

# Wachusett Views



Worcester Chapter  
Appalachian Mountain Club

**Fall 2023A close-up view of our Chapter's vibrancy and dedication**

## Fall 2023 Letter from the Editor

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Welcome and thank you for supporting the Worcester AMC!

On a very windy and rainy weekend this past June, I set out to hike a section of the Presidential Traverse with other AMC Presidential Society members. As we hiked down from the Lake of the Clouds Hut on Edmunds Path, I had mixed emotions. This was now our "Plan B". While I loved hiking in the White Mountains, I was humbled at the ferocity of the winds and the drenching rain. The rain had turned the trails into rivers, and I could feel the water squish in my boots. I thought I had been prepared as I left the hut that morning, but now my feet were wet, and I was damp underneath my Gortex jacket. Is this what's called Type II fun? If so, I wouldn't miss it for the world.

Now that fall is upon us, I hope you get out and enjoy the outdoors. Fall is an absolutely ideal time to go out and hike, paddle, or go for a bike ride. There are so many reasons to love living in New England.

In this issue, you'll learn about our responsibilities as outdoor stewards. You'll read about AMC's annual tradition of flying American flags on September 11th, and so much more. If you have a story or article to share, please write to me at [newsletter@amcworchester.org](mailto:newsletter@amcworchester.org). As always, I'm interested in hearing from you.

My hope is that in reading this newsletter, you'll be inspired to join us. We need you to help us protect the great outdoors and to enjoy it responsibly.

Enjoy our newsletter and get outside!

*Nancy*

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# Under the Red Felt Crusher



Chris Pignatiello-Chatson  
Chapter Chair

Greetings to my fellow Worcester Chapter members!

It seems it was not that long ago that we were looking forward to the warm days of summer and the abundance of activities that so easily fit into the season. Now, fall is fast approaching with its crisp air and falling leaves, and we must once again “shift gears” and think about how we will adapt to colder days. Some of us have autumn traditions like hiking a peak with a view to take in the foliage, or going apple picking with friends and family. Others can't wait to gain that hour back when daylight savings time ends - this year on November 5, set your calendars! Whatever your outdoor activity of choice, one thing is for sure... The Worcester Chapter leaders have lots planned for those who wish to participate!

We have several Chapter activities planned in the coming months including a leader appreciation event on November 2nd and our annual meeting and awards dinner on November 11th.

In addition, our winter hiking workshop is being offered once again, and based on prior attendance, I expect we will again see a house full of folks eager to brave the single digits and icy footing in order to be blessed with the beauty and magic of winter trails. And then... there are those who do not put their kayaks away when the snow flies (I won't mention any names)... but rather continue to venture out, all geared up for a blustery experience. As always, I encourage all of you to explore our activities page to see what's happening in your neighborhood and beyond.

We continue to push forward with AMC's new leader levels and the Outdoors Connector in order to increase consistency among leaders and to share information with members in the most efficient way. This has been no small task, and we are grateful for the folks at AMC who have been working with us to implement this at our chapter level. I want to offer a big shout out to the folks who have dedicated time to this important transition, as well as to all of the other activities that require volunteers to make them happen.

I look forward to seeing you at upcoming events and activities, and wish you a very happy and safe fall season. Be well!

**SAVE THE DATE: AMC WORCESTER CHAPTER**

**ANNUAL MEETING AND SOCIAL**

**SATURDAY, NOVEMBER 11, 2023**

**CALL FOR NOMINATIONS  
APPIE OF THE YEAR  
ROOKIE OF THE YEAR**

**From the Chair: Chris Pignatiello-Chatson**

Dear Worcester Chapter Members:

We need your help! Each year, we present two chapter members with the “Appie of the Year” and “Rookie of the Year” awards. Nominations for these awards come directly from other chapter members, and the recipients are chosen by secret ballot of the Executive Committee members. Awards will be presented at this year’s annual meeting and social scheduled for Saturday November 11, 2023.

