Recover, Reject and Respect our earth". The curriculum focuses on composting for kindergarteners, pollution and how it affects our environment for first graders, recycling and the impact of waste on our soil and water for second graders, pollution in our rivers is taught to third graders, landfills and where our trash goes is taught to fourth graders.

In addition, during 2014, children from 6 area schools collected and sorted plastic caps as part of the "Bench for Caps Program". The goal for each organization was to collect 400 pounds of caps and raise $200 to get their school bench. The program was a chance for children to be personally involved in diverting waste from the landfill and closing the Reduce, Reuse Recycle Loop by purchasing recycled content goods. In a closed loop recycling program, post consumer waste, which generally comes from our homes and businesses, is kept out of the landfill and is put back into customer products. Participating schools and their recycled poundage were: Sacred Heart- 1,868, Madison-902, Eisenhower- 875, Lincoln- 431, Claypool- 447, and Gateway Education 671, for a total of 5,194 pounds of caps diverted from the landfill and converted to benches at the Green Tree Plastics Facility in Evansville. "Small caps plus small kids equals a big difference." (Shelly Heckert- Director, KC Recycling Depot).

The focus on education and increased awareness has the potential to benefit the future generations that are largely impacted by the waste generated by current and past generations and provides an opportunity for a conversation at home with parents and

caregivers with the goal of habit changing methods for the disposal of waste and recyclable products in residences as well as in businesses. The cycle of waste is broken when our behavior changes and we lower trash volumes, and we recycle goods into new products.

Linking Recycling to our county's lakes and streams:

Strong community recycling programs can contribute to a healthy, united community. Some of the many benefits of recycling are the prevention of greenhouse gases (GHG's), and supporting local economies by creating jobs, which grows tax revenues. Recycling programs help to improve water and air quality and are building blocks for sustainable growing communities[7]. Recycling and reducing waste keeps trash out of incinerators and landfills where it can produce methane gas emissions that trap over 21 times more heat in the atmosphere than carbon dioxide. A carbon footprint measures the total greenhouse gas emission caused directly and indirectly by a person, organization, event or product. The size of a person's carbon footprint is the measurement of their contribution to climate change based on how much carbon dioxide and other greenhouse gases are produced as a result of their actions and lifestyle choices. The Indiana Recycling Coalition states, waste prevention and recycling work together to shrink our carbon footprint in three important ways:

1. Reducing emissions associated with the energy needed to produce and transport new products
2. Reducing emission from incinerators and landfills filled with our trash
3. Increasing "carbon sequestration" in trees left standing when we use recycled paper [8]

A community's commitment to a cleaner environment is often considered to reflect commitment to a higher quality of living. Recycling also attracts companies that reprocess recyclables and the suppliers that reuse these materials in their products. Manufacturing with recycled products creates 93 U.S. jobs for every 10,000 tons recycled and ultimately reduces our carbon footprint. [9]

In Washington County, Kentucky farming is a way of life. The county approached recycling regionally, allowing six counties to participate in recycling. Washington County provided recycling to rural areas that otherwise would not receive the service. Washington County was the first Certified Clean County in Kentucky and also the first county to receive grant funds for its regional approach to recycling. Recycling is adding economic value to the community and providing an opportunity for residents to tackle environmental concerns on a local level. [10]

Kosciusko County too has its roots in agriculture. Even dating back to the 1700's, the first people of Indiana, its Indian tribes depended on the natural abundance provided by

[7] Epa.gov, "Recycling: A component of Strong Community Development".
[8] Indianarecycling.org, "Curb your carbon footprint"
[9] Petoyskeyplastics.com, "We Make Recycling Easy and Profitable"
[10] Washington county, Kentucky

the soil, terrain, rivers and climate. [11] The county was officially settled in 1840 after the Indian tribes ceded their land to the U. S. government. Agriculture was and to this day still is a major characteristic of the economy. In the mid 1800's, agriculture drove significant population growth in the county. In the 1980's through 2000, the orthopedic industry contributed significantly to the population growth of the county[12]. Today, the county is the 19th most populous county in the state with average jobs paying $53,511, unemployment of 4.7% and GDP of $2.7 billion, based on the most recent data available.[13] The county's agricultural and orthopedic industries have a lot to gain from preserving its rich soil, pristine lakes and attracting a top performing labor force to the area through high quality of life standards.

