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GEOL 1055

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4 February 2016

The Necessity of Ethical Development on the Issue of Illegal Dumping in Pittsburgh

Pittsburgh is a model city for its historic and powerful transition from its time as a massive industrial economy built on steel production that polluted the land, air, and water enormously to the much cleaner and livable city it is today. Yet the city is not completely finished in this transition to environmental consciousness because there is a growing dilemma surrounding the city’s waste disposal practices. Illegal dumping of waste is significantly prevalent in the Pittsburgh area and accounts for major economic, social, and environmental costs to each of the city’s communities. There are efforts instituted by the city to minimize the extent of these costs, but they do not fully realize the fundamental adjustments to the people’s environmental ethics that are needed to permanently resolve the presence and impacts of such waste disposal practices. As a result, Pittsburgh’s economic character does not properly reflect the necessary value that should be placed on its environmental ethics code. In order to correct this economic policy and thereby mitigate the amount and severity of the dumpsites, Pittsburgh must not only make proper waste disposal more economical but drastically realign the issue from that of one of economics to one of ethics.

 To understand why illegal dumping is so prevalent in Pittsburgh, we must first understand its geographic characteristics. The City of Pittsburgh is defined by 58.3 square miles of land, 2.8 miles of water, four major watersheds, and is home to 90 neighborhoods all connected by three major rivers: the Allegheny, the Monongahela, and the Ohio (*City of Pittsburgh Illegal*). These large land and water areas and their associated geography not only offer plentiful opportunities for outdoor recreation and tourism, but create unique spaces for neighborhoods, businesses, and public areas. The topography of Pittsburgh further contributes to its special geographic identity as the area is dominated by hills ranging vastly in size and grade (*City of Pittsburgh Illegal*). However special, this land contour significantly determines where development can and cannot occur as too great or uneven a slope does not safely accommodate for the establishment of roads, houses, businesses and/or useable public spaces (without unappealing costs), in turn leading to numerous undeveloped areas. These “remote and secluded places…where few people live and the roads are less traveled” become ill-considered rural patches overgrown by trees, shrubs, and vegetation, and ultimately ideal locations for dumping waste (*City of Pittsburgh Illegal* 1). Accordingly, they are deemed “high probability areas” by PA CleanWays’ 2009 report on its survey of illegal dump sites in Pittsburgh because of their proximity to and/or attachment with “pull-offs, roads with hillsides, [and] wooded areas” (*City of Pittsburgh Illegal* 2). Yet no matter what shape the dumpsites come in, they all present significant human, wildlife, and environmental concerns to both immediate and distant areas (*City of Pittsburgh Illegal* 2; "Illegal Dumping").

PA CleanWays is a non-profit organization that has focused on locating and cleaning up Pittsburgh’s illegal dumping and littering since 1990 and is working to mitigate the environmental degradation that these dumpsites exacerbate through their geography (*City of Pittsburgh Illegal*). From its same 2009 study, the organization found that more than half of all the 90 neighborhoods (48) are home to at least one illegal dumpsite, despite the presence of “drop-off centers” located in the West and East End, Hazelwood, and at the Public Works Center, and that each of the 90 neighborhoods has “mandatory trash collection and curbside recycling available,” (*City of Pittsburgh Illegal*). Among the 48 neighborhoods, PA CleanWays identified 279 dumpsites that harbored “an estimated 676.38 tons of trash,” whereby “[s]eventy-nine percent of the sites were determined to be active” (*City of Pittsburgh Illegal*). Furthermore, nine of the 279 dumpsites were 50 feet or closer to “some sort of waterway or body of water,” and three of which “had waste materials directly in the waterway itself.” (*City of Pittsburgh Illegal*). (It should be noted that this survey is seven years old [which means that illegal dumpsites created, cleaned up or added to since then are not accounted for in this report], and that PA CleanWays was not able to identify all possible dumpsites in the Pittsburgh area because some of which are located on “private lands or high crime/risk areas” that were deemed unable to survey (*City of Pittsburgh Illegal*)).