Descriptions of each award are below. If you know a Worcester Chapter member who is worthy of nomination, please email the Chapter Chair directly at [chair@amcworcester.org](mailto:chair@amcworcester.org) *no later than October 18<sup>th</sup>* with the individual’s name, email address and an explanation as to why you think he/she should receive the award. Nominations received after that date will not be considered.

Thank you in advance for your thoughtful consideration and nominations!

Rookie of the Year:

This is an award given to recognize a Worcester Chapter member who goes above and beyond in their first year in a volunteer role whether that be as a trip leader, Executive Committee member, leadership training staff, or other role. Our 2022 award recipient was Wendy Dziemian, for her outstanding performance as Leadership Chair.

Appie of the Year:

This is our Chapter's highest recognition - it honors a person who over multiple years has gone above and beyond to help make our Chapter great. Nominations are received from the entire Chapter membership, and it a great honor to be nominated. Our 2022 award recipient was Walt Lazarz for his many years of excellent service as a hiking and backpacking leader and mentor.

The Appie award is for an individual who gives selflessly of him/herself for the good of the Appalachian Mountain Club; one who works tirelessly, often behind the scenes, organizing, leading in fact and by example; someone who has served in this manner for several years, thus over time continuing this commitment; an active volunteer, rather than someone who served well in the past, or for a limited time.

# Conservation Highlight: Authority of the Resource

Written by Eric Harris  
Edited by Elli Greenlaw



Photo courtesy of Leave No Trace

As outdoor enthusiasts we have an obligation as responsible citizens to protect the natural world from destruction. There are many human-induced challenges the environment faces on a daily basis from people both collectively and individually. Many of us focus on the larger global issues, such as a warmer climate and deforestation, as problems to enforce action against. Indeed those issues are important. However, we usually can't act on these issues without joining up with an organization that has the power of promoting legislation or raising excessive funding. In order to create a real positive change for the planet we must take it upon ourselves to become authorities of the resource.

The expression "authority of the resource" could be defined as having the power to influence thought or opinion by standing up for certain outdoor ethical principles. These so-called outdoor ethics refers to one's perception of how they should interact with the natural world around them. The seven principles of "Leave No Trace" should most certainly be the golden standard outdoor enthusiasts follow to influence one's actions. These principles include: plan ahead and prepare, travel and camp on durable surfaces, dispose of waste properly, leave what you find, minimize campfire impacts, respect wildlife, and be considerate to other visitors. We must uphold ourselves to carry out these seven principles to protect the environment through setting an example for others to follow.

The more time we spend in the great outdoors the more opportunity we get to witness wrongful outdoor behavior. If we are to witness a degrading action to the environment while out on the trails we need to address it. However, it's important to remember the seventh "Leave No Trace" principle of being considerate to other visitors at all times. As the old sayings, "Do unto others as you would

have them do unto you” and “Two wrongs do not make a right” suggest, we can't go charging up to a person who's littering and start yelling at them in a forceful manner. That would be wrongful enforcement trying to handle a wrongful action, which would not accomplish anything. One of the rules of being an environmental steward is to relay our love of the land to other people around us. This means that to handle a negative situation we must come across as respectful and compassionate people. There is likely a reason the person is in the outdoors, such as to walk, get fresh air, or have solitude. Whatever the reason, it's important to try to relate to other people by establishing something in common through general conversation. If we can earn the respect of the individual, they may be more willing to listen to our explanation regarding their actions.

Once conversation is established, we should give an objective description of the situation. We can mention that we have observed them doing whatever the wrongful action was, such as littering, taking natural materials, having an unmanaged campfire, etc. From there we can try to explain the implications of their actions on how the natural world will not benefit from their undesirable behavior. Make sure to point out that the outdoors is a space shared by all living things, including humans, plants, and animals alike, and that the action will therefore leave a trace of their presence and will be reflected on the landscape long after they are gone.

