

## Reducing Styrofoam Tray Waste

Polystyrene, (C<sub>8</sub>H<sub>8</sub>)<sub>n</sub>, is used in products all across the nation, from packaging and yogurt containers, to disposable razors and, for the students at my high school, in their disposable lunch trays. There are 380 (Dr. Steve Atwater, 2014) students in attendance for the school year of 2015-2016, 110 of which eat one hot lunch per day (Rachel. 2015). This same number of students proceed to throw away their tray into the nearby trashcan. From there, the trash bags filled with the Styrofoam trays are taken to the Central Peninsula Landfill (CPL) in Soldotna, Alaska and buried.

This burying of waste may seem like a quick and easy solution, but the trays that accumulate won't decompose completely for millions of years (Fier, 2015). While these trays average at about \$0.04 (Sanchez, 2015), the long term effects on the local environment are worth a fortune. Therefore, I am proposing a Caring for the Kenai project that will limit the amount of Styrofoam trays that are used at my school. Once put into action here, the next step would be to spread these practices to the entire Kenai Peninsula School District. Together, our schools can help reduce the amount of plastic waste that we produce.

Everyday hundreds of students across the Borough are purchasing and eating lunches served on Styrofoam lunch trays. These same trays are taken to be buried, where they will remain for millions of years. Over time, these trays (along with other plastics) may begin to leak harmful chemicals into the surrounding earth, and potentially affect the groundwater (Knoblauch, 2009). Plastics can also create a substance called landfill leachate, which is formed "When landfill waste degrades and rain rinses the resulting products out..." (Osterath, 2010). This liquid is then able to pollute the soil and the groundwater beneath.

According to their website, CPL has been managing leachate with "... on-site recirculation and off-site disposal at the Cities of Kenai and Homer wastewater treatment plants." They are also using a more long-term solution by "... evaporation through a leachate evaporation system" (Department, 2015). However, there are still dangers as no system is perfect and leachate spills can still happen. Regardless of landfill leachate it is still within our best interest to reduce the waste buried within our local landfills.

So what can be done? There are several ways that students at my school could cut down on their reliance of disposable plastic products. The first and most obvious choice, is to invest in new trays. The reusable plastic tray is already being used in schools across the nation, however, many are turned away from the idea because of the cost, which is significantly higher than what it costs to purchase disposable trays: up to six dollars per tray (Bullock, 2014). Yet the initial purchase of plastic trays is the main cost, any additional funds, i.e. the continual restocking of foam trays, are eliminated since they are reusable.

Another option for lowering a school's dependence on plastic is purchasing compostable trays, which are made out of recycled newspapers. Like the reusable plastic trays, compostable trays are slightly more expensive, averaging at \$0.12 (Sanchez, 2015), an eight cent increase from the Styrofoam tray. Although they cost slightly more, compostable items — like these trays — decompose at a much faster

rate, usually less than 180 days (Packaging, 2014). Being compostable also means these trays wouldn't need to be taken to the landfill. Instead, classes like Natural Resources, could recycle the trays for recreational purposes: class gardens, compost, or a fertilizer for the school grounds.

While cost may appear to be an issue, there are ways to resolve it as well. Schools in New York have begun a movement known as "Trayless Tuesdays" (Culture, 2015) where lunches are served on paper products only. This is incredibly easy to do, as many schools have the necessary supplies already in stock. New York schools are currently using paper boats to hold "... non-saucy foods, like sandwiches and burgers..." (Culture, 2015). If this movement was put into action, approximately 110 Styrofoam products would be eliminated per week, and approximately 3,300 in one school year. It needn't be limited to paper boats either, schools could also serve paper bag lunches one day a week, consisting of any number of cold items.

With practical ideas like these, my high school could slowly limit its use of plastics. But why stop there? I believe that we should project these ideas and solutions to all the schools in our district. If our district came together and united to remove polystyrene trays from our school cafeterias, imagine what could be accomplished. Thank you for taking the time to read and think about my proposal, I hope that these ideas will inspire others to join in, on the start of change.

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