Notably, Kosciusko County has over 100 lakes in its 558 square mile radius. Kosciusko county lakes are valued as sources of recreation and scenery, but are less often recognized for their economic value. Grace College's Lakes and Streams Center is quantifying that economic value. The early stages of their study found that sport fishing in the county is a $27.8 million annual industry. In 2012, the presence of lakes in the county directly generated at least $15 million in additional property tax revenue from property taxes that are tied to higher lake property values. "These tax revenues and property values are subject to change with improved or degraded health of our lakes," said Nate Bosch, Director for the Lakes and Streams, "Therefore the research, education and collaborative efforts of this center and others are critical for the county public service, economic development and personal wealth considerations."[14]

Despite environmental regulations that protect the quality of streams, lakes and wetlands, solid waste in the form of trash, litter and garbage often ends up in these surface waters. Regardless of source or type, trash is a form of water pollution. The most common litter in U. S. streams is household trash: plastic cups, plastic bags, wrapping materials, fast-food wrappers, plastic bottles and other plastic containers. Plastics can be especially hazardous to wildlife. Depending on their form, plastics can either be ingested, causing internal organ failure, or they can cause a slow strangulation.[15] Recycling post consumer waste will reduce water pollution thereby protecting a gem of Kosciusko County.

Linking Recycling to our economy:

In addition to recycling's environmental benefits, recyclable materials are a significant economic commodity that creates a strong workforce and stimulates job creation. [16] The Indiana Recycling Industry study, published on July 31, 2013, calculates the job growth opportunities if Indiana were to divert 10%, 25% or 50% of the municipal solid waste

[11] Hoosiers, A New History of Indiana, James H. Madison p. 10
[12] J. Teevan, 2/3/15 "Kosciusko and Other Rural Counties in Indiana" Kosciusko Leadership Academy
[13] J. Teevan, 2/3/15 "Midwest Economic Rankings: GDP and Manufacture", Kosciusko Leadership Academy
[14] Inkfreenews.com, October 18, 2013, Kosciusko Sport Fishing Nets $27.8 million"
[15] Waterencyclopedia.com, "Pollution of Streams by Garbage and Trash"
[16] Indiana Recycling Coalition, July 2013, "Indiana's Recycling Industry" Stacey Wheeler

(MSW) landfilled and incinerated in the state. Most importantly, this study shows that increased recycling leads to the creation of new jobs. The Indiana Recycling Industry study measured that if Indiana were to increase diversion rate of in-state waste by 10%, job multiplier data suggest that Hoosiers would see the creation of 3,877 new jobs. A 25% increase in the diversion rate would create 9,908 new jobs, and a 50% increase in the state's waste diversion rate of in–state waste would lead to almost 20,000 new Indiana jobs.

Current metrics indicate that discarding waste is not labor intensive and creates only 0.76 jobs per 1,000 tons of materials handled though collection and landfilling/incineration. By contrast, the collection and processing of recyclable/compostable materials is far more labor intensive. Collecting and sorting recyclable material requires three to four times more employees than landfilling/incinerating the same material.

Overall, a total of 8.6 million tons of materials is sent to Indiana landfills and incinerator facilities each year. Approximately 30 percent of this waste is imported from other states (Illinois, Ohio, Michigan and Kentucky). About 2.2 tons is from Illinois and this constitutes roughly one quarter of all the landfilled/incinerated material in the state of Indiana each year. Hoosiers send about 6 million tons of material to their landfills and incinerator facilities each year. Over 92% of what gets thrown away in Indiana is valuable recyclable and compostable material. Most of Indiana's imported waste has the potential to be recycled and composted, but almost all of it is buried in our statewide landfill facilities.

A statewide count conducted as part of the Indiana Recycling Industry jobs study identified 77 Hoosier manufacturers that use and depend on "recycled content feedstock" to make new consumer products. The study measured that the Indiana manufacturers that use recycled feedstock, employ 30,447 full-time equivalents. Most recently, the Indianapolis Business Journal published the top 25 largest Indianapolis-Area Recycling Firms. These firms employ 1,500 full-time equivalents.[17] In Kosciusko County, Polywood is an example of a company that uses recycled plastics to produce its premier wood alternative in outdoor furniture with its all-weather endurance, improved aesthetics and exceptional durability. The company is a top employer of the Syracuse community.