Finally, we can express to the individual how we personally feel about their action and recommend what can be done to improve the situation. Offering our assistance in addressing the circumstance will show that we are willing to invest our own personal energy into helping restore the broken ethical principle. The technique of combining interpretation with authority will set a standard to justify our viewpoint. Shedding light onto an undesired outdoor ethics situation will allow people to come face to face with what it means to have respect for the natural world. For that in the long term we hope our positive interaction with the outdoor patron goes a long way into developing the person's own beliefs and values relating to the outdoors.

The conservation committee for the Worcester Chapter thoroughly understands the great importance in having our activity leaders be trained in outdoor ethics. As we represent the Appalachian Mountain Club let's become ambassadors for the wild places we appreciate, whether that is our own backyards or favorite mountain peak. Essentially our mission is to plant the seed of environmental stewardship into the minds of others. We have the ability to foster and inspire great change in the lives of our fellow outdoor enthusiasts. Each of us has our own part to play in being authorities of the resource to accomplish the overall mission of preserving the precious place we call planet Earth.

#### Sources:

Stevens , Donielle, and Aaron Hussmann. “Skill Series: Authority of the Resource.” Leave No Trace, 19 Feb. 2019, [Int.org/skill-series-authority-of-the-resource/](http://Int.org/skill-series-authority-of-the-resource/).

Wallace, George N. “Law Enforcement and the ‘Authority of the Resource.’” Tools and Techniques , vol. 1, no. 2, Jan. 1990, pp. 4–8.

# A Summer of Trail Crew

By Alexandra Molnar, September 2023

Mist descended on the muted morning. Ten people, many new to trail work, stood in a circle at the base of the trail and were instructed how to clip the mountain laurel crowding the footpath. Like that, a summer of trail crew began.

June – TrailsFest crew at Midstate Trail, Leominster State Forest, Massachusetts. A 20s & 30s crew partnered with the Midstate Trail Committee to trim mountain laurel along the Crow Hill North Section of the Midstate Trail. Using laupers and hand saws, we cleared a significant portion of the trail that was getting overgrown by soon-to-be-blooming mountain laurel.

August 11-14 – Maine Woods Initiative (MWI) inter-chapter crew at Henderson Brook Trail, 100-Mile Wilderness, Maine. Thirty-three 20s & 30s representing Boston, Maine, and Worcester Chapters spent a weekend in the 100-Mile Wilderness region of Maine to build bog bridges and box steps in collaboration with AMC's Professional Trail Crew. This marks the first collaboration between the Pro Crew and volunteers, a successful venture that set the precedent for future joint projects. The work accomplished this summer continues the Worcester Chapter's legacy on the Henderson Brook Trail, as it is currently adopted by Worcester Chapter members who maintain it annually.

Volunteers were rewarded with excellent views of the Perseids meteor shower and enjoyed pond swims, paddling, campfires,



Photo courtesy of Zenya Molnar



Photo courtesy of Kate Bentsen



Photo courtesy of Kate Bentsen

hiking, and camaraderie out of Little Lyford Lodge, where we were based for two to three nights.

August 25-27 – Noble View All-Persons Trail crew at Noble View Outdoor Center, Russell, MA.

A group of ten 20s & 30s from Worcester and Greater Boston convened at the serene fields and woods of Noble View to clear vegetation along the newly constructed All-Persons Trail that is slated to be finished next summer by AMC's Pro Crew.

Two days of pulling roots, trimming branches, and laying weed-blocking fabric and hay is preventing overgrowth two feet from the trail on each side. This will enable the trail to realize its intended use – to be enjoyed by people of all abilities and ages, including people in wheelchairs and strollers.

