



Introduction

In a 2008 study conducted in 10 states, one of them being Kentucky, **17% of individuals littered with intent and 65% of smokers also littered with intent** (Schultz et al. 2013). The most frequently-littered items are plastic items, which contain carcinogens and toxicants that can seep into our soil and waterways. Also studied in 2020, Keep America Beautiful completed a nationwide litter study in over 600 locations – the most-littered items were plastic-based (Keep America Beautiful 2021, Figure 1).

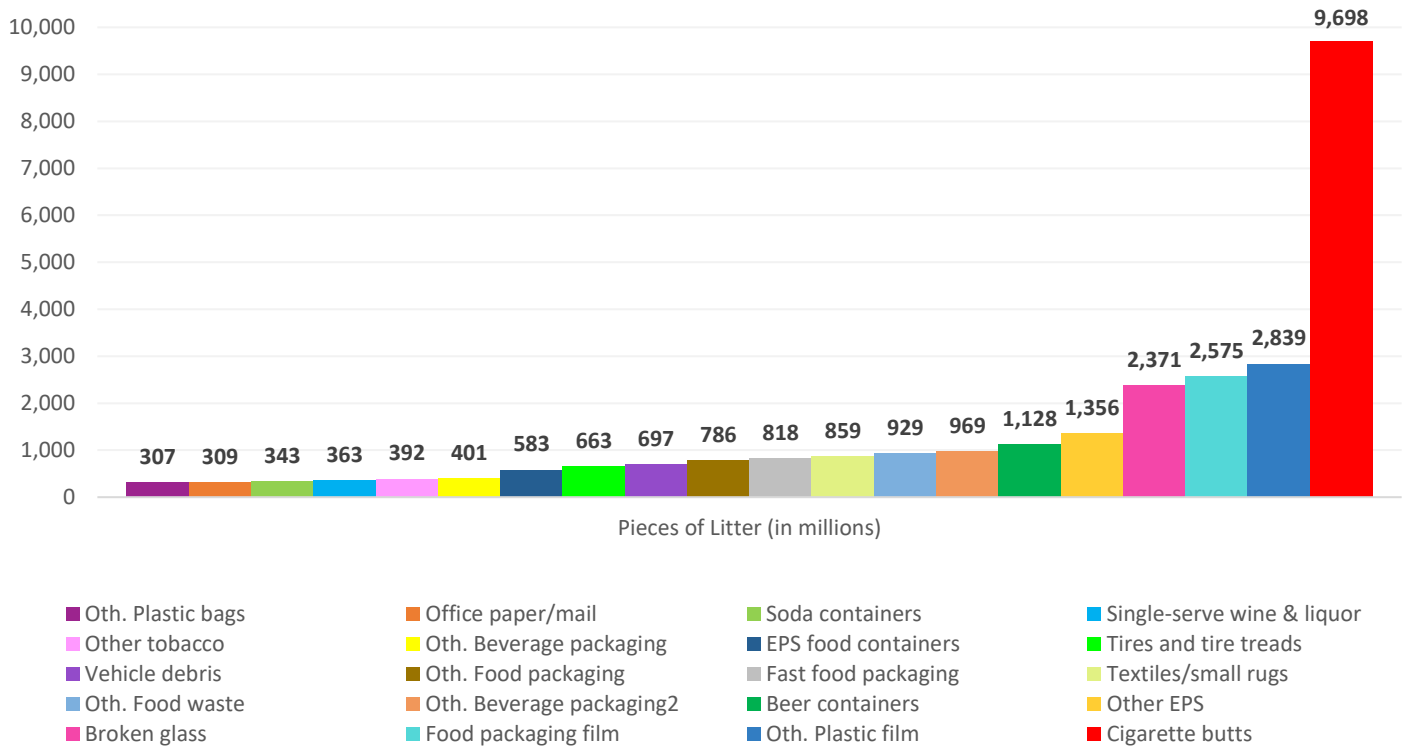


Figure 1. “Top 20 Most Littered Items in the United States” collected in the Keep America Beautiful Study (Keep America Beautiful 2021).

Toxicity of Litter

Almost 40% of littered items are either made of or include plastic (Keep America Beautiful 2021). There are many different types of plastic, most categorized in resin identification codes 1-7 (Figure 2). This comprises of polyethylene terephthalate (PET/PETE), high-density polyethylene (HDPE), poly-vinyl chloride (PVC/PVCP), low-density polyethylene (LDPE), polypropylene (PP), polystyrene (PS), and other (the hotdog of plastics).



Figure 2. Plastic resin identification codes.

Plastics contain a variety of known carcinogens and toxicants, including bisphenol-A (BPA), benzene, styrene, phthalates, lead, and cadmium. In 2008, Dr. Shanna Swan reviewed the effects of phthalates in the reproductive system, concluding that phthalates have a significant impact on the reproductive organs of males (Swan 2008). These phthalates can be found in a variety of items, such as personal care products (perfumes, cosmetics, shampoos) and food contact items (packaging, containers), that are used on a daily basis. Ultimately, we are harming ourselves and our future generations just by using plastic as “normal”. One of the most dangerous ways we are doing this is by simply microwaving our food in plastic containers. Once plastic heats up, it breaks down and leaches toxicants and carcinogens into our food and beverages. These is very easily done with Styrofoam, a common plastic piece for food and beverage containers.