Recycled content feedstock is defined as a valuable commodity that manufacturers use to produce consumer products and contrasts with virgin material. Recycled content feedstock is derived from "recyclates". Recyclates is a raw material that is sent to and processed in a waste recycling plant, which will be used to form new products. The material is collected in various methods and delivered to a facility where it undergoes re-manufacturing so that is can be used in the production of new materials or products. For example, plastic bottles that are collected can be re-used and made into plastic pellets, a new product. Oil based plastics do not degrade, but many types can be recycled. Once collected, plastics go through many steps and can be formed into pellets that are then sold back to plastic companies. [18]

[17] Indiana Business Journal (February 16-22, 2015)
[18] Freudenrich, C. (2014). "How Plastics Work

Other Whitepaper ideas considered during our research

Like many research projects, managing the scope of the recycling whitepaper was a challenge and only crystalized for our group towards the end of our research. The first consideration of a **County-wide recycled materials pickup** seemed to be a reasonable place to start. While the larger municipalities in our county provide this service, most rural areas do not. The reason was simple economics.

As we learned more about the current waste management model in Kosciusko County, it was obvious that the only way county-wide pickup would become a reality was to increase taxes or charge the areas not currently served. The political implications of taxes created a non-starter for the scope of this project.

The next item on the list was the idea of **enhancing the education emphasis in our elementary schools.** The perfect time to teach our children an alternative to the norm is to socialize them in the idea from day one. Habits become habits by practicing them over time and educating the benefits to our society. Through our research we discovered that this part of the recycling equation was already being executed in our county by the KC Recycling Depot in the Warsaw Community Schools. The details of the educational plan are outlined on page 5 of this paper.

Another very interesting project that the group discovered along this journey was the number of **sustainable-based product manufacturing** that occurs in Kosciusko County. This was also addressed in the "Linking recycling to our economy: section of the paper starting on page 7. These local manufacturers rely on recycled core stock to create their various products providing not only a reduction in landfilled materials, but jobs creation and economic growth for our county as well.

The final consideration of our group was a "**Recycling Contest**" at the annual Lakes and Streams Festival. The impact of waste to our lakes and streams was outlined on page 6 of this paper. The purpose of the contest would draw attention to the importance of waste reduction and recycling on the valuable lakes and streams in our community. This contest would also support the ideals of the Lakes and Streams Festival, while allowing local students, businesses, and individuals to use their talents to create art and innovations made from things people had thrown away. One excellent example of reuse of waste is the Landfillharmonic from Cateura, Paraguay.[19]

Our Proposal: Filtered Water Dispensers in WCS

Given the many important benefits of recycling already discussed, and the criticality of educating the next generation of students about the need to **Reduce, Reuse, and Recycle**, our KLA team decided to propose a project plan that included several elements of this white paper while focusing on an achievable project. Our project proposal is to install two water bottle filling stations within each of the Warsaw Community Elementary Schools, with the hope of further expansion throughout the country in the coming years. The benefits of this plan span across several different areas:

[19] http://www.landfillharmonicmovie.com/

1) Environmental/Economic Benefits: Alternative options decreases the amount of plastic water bottles consumed in each of these schools. Every water bottle not consumed is a water bottle potentially not ending up in our county's lakes, streams and landfills.
2) Health Benefits: Installing filling stations removes a potential conduit for virus/bacteria exchange via public drinking fountains in public schools. This is explored more in-depth later in the paper.
3) Education Benefits: Increasing student education and awareness of the importance of recycling pays dividends for not only the students themselves, but for their families and our community in general.

The breakthrough of this plan came while our team was discussing recycling efforts with Mr. Tom Ray, principal of Washington Elementary School. During our discussion, Mr. Ray discussed the critical need to preserve our county's lakes and streams, and the important link of our waste making its way into our county's water system. During our discussion, he mentioned that his teachers were challenged by the elementary students at Washington who suggested using reusable water bottles instead of plastic. The installation of water filling stations in our elementary schools is a perfect tie-in to several of the issues that we uncovered during our research.