Not only is the trail work fun and rewarding, but volunteers are a critical component to receiving funding, as in-kind volunteer hours serve as a match to state and federal grants (the case for the Henderson Brook Trail and Noble View All-Persons Trail). Both of these crews contributed hours that will help fulfill the grant requirement, unlocking crucial funding that has allowed these projects to occur and thus people to recreate safely and memorably across the region. All crews were organized by volunteer 20s & 30s leaders, with the Midstate and Noble View crews being led by Alexandra and Zenya Molnar and the Maine Woods crew by Alexandra, Zenya, Kate Bentsen, and Bobby Jones.



Photo courtesy of Zenya Molnar

The last pieces of hay laid over the black lightweight fabric. A gentle drizzle dancing on the trail's fine gravel surface. Two days of sweat and laughter layered in the trail. And like that, a summer of trail crew ended, but with enthusiasm for and an eye to the next projects to come.



Photo courtesy of Beri Shift

# Flags on the 48

Written by Pat Lambert



Flag, with the names of the deceased from the 9/11 attacks, at the summit of Middle Carter

On September 15, 2001, six hikers ascended Mt. Liberty to raise the American flag to express their grief for the tremendous and devastating loss of lives resulting from the September 11 attacks. Later that month, a steering committee was formed to organize the official Flags on the 48 (FOT48) Memorial Hike which occurred on September 14, 2002. Since that time, groups have organized themselves to fly the American flag at the summit of each of the 48 4000'ers in the White Mountains of New Hampshire.

From 2005 – 2018, under the leadership of Steve Ciras, Past Chair, the Chapter participated in this event selecting a different peak each year. The first peak was Mt. Field, the last peak North Hancock. We've maintained a journal in which participants have recorded their thoughts/emotions as they reflected on the events of September 11, 2001. Each team has signed the flagpole and raised the flag in honor of the deceased and their families.

This year was the 21<sup>st</sup> FOT48 Memorial Hike. After a 5-year hiatus, under the leadership team of Pat Lambert, Carol Warren, and Joe Ciras, we resurrected this annual Chapter tradition and raised the flag on the summit of Middle Carter on September 9.

Throughout the week, weather for Saturday did not look promising. The FOT48 steering committee cautioned us that, for the first time, they may have to cancel the event as safety is their top priority. Keep in mind there are 48 peaks with up to 10 hikers in a group – they certainly did not want to put the safety of 480 hikers at risk. On Thursday, they made the go-decision with the provision that raising the flag at the summit was not required – if the best we could do was take a picture at the trailhead with the flag that was perfectly fine. They did not want teams to hike in dangerous weather conditions.

Carol, Joe, and I kept our eyes on the weather reports, too. We informed our group that if they did not feel comfortable with the forecast it was a-ok to bow out of the hike. Our group of 8 dwindled to 5. Well, when Saturday arrived, the mountain weather gods smiled upon us - we did not have a drop of rain all day and the sun came out strong as we approached the summit. The forecast still called for late afternoon t-storms and severe weather - we limited time on the summit so that we didn't get caught in bad weather on the descent.

During the after hike gathering at Wildbloom Beer in Littleton, NH, Carol and I met Jim Roy and his dog Zeppelin, in person. Jim is a member of the FOT48 steering committee and the primary contact for the memorial event. Jim expressed his thanks to our Chapter for our support of this memorial event. He told us that whenever he sees the Worcester Chapter listed for a peak, he has every confidence in our group and does not need to check in with us to confirm we know what we are doing. This is a great tribute to Steve Ciras and all past participants.

Save the date, September 14, 2024, for next year's FOT48 Memorial Hike. We intend to keep this Chapter tradition going so that we never forget those who lost their lives, and the loved ones they left behind, on September 11, 2001.



Flags at the Imp South Trailhead

# Finishing the Second Round of the NH48 after Major Surgery

Written by Joe Ciras

February 17, 2022, on a full moon hike on Wachusett Mountain, about 10 feet from my vehicle at the trailhead at the end of the hike, I fractured my ankle in a freak hiking accident. The front spike of my microspikes had picked up a stick, I put my left foot down and down I went. On September 11, 2022, on Mount Hale, I finished my second round of hiking all the NH48. Here is the story about my accident and recovery.