Littering Sources

There are many sources of litter, regardless of intention. The most-noticeable source is from cars driving down the road, discarding litter. Littering can occur when people throw out cigarette butts, fast food packaging, and beverage containers, but also when items are not secured to their truck bed, trailer, or in the vehicle.

The second most-noticeable source is from people walking on sidewalks, roads, and in parking lots. Areas such as these play a role in convenience: *Are there trash cans available nearby? What is the distance between trash cans? Are they full or overflowing?* The sheer presence of trash cans and the amount of litter already in the area play a significant role in future littering (Schultz et al. 2013).

Laws on Littering

In Kentucky, there are laws to protect us and the environment against littering, including KRS 189.754 (removing wrecked debris from highways), 433.753 (littering on highways), 433.757 (littering in public waters), and 512.070 (littering on public/private properties). Ordinances in Boone County include ORD 97.07 (littering on roads and right-of-way). There are additional laws and ordinances addressing illegal dumping, as well.

The continual problems with acting on littering issues are:

- A police officer must see the act in order to give out a fine or citation
- Enforcement officers must have evidence present for a court to give out a citation
 - When reported, letters are sent out with a warning
- Lots of people get away with it already, *why not continue to do it?*

Solutions

On the positive side, there are solutions to combatting litter. This includes education on littering effects, reporting litterbugs when possible, and hosting litter cleanups.

Boone County Solid Waste (BCSW) offers several opportunities for cleanups throughout the year, including Trash for Cash, Seize the Street, River Sweep, and community cleanups. Additionally, BCSW rents out supplies for residents to complete their own cleanups.

How to Pick Your Site

BCSW has created several maps to choose from for roadsides and park areas here: <https://bit.ly/3pZkX1d>. These maps are designed for Trash for Cash groups with the maximum of five miles (for roadsides), but can be altered to fit the needs of each cleanup. If a map is not yet created for the desired area, contact Megan Clere (mclere@boonecountyky.org) to add it.

To pick your cleanup site, follow these steps:

1. Safety is top priority. Some routes and areas may not be appropriate for a community cleanup. Be on the lookout for the following:
 - Windy roads with blind spots
 - High traffic areas
 - No sidewalks or shoulder areas
 - Steep drop-offs
 - Extreme vegetation growth
2. Choose an area that has an ample amount of visible litter. Some areas to look for include the following:
 - Roads with medium- to high-traffic levels
 - Roads near:
 - Industrial warehouses
 - Retail spaces
 - Restaurants
 - High pedestrian traffic areas
 - Parks with a stream (target location would be the streamsides)
 - Drainage areas
3. Coordinate with BCSW on creating a map by contacting Megan Clere (mclere@boonecountyky.org).

Before You Begin Your Cleanup

You must pick up the following supplies to complete your cleanup:

- Safety hi-visibility vests
- Litter grabbers
- Gloves
- Trash bags
- First-aid kit
- Sunscreen
- Bug spray
- Liability waivers
- Safety binder

Safety is a priority! Do not lift heavy items or touch drug paraphernalia. Contact Megan Clere (mclere@boonecountyky.org) either during or after your cleanup with location details. If drug paraphernalia is found, we recommend contacting the non-emergency dispatch line (859-371-1234) right away for proper disposal.

Review supporting documents online at www.boonecountyky.org/trash-for-cash. Some additional documents may be required for you to review depending on the type of cleanup.

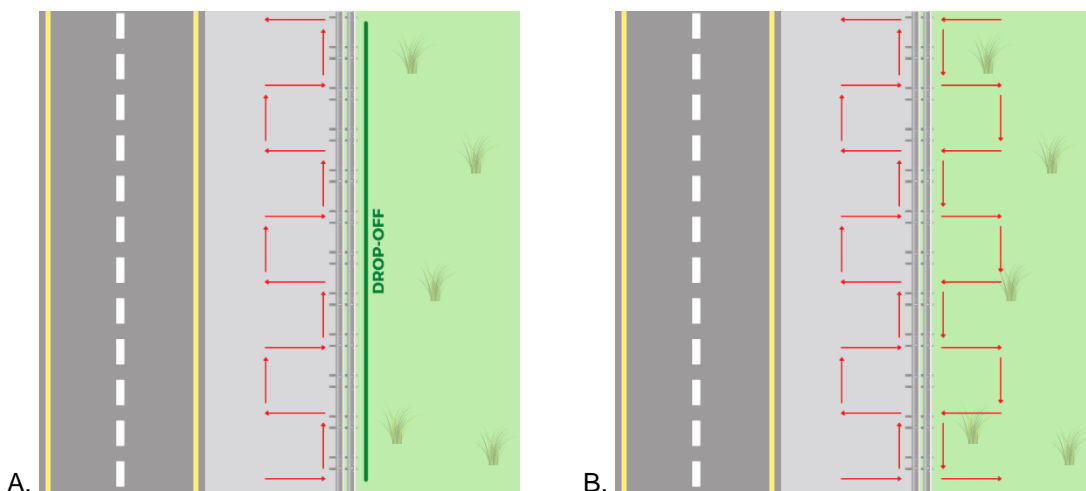
- Litter Pickup Agreement
- Release Liability
- Safety First
- Drug Paraphernalia
- Contact Information

