By Calvin Frost

A tip for landfills

All you hikers and backpackers out there know the mantra for spending time in wild nature: Take only memories and leave only footprints. At the individual or family level, the "leave no trace" wilderness ethic is important wisdom. You should leave the forest – or the desert or the seashore – just as you found it.

On a collective level, however, this time-tested ethos doesn't serve as well as it once did. In the midst of the Anthropocene, or the Human Age, our industrial civilization's environmental impacts are so sweeping that a leave-it-be policy is no longer always sufficient to safeguard nature. Ecosystems will need the helping hands of humans to thrive in this hot and chaotic century.

Leave no trace! I couldn't help but think of the above when working on this column about landfills. The above is part of a message from Jason Mark, editor in chief of *Sierra*, in its 2023 summer issue. Leave no trace, really? It is one thing to be a hiker or a backpacker and not leave a trace. But, try to run a manufacturing facility and not leave a trace. The only way to do that is "throw it away."

Back in the day we called landfills "dumps." There were few regulations and companies pretty much threw away whatever they didn't want. Today our trash, and what is allowed in a landfill, is regulated, or supposed to be. However, there is no regulation covering pressure sensitive labelstock or release liner, or PVC, for that matter. Just throw it away, get it carted off to either a private or municipal solid waste landfill.

I know Jason Mark wants to write about nature and the wonderful changes to conservation and restoration that have occurred because of *Sierra* and other organizations. My concern, however, is focused on industry and what can be done to reduce and improve. Unfortunately, and I suppose fortunately, landfills play a major role in what we do with our non-recyclable by-product. From a cost point of view, landfilling represents the easiest solution for the non-recyclable items we generate. Baling and sending non-recyclables to an engineered fuel manufacturer is, particularly here in the US, more expensive. The question then begs, how do we make landfills less attractive than alternative solutions for non-recyclables? I have the answer: raise the cost of landfilling. Make it so punitive that diversion of non-recyclables becomes the norm.

Before we explore Calvin's solution, let me share a brief tutorial on landfills. What is a landfill? Today, landfills are well managed places for the disposal of solid waste. While we've had landfills for years, since the time of the Pharaoh and the time of the Roman Empire, they weren't well managed, rather: generate and throw. In fact, we had that same procedure until the 50s and 60s of the 20th century when finally concerned groups woke up and we began to manage and regulate what and how and where we could dispose of unwanted "by-product."

Today, landfills are designed and monitored to ensure compliance with federal and state regulations established by the Resource Conservation and Recovery Act (RCRA) and EPA. Disposing of waste in landfills is one part of an integrated management system. EPA encourages communities to consider the "waste management hierarchy,"

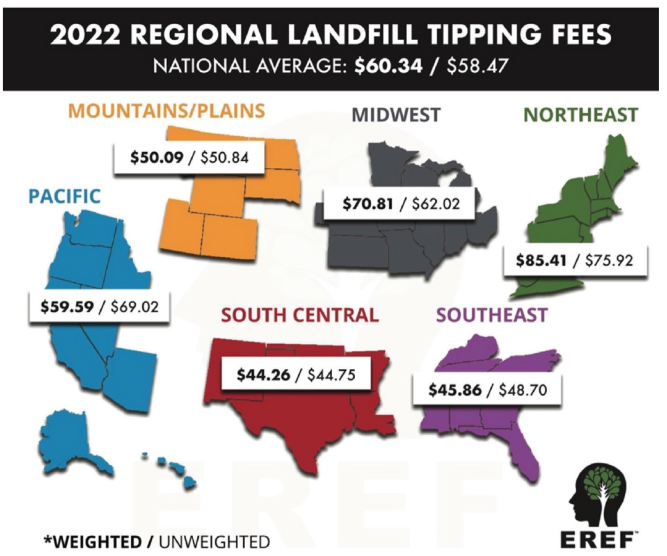

Photo courtesy of the Environmental Research & Education Foundation. Average weighted and unweighted tip fee by region.

which favors source reduction to reduce both the volume and toxicity of waste and to increase the useful life of manufactured products."

What types of landfills are there? There are plenty of them, and I won't complicate the subject other than to mention a few and to make sure you understand that landfills are regulated under RCRA Subtitle D (solid waste) and Subtitle C (hazardous waste) or under the Toxic Substance Control Act (TSCA).

Here are some of the different classifications of landfills: municipal solid waste landfills; bioreactor landfills; industrial waste landfills; construction and demolition (C&D) landfills; coal combustion residual landfills; hazardous waste landfills; polychlorinated Biphenyl (BCP) landfills; and so on. Suffice it to say, a landfill is not just a dump!

Landfills are pretty darned sophisticated. They have been engineered very carefully not only to meet RCRA and EPA regulations, but to satisfy local citizenry. In fact, satisfying local communities may be more difficult than meeting regulations. Nobody wants a landfill in their backyard. NIMBY (not in my backyard) objections are part of the traditional concern of neighbors living close to landfills. Who wants odor, dust, heavy traffic, noise? No one, of course. Think about the 2,600 or so landfills in the US, both private and municipal, handling 290 million tons of "stuff" and the activity that occurs with that volume. It's mind-boggling!

Earlier this year, the Environmental Research and Education Foundation (EREF) reported landfill tip fees in 2022. (Remember, the EREF report covered just tip fees, the gate fee at the landfill, which is not inclusive and which does not cover hauling charges or rental fees or environmental tax). The report showed a substantial increase over 2021.

To help you understand a bit more, the first figure is for weighted average tip fee and the second is for unweighted tip fee. The weighted average covers only MSW (municipal solid waste) while the unweighted refers to all prices for all kinds of waste. In total, EREC gathered price information from 348 reporting landfills, which is less than 25% of operating landfills in the US. Also, not only is the information compiled from private and municipal landfills, but some are large and some small. The Northeast remains the most expensive. The Midwest, which was always a region full of holes to fill, is now a strong second with a 22% increase in 2022 over 2021. While landfills may be ubiquitous, objectors to new greenified landfills, or endangerment of current ones, has become more onerous. In Waco, TX, the City Council has resorted to paying residents to drop their objections to a landfill the city wants to build. No wonder people don't want a landfill in their backyard: think about PEAS (per and polyfluoroalkyl) contamination in their water table. So, no longer are we concerned about noise and odor from a landfill, we're also now concerned about health issues.

Miami-Dade County in Florida is also at a crossroads. They will run out of landfill space by 2025. Earlier this year a fire burned down a county owned waste-to-energy facility run by Covanta in Doral. The community doesn't have a lot of options as the closest landfill is the Okeechobee landfill near West Palm, which is more than two hours north.

Look, the answer isn't creating more landfills. The answer is to reduce trash. Instead of 290 million tons of waste, I believe we should mandate a substantial reduction to, say 250 million tons. This is accomplished by recycling, product design, industry leadership providing information and guidance on solutions and alternatives, and by EFR registration protocol that forces the OEM to take back by-product. Every part of the supply chain must do their part to reduce the volume of non-recyclables going to the landfill. It is also accomplished by making the cost of landfilling so expensive that we will look at other options.

We must change and you need to be part of the change. Landfills are not the solution – as Jason Mark says, we, Anthropocians must change our ways. A "leave it be," throw-away society is no longer sufficient to save our environment. And, yes, it is going to cost money. However, at the end of the day, it may be cheaper to redesign your current waste handling system than to send it to the landfill.

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