## *Week of the Accident*

The week started out with a hike on Mount Greylock on Superbowl Sunday and Wachusett Mountain on Monday, Wednesday, and Thursday. I had a planned hike on Mount Monadnock on Saturday with some friends from college and in the Whites on Sunday with some of my hiker friends that wanted to do some winter hiking. I was hiking three to four times a week on Wachusett over the past year and a half and had done about a dozen hikes in the Whites in that same time period.

Sunday's hike was uneventful. The hike up Greylock was not easy since the previous week was mild and there were many post holes to avoid. The weather was cool and snowy, so I was careful with my steps. Monday and Wednesday hikes on Wachusett Mountain were also uneventful. Thursday's hike was a typical full moon hike with moonlight reflecting off the snow. At the end of the hike, near the Echo Lake Trail sign, within 10 feet of my car, my plans for the next few months changed quickly.

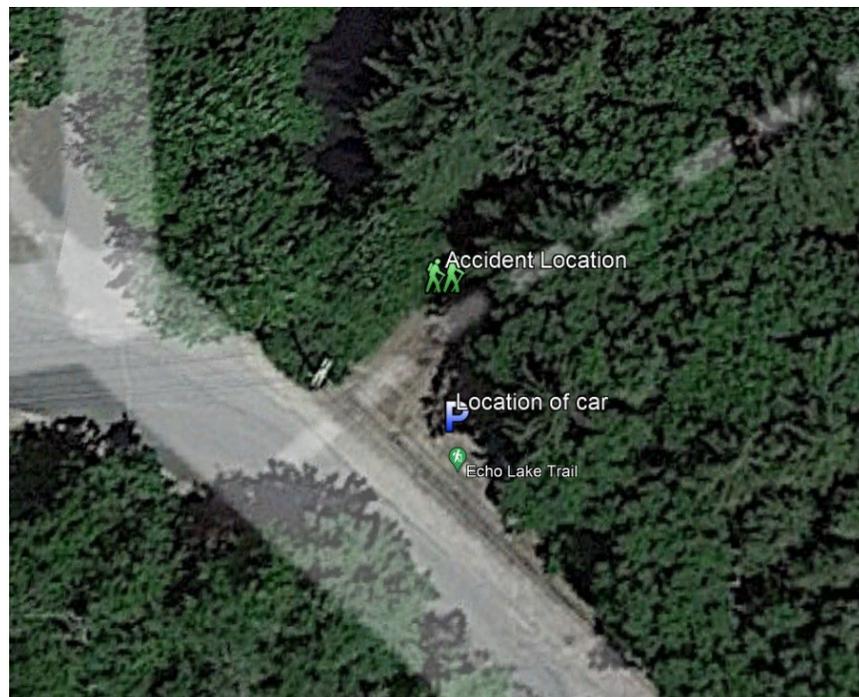


Figure 1: Location of Accident

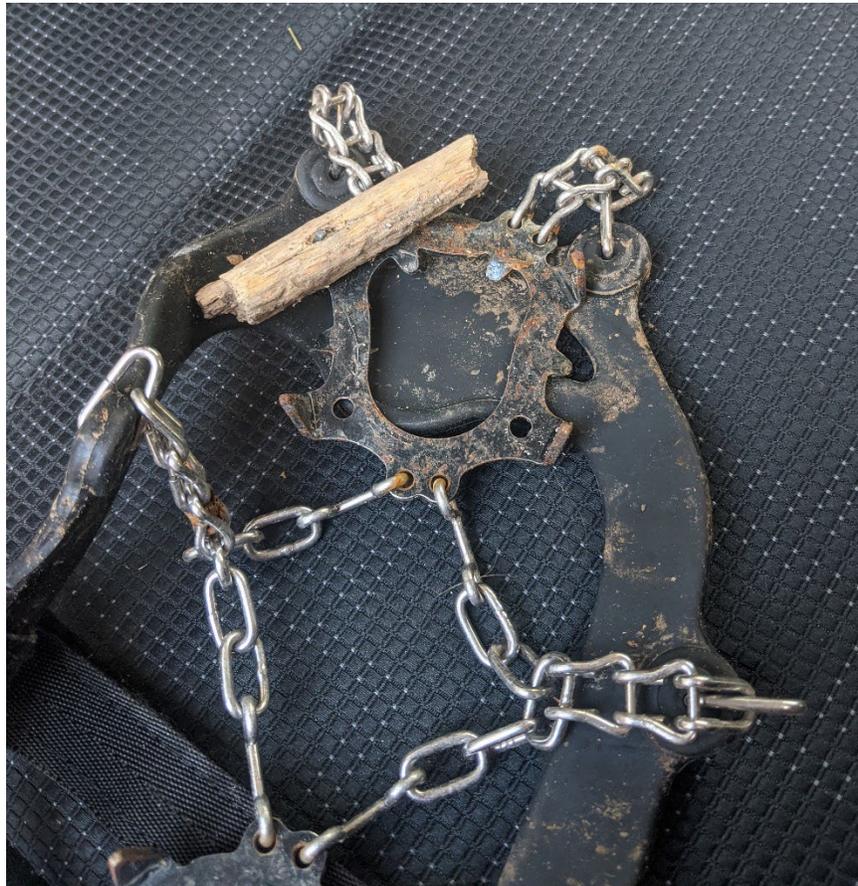


Figure 2: Stick in Microspike

The group I was hiking with is a group that I have hiked with a few times before. I was not a regular to this group. I hike with them go hike at a slow leisurely pace. There are some members of the group that were trained in Wilderness First Aid (WFA), and others in different medical professions. The ones trained in WFA acted quickly and diagnosed my problem. Another member of the group called 911 and the Princeton police dispatched two police vehicles and two ambulances. There was no pain, only discomfort before the EMT put a splint on my ankle and put me in an ambulance. They wanted to know if I wanted to go to Worcester or go to a local hospital. I opted for the local hospital since I was expecting just a sprained or twisted ankle. I had no pain and I have twisted my ankle in the past. On a side note: one of the EMTs taught my son history ten years ago in grade school so we had a little parent teacher conference on the way to the hospital.