How to Effectively Clean Up Your Area

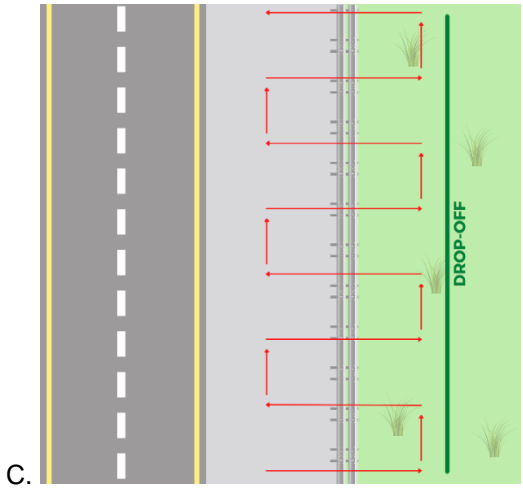
Below are a variety of ways to conduct your cleanup. Remember to:

- Go slow
- Look side to side
- Use your grabber to reach
- Backtrack – sometimes you might miss a piece of litter

Roadside Cleanups

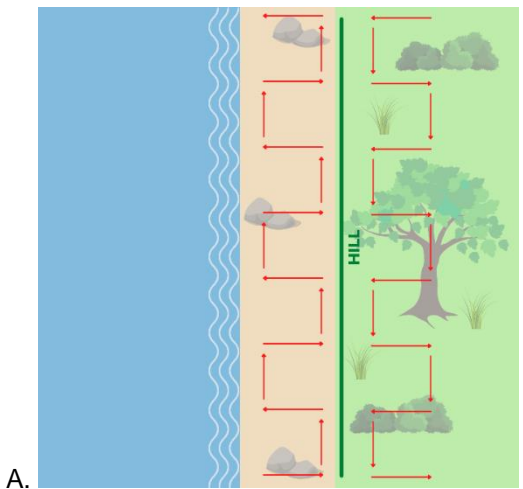


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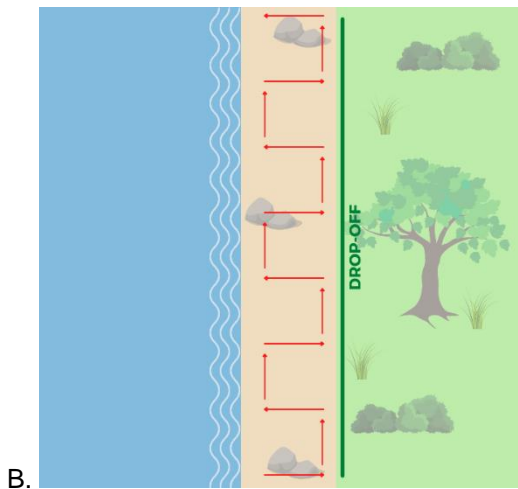


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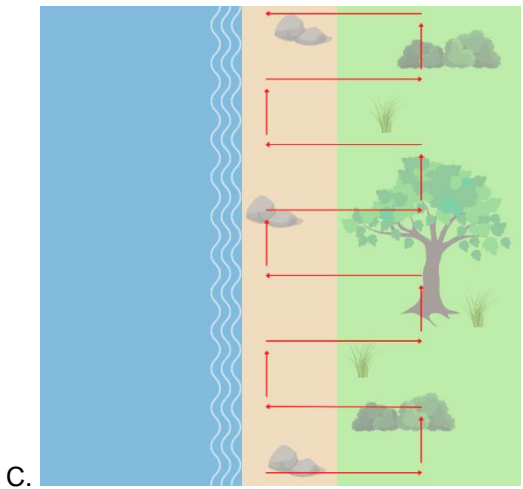
Park/Stream Cleanups



A.



B.



C.

Once your bag is heavy or three-fourths full (whichever comes first), tie your bag and continue with a new one. If BCSW is picking up your bags, please complete the following:

- **Roadside cleanups:** leave bags in view on the side of the road – do not leave IN the road
- **Park/Stream cleanups:** leave bags in marked, designated area in a pile – do not leave near the stream

References

Schultz, P. W., Bator, R. J., Large, L. B., Bruni, C. M., & Tabanico, J. J. (2013). Littering in Context: Personal and Environmental Predictors of Littering Behavior. *Environment and Behavior*, 45(1), 35–59.

Keep America Beautiful. (2021). Keep America Beautiful 2020 National Litter Study Summary Report.

Swan, S. (2008). Environmental phthalate exposure in relation to reproductive outcomes and other health endpoints in humans. *Environmental Research*, 108(2), 177-184.