The dangers of illegal dumpsites pose great health and safety risks that “threaten human health, wildlife and the environment” for several reasons (*City of Pittsburgh Illegal*; "Illegal Dumping"). The waste found at the dumpsites “pollutes our soil, surface, and groundwater supplies as well as the air we breathe if a site catches on fire” regardless of whether they are located directly next to a waterway or residence as rain, wind, soil erosion and other environmental factors can spread the waste down the sweeping gradient of the hills (*City of Pittsburgh Illegal* 2). Physical harm to humans and other animals is a serious concern as well because of the presence of “broken glass, rusty metals, and toxic substances,” like anti-freeze and items used for methamphetamine production which have been found in dumpsites (*City of Pittsburgh Illegal* 1, 2; "Illegal Dumping"). Additionally, the waste and standing water “attracts disease-spreading rodents and mosquitoes,” that have the potential to carry West Nile Virus (*City of Pittsburgh Illegal* 1, 2; "Illegal Dumping"). Dumpsites also have severe consequences on Pittsburgh’s “quality of life and livability,” property values, property owner liability, and the $3 billion tourism industry, and contributes to the “’broken window theory’” in the city (*City of Pittsburgh Illegal* 2, 5; "Illegal Dumping"). This theory contends that as criminal and damaging acts such as illegal dumping become more prevalent or are left uncorrected, “quality of life is impacted and low-level property crime often increase” (*City of Pittsburgh Illegal* 2).

Illegal dumping is an issue deeply embedded in social and environmental ethics because the practitioners of such an act in the Pittsburgh area have many options for disposing of their waste properly as shown. In other words, these people are not forced to use the illegal dumpsites, they have the choice of whether or not to safely and properly dispose of their waste. This relates to the idea that illegal dumpsites are a commons, in the sense that “The Tragedy of the Commons” by Garrett Hardin uses, whereby “the rational man finds that his share of the cost of the wastes he discharges into the commons is less than the cost of” disposing of his waste in the proper, designated collection sites (Hardin 3). Hardin further explains that an individual’s actions against the commons are worsened by their false idea that their comparatively small contributing pollution has no significant impact on the environment in which they are polluting because they see themself as the only polluter, but in fact there are many more “rational” people who are polluting just the same and are, too, unbeknownst to each other, thus making each and every act of polluting significant (Hardin 2). But interestingly, this isn’t fully the case with illegal dumpsites as it is very likely that each person who dumbs their waste is in fact aware that they are not the only contributors because they can physically see the accumulation of waste (since it does not go out of sight as readily as chemicals leached into a stream or carbon dioxide released into the atmosphere do). This suggests that there is an additional dilemma to this instance of a commons; since each individual realizes that they are not the sole polluter (unlike individuals of other types of commons who are however ignorant of the fact), they are directly making a decision that considers their social and environmental ethics.

Often times, however true that the decision made comes out of the individual’s morality, it is not in the fortune or ability for them to simply choose based on morals alone; there recurrently exist several social and political incentives and forcings that determine how each individual chooses to dispose of their waste. As mentioned, Pittsburgh has many (although maybe not enough) proper garbage and recycling options at the household, community and citywide level, but this does not necessarily mean that using said options are always the cheapest and/or quickest means of disposing their waste (*City of Pittsburgh Illegal* 7). Many people are unfortunately driven to use the illegal dumpsites instead of the city-provided disposal means because of convenience, disposal and transportation costs, criminal activity, and lack of awareness and education (*City of Pittsburgh Illegal* 7; "Illegal Dumping"). As a result, these unintended incentives as they currently stand in Pittsburgh make illegal dumpsites demonstrative of a market failure because it is economically favorable for most people to dump their waste at such sites. Even more, returning to the idea of the commons, because most dumpsites occur on public land, suggesting that the community members initially had a choice on how they wanted to use it, this market failure is exacerbated and requires ethical consideration for potential solutions. It is clear that not only does Pittsburgh need to initiate an economic change to keep its public spaces free from illegally dumped waste, it must also implement a renewed sense of social and environmental ethics for any such remedial and preventative efforts.

Before elaborating on the potential economic and ethical solutions, it should be noted that there are means outside of either avenue for illegal dumping mitigation, though they are not as considerate of keeping waste in these public areas from ever entering. Enforcement of established law surrounding illegal dumping and littering and fining are two devices that can work to lessen the potential for future dumping acts because without sufficient implementation of them, as PA CleanWays reported, individuals in Pittsburgh have “[n]o fear of enforcement” to not dump their waste (*City of Pittsburgh Illegal* 7). By making a move to create additional laws as needed and “enforce [them] and levy meaningful and appropriate fines,” Pittsburgh can make illegal dumping less appealing on account that dumpers will face more probable and serious prospects of repercussion ("Illegal Dumping Cleaning Up Illegal"). These methods, however, are more so remedial in the sense that they don’t directly prevent dumping since they occur after the fact, and as a consequence should not be heavily relied as corrective means.