### *Pre-Surgery*

After staying all night in the hospital's waiting room, I was told that I had broken my ankle. I had a trimalleolar ankle fracture. My tibiotalar joint and distal tibiofibular syndesmosis aligned normally on the non-weightbearing view. A trimalleolar fracture happens when you break your low-

er leg sections that form your ankle joint and help you move your foot and ankle. Normally there is more damage to the ankle on this type of injury. I was lucky that my boot was on properly. Basically, I broke all the bones on the inside, outside, and back of my ankle. The medical professionals on staff were very surprised that I was not in much pain since people with this type of injury are normally in great pain.



Figure 3: Soft Cast after Accident

I was given crutches and discharged from the hospital after waiting 10 hours and sent home. They gave me some Tylenol and Motrin to control the pain. An appointment was set up so that I could see orthopaedic surgeon the next day. I slept most of the day since I was up all night in the waiting room. Still no pain.

I had an appointment with an orthopaedic surgeon the next day as a follow-up. He too was surprised that I was not in any pain. He looked at the x-rays and confirmed that I had fractured my ankle. He was not concerned about the way the break looked and wanted me to return the follow-

ing week when the swelling went down. During the return visit he told me that an operation was not needed and that if I wanted one, he would only put in a small plate with a couple of screws on the end of my tibia, since that was my weight bearing bone. I opted for that since that would speed up my recovery time and my ankle would have a better opportunity to heal properly.



Figure 4: Broken Ankle Confirmed

### *Surgery*

On March 4, 2023, just over two weeks after my incident, I went into hospital for surgery thinking that I would only have a small plate in my ankle.