WCS (Warsaw Community Schools) consists of one high school, two middle schools (Edgewood and Lakeview) and eight elementary schools (Claypool, Eisenhower, Harrison, Jefferson, Leesburg, Lincoln, Madison, and Washington.[20] According to the Indiana Department of Education website, there are 3,832 K-6th graders in the Warsaw school system for the 2014/2015 year.[21] Assuming just a quarter of the students begin filling a reusable bottle up once a week during the 35-week school year instead of using disposable plastic bottles, this would translate into **over 33,500 bottles** removed from our County's waste and landfills over the course of one calendar school year. We would anticipate an even larger percentage of students electing to utilize reusable water bottles as they become more familiar with seeing them in the school systems.

In addition to environmental benefits, there are some important health benefits for incorporating filling stations into our schools. According to the NSF (National Sanitation Foundation), public drinking fountains have a high potential for bacterial colonization.[22] In fact, in a recent study done at two Michigan elementary schools, classroom water fountain spigots contained on average **over 2.7 million** CFUs/in² (colony-forming units / square inch). Comparing this number to the average of 3,200 CFUs/in² on the average elementary school toilet seat, one can understand the need to offer alternative options for our students to prevent germ and bacterial transmission.

[20] Warsaw Community Schools Website (www.warsaw.k12.in.us)
[21] http://compass.doe.in.gov/dashboard/enrollment.aspx?type=corp&id=4415
[22] http://www.nsf.org/consumer-resources/studies-articles/germ-studies/germiest-places-schools/

Total Aerobic Bacteria per Square Inch	
Sample Location	**(Colony Forming Units / in sq.)**
Water Fountain Spigot (classroom)	2,700,000 CFU/in sq.
Water Fountain Spigot (cafeteria)	62,000 CFU/in sq.
Plastic Reusable Cafeteria Tray	33,800 CFU/in sq.
Faucet (cold water handle)	32,000 CFU/in sq.
Faucet (hot water handle)	18,000 CFU/in sq.
Cafeteria Plate	15,800 CFU/in sq.
Keyboard (classroom)	3,300 CFU/in sq.
Toilet Seat	3,200 CFU/in sq.
Student's Hand	1,200 CFU/in sq.
Animal Cage	1,200 CFU/in sq.

To date, there here have been several studies that have looked at the effectiveness of incorporating water bottle filling stations into campus settings. In a study from Penn State University in 2012 that installed filling stations at several locations across it's campus, it was noted that before the installation of fill stations around campus, the Penn State community regularly consumed about 400 tons of plastic water bottles each year, a figure that would translate into filling the stadium field knee-deep with this plastic waste.[23]

While there are several manufacturers that can be utilized for the purchase and installation of water filling stations, two the major filling station vendors are Oasis and Elkey. Based upon some of the previously mentioned studies, the estimated costs for installation of one of these systems is $2,100 for a brand new system or around $1200 for a water fountain retro-fitted as a filling station. Note, below is an example of a commonly installed water bottle filling station:

23

http://sustainability.psu.edu/sites/default/files/documents/HydrationStatBusinessPlanFinal.pdf

Fig. 1. Standard water bottle filling station

Because Warsaw Community elementary schools already have public drinking fountains in place, we are estimating that existing systems can be "retrofitted" to include these new filling stations. Estimating $1,200/station and installing 16 filling stations (2/elementary school) would require a project budget of $19,200. There are a few potential funding areas that we considered to reduce this cost.

One cost reduction opportunity is adding in the installation of these stations into the currently proposed school renovations at Edgewood Middle School, Lincoln Elementary and Washington Elementary schools. Coming up for a vote shortly in Kosciusko County is a proposal to completely renovate the interior of these three schools. Installing filling stations during the update would further reduce the initial outlay of the project and could act as a good initial pilot for the program. A second cost reduction strategy would be to partner with each of the local elementary schools on a 50:50 cost basis. Each school could contribute 50% of the installation costs, which could be offset by having the students purchase BPA-free reusable water bottles emblazoned with their school mascots.