



Source: https://www.epa.gov/sites/default/files/2017-09/landfill_diagram.jpg

Talkin' Trash

Landfills – The Good, the Bad and the very, very Ugly

Everyone likes to think that when they throw their trash in their trashcan that's it. Somehow, magically, it disappears! It goes away! It never returns!

Guess again.

Trash is the gift that keeps on giving. If you think Grandma's Christmas fruit cake is hard to get rid of wait until you find out just how hard it is to get rid of the wrapping it came in.

Trash (the engineers use the fancy term Municipal Solid Waste or, sometimes, just MSW for it), once you put it in the trash can, set the trash can on the curb and the trash truck picks it up, is supposed to go to a landfill if everyone is doing what's supposed to be done. A landfill is NOT a dump. It may briefly look like a dump on any given day, but, at the end of the day, your trash and all the waste in all the trash cans that got picked up from everyone's house and most of the

businesses in town, will be covered over safely with a layer of dirt that keeps the critters out and the trash in. That's the GOOD part of the story. The cities, the counties and the State know how to do that part of the story. We've been doing it for a while and we do it pretty well if we do say so ourselves. We wish we could say that's the end of the story. We could call it a fairy tale ending and be truthful because it would be just that, a fairy tale – a fantasy that's not true. It's not true because it's not the end of the story.

The trash we put in the landfill and cover so nicely with dirt does not magically disappear. There is no trash fairy that whisks it away to trash land never to bother us again. If we've done everything right the trash stays right where we first put it, which is good. But the trash we put on top of it the next day and the next day and the day after that until we fill up the hole we made or make a mountain of trash that will last a very long time is not so good. Here's why:

- Much of the trash breaks up very slowly. So, it's going to take quite a while - years, decades, even centuries – and when it does break up it can make some very nasty things. So the land the landfill takes up once it's completely filled cannot easily be used very soon.
- The nasty things brewing in the landfill have to be watched over to make sure they don't leak out. Someone has to be in charge of taking care of that.
- Some of the nasty things in landfills are liquids. Liquids are harder to keep contained. The engineers call the liquid, "leachate." The leachate is collected through drains just like the drains people put around the base of their houses to collect rain water and keep it from leaking into the house.
- The leachate, once it's collected, has to be treated about like sewer water has to be treated, the water removed and the chemicals dried out and put back in a landfill somewhere.
- So the solids don't go away for a very long time. They just get carted around and buried again – just like that fruit cake we mentioned.
- All of this costs money. All of this has to be done until EVERYTHING in landfill decays to dirt – centuries from now.
- All of this has a risk of doing something bad to peoples' health if any of the nasty stuff gets away from the people trying to keep it controlled. That's the BAD part of landfills.

The VERY, VERY UGLY part of landfills is how much the long-term care of closed landfills cost. Those facts can be summed up by the following:

- There are a little over 30 "closed" landfills in West Virginia
- On average it costs about \$100,000 each year to keep each one of those 30 landfills from leaking as best as anybody currently can.
- The cost of maintaining the closed landfills comes out of the cost everyone pays for the trash being thrown away right now, every day.
- Solid waste placed in a landfill has been estimated to release total greenhouse gases equivalent to 7 pounds of carbon dioxide for every pound of trash. Those greenhouse gases have to be captured and controlled (<https://www.eesi.org/papers/view/fact-sheet-landfill-methane>). That's part of the cost of the landfill operation.
- Every person in Monongalia County, on average, generates 1646 pounds of trash every year.

For those reasons, landfills should, of course, not be considered the primary way to control solid waste. Hiding the pollution is not really getting rid of it. Getting rid of trash involves two very simple sounding plans:

- Don't make the waste.
- Recycle the waste you have into something you need.

While this may sound simple it can be complex and a lot of scientists and engineers have been working a long time and are continuing to work on those two simple ideas for everyone. For example, landfill gases can be captured and used to generate electricity. Here are some examples of other ideas that most people can do for themselves (and you may be doing already) (<https://www.epa.gov/recycle/reducing-waste-what-you-can-do>):

Don't Make the Waste

- Use a reusable bottle/cup for beverages on-the-go.
- Serve leftovers to reduce food waste.
- Avoid single-use food and drink containers and utensils.
- Use school supplies wrapped in minimal packaging, and buying in bulk when possible.
- Shop local farmers markets and buy in bulk to reduce packaging.

Recycle the Waste You Have Into Something You Need

- Have a yard sale to find homes for clothes, toys, appliances, and books that you no longer need.
- When you mow, "grasscycle" by leaving grass clippings on your lawn instead of bagging them. The clippings will return nutrients to the soil instead of taking up space in landfills.
- Use food scraps, yard trimmings, and other organic wastes to create a compost pile.

Want to read more about this topic? Here are some web sites you can go to:

1. How Do I Recycle? (USEPA) <https://www.epa.gov/recycle/how-do-i-recycle-common-recyclables>
2. Reducing Waste at Your Business (GreenBiz) <https://www.greenbiz.com/article/8-new-ways-reduce-waste-your-business>
3. Waste Reduction (Wikipedia) https://en.wikipedia.org/wiki/Waste_minimisation
4. 9 ways to Reduce Waste (Huffington Post) https://www.huffpost.com/entry/reduce-home-waste_n_57912d0be4b0fc06ec5c4b56
5. For Kids (US Government) <https://kids.niehs.nih.gov/topics/reduce/reduce-waste/index.htm>