Fortunately, there are many alternative (and still complimentary) approaches to such coercive means that positively encourage people to dispose of their waste safely and properly and that also have favorable economic motivations. Special community clean-ups and collection events, like “adopt-a-dump” programs, are excellent examples of powerful economic and social solutions for a number of reasons. They can provide an outlet for “hard to dispose of or recycle” items (such as “tires, construction, and demolition waste,” which are actually among the most common waste item found in Pittsburgh’s illegal dumpsites), save participants money as “some public or private landfill operators may lower or cancel the cost[s]” for such an event, raise the necessary awareness to the issue, and yield “a larger base of community participation” (*City of Pittsburgh Illegal*; "Illegal Dumping Cleaning Up Illegal"). Such community-based support efforts combined with physical deterrents such as signage, security lights and cameras, dumpsite monitoring, vehicle barriers, and the aforementioned law enforcement means are together a formidable challenge to ongoing dumpsites ("Illegal Dumping Cleaning Up Illegal").

 Still none of these solutions, even when they are all successfully enacted in unison, are a complete fix to the situation of illegal dumping; Pittsburgh must cultivate some form of ethical advancement if the city is to address the problem at its roots. As mentioned previously, illegal dumping is in fact an ethical dilemma in Pittsburgh even though the practice is often economically advantageous for the individual because, despite this economic forcing, each person has several options for proper disposal and thus the choice to use such options that the city provides or not to. The choice to illegally dump waste, however, may not even be as economically beneficial to anyone, even the individual dumper, as it was previously described to be because there are unaccounted for externalities.

The cost of cleaning up illegal dumpsites is considerable as PA CleanWays highlights: the “estimated cost to clean up a site can be anywhere from $600 to over $1000 per ton for clean up and removal” and costs government agencies “millions annually” (*City of Pittsburgh Illegal* 2). This negative externality can be heightened further if there are toxic materials present since they can prolong the cleanup periods by requiring special equipment and/or safety protocols as they do in the case of illegal dumping in Japan (albeit the country is exponentially larger than the City of Pittsburgh, having a reported estimate of 17 million tons of waste across 2564 dumpsites as of 2014) (Sasao 8, 11). Though it is the “local government bearing the burden of cleanup costs,” these costs may be “reduced due to special local government bonds and related tax allocations” as they are in Japan meaning that the public, including the dumpers, have a share in paying for the costs (Sasao 2, 12). As the nature of externalities however, this charge goes unconsidered and the dumping continues.

 The necessity of ethical solutions to illegal dumpsites that examine the environmental and social impacts then could not be more evident. Raising public awareness of illegal dumping is a crucial starting point for Pittsburgh if it wants to stop the practice because though there are many people who live near or know of the many dumpsites around the city, there is surely an even greater number of people who are completely uninformed about the sites’ existence. Public campaigns that reach out to neighborhoods indirectly affected and unbeknownst to the dumpsites can elicit a larger wake of response, support, and action towards a cleaner city. Furthermore, the most powerful means of developing the city and people’s ethical code is through education: PA CleanWays explains that “[e]ducation is the key to changing values, habits, and attitudes” and “should be tailored to inform the community about proper disposal and can take many forms” (*City of Pittsburgh Illegal* 8). Once people can begin to realize, especially at a young age through school programs, that all of their city and its land, waters, and air are inextricably linked they become able to assess their actions and that many of which affect not only themselves but other people, wildlife, and environments. Education and awareness are the most permanent and preventative solutions that actually address the issue at its core, if done correctly and early on, since they have the sole ability to change the very morals each and every individuals considers in the moment before they decide where to eliminate their waste.

 Illegal dumping is a particularly interesting and serious issue, especially in the context of Pittsburgh, because of its unseen yet costly externalities, its entrenchment in social and environmental ethics, and the social and economic factors present that drive individuals to ignore the very failings of this commons as just previously stated. The pervasiveness of rural, hilly, and thus underdeveloped land areas in Pittsburgh is telltale of the city and contributes to the great number of illegal dumpsites because many people know that practicing such an act in this context is largely risk-free and convenient. Illegal dumpers are also driven by economic and social factors such as the cost of using the intended waste resources (especially in the case of larger and/or construction waste products that are hard to dispose of) and their level of education. Economic incentives, physical deterrents, and the regulation of laws and fines are all viable options for Pittsburgh to pursue in the interest of lessening the extent and continuation of illegal dumping. These corrective means alone however, should not be the city’s sole course of action. Pittsburgh requires a significant transition of attitude towards better social and environmental ethics through awareness and education programs that directly address the moral dilemma behind illegal dumping. Such an ethical evolution could set the standard for many of Pittsburgh’s other environmental concerns and instill in the people a greater social and environmental consciousness.

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| Integration of Knowledge | 3 |
| Topic Focus | 4 |
| Depth of Discussion | 3 |
| Cohesiveness | 4 |
| Spelling & Grammar | 3 |
| Sources | 4 |
| Citations | 4 |
| **Grade** | **A** |