When I woke from surgery, I was going to ask the nurse or the doctor what they did during the operation. Before I did, I looked at my phone and saw there was an update in my medical app that had images of my ankle. I was very surprised at what I saw. I had a plate across my medial malleolus and six screws on my tibia and a plate across my lateral malleolus and seven screws on my fibula. Not what I expected from an optional procedure that would only involve a small plate and a few screws. I was still waiting for the pain that never came.



Figure 5: Looking at the Back of my Ankle



Figure 6: Looking at the Side of my Ankle

I had a follow-up with my surgeon, and everything went at planned. He told me that once he opened my up, he did a little cleaning of bones. This was the same ankle that I had a hairline fracture in many years ago when I was playing hockey in college so he may have seen something he did not like.

### *Rehab*

On March 30, 2022, I started rehab. I still was not weight bearing but I was taught some good strengthening exercises using resistance bands. The exercises were not easy at first since my ankle was constrained for about a month since my accident. I still do my PT when I feel my ankle stiffening. Rehab again was optional. I would highly recommend it. I kept hearing about the pain that people go through doing PT. I was waiting for it, but it never arrived.

One of the hardest things for me during this period was staying home and working from home and not taken advantage of the wonderful winter days hiking. I normally do the shoveling of the snow at my house, but my family had to do it. I usually snowshoe to work and, in the mountains, but could not do this. I did not feel useless, just itchy to get back moving.



Figure 7: Finally, a Walking Boot

April 21, 2022, I was medically cleared to start putting weight on my ankle. I put weight on a little at a time. Since it was two months after my surgery, my bones needed to be allowed to take the weight and my muscles needed to remember that they could work. Little by little I was able to put weight on my ankle, walk up stairways, and ween myself off the crutches. I was learning to walk on my own again. It would be almost a month until I was able to go hiking.

### *Back on the Trail*

At the end of June, my family went on a National Park tour. This was my first opportunity to get back to hiking. We did the easy trails in these National Parks: Indiana Dunes National Park, Badlands National Park, Theodore Roosevelt National Park (my 50th state!), and Yellowstone National Park (south side since the north was still closed due to flooding). Indiana Dunes National Park and Theodore Roosevelt National Park were Parks numbers 35 and 36 for me. I had already visited Badlands and Yellowstone in previous years. The trails were flat and walkable. I did a minimum of five miles a day hiking and walking around these parks.

On July 11, 2022, I did my first hike on Wachusett Mountain. I was a little hesitant in some areas since this was the first challenging hike I did in over five months. The people that went on this hike with me were surprised by my speed. It might have been because of all the hiking I did over the last year, but I could tell that I was out of shape for not being on the trail for a while. Wachusett Mountain, to some, is not challenging. I tell those people that Wachusett Mountain can be as challenging as you want if you take the correct trails. After major ankle surgery, it is challenging. On July 16 and 17 I took Wilderness First Aid (WFA) /CPR training for my AMC Leaders upcountry and winter leadership qualifications. I also took this class to apply first aid to myself if I needed to do so. I did a couple more hikes on Wachusett before I took on Mount Monadnock.

At the end of July, I took on Mount Monadnock with my son, his friend, and his friend's family. Mount Monadnock was not easy. I took the easier trails, White Dot and White Cross, very slow on the ascent and slower on the descent. I was very careful with my footing since I did not want to injure my surgically repair, or as I call it surgically reinforced, ankle. My goal at this time was to get ready for the Flags on the 48 and possibly finishing my second round of 48. I did not know what peak our group was going to end up with for the hike and I was hoping Mount Hale since that was the peak I need to complete my second round. If that was the peak, I would have more drive to get back into hiking shape.

### *Completing the NH48 for the Second Time*

On the first Saturday in August, the signups for the FOT48 happen. The group I do it with, the Wachusett Hikers, ended up with Mount Hale. I had an incentive to get myself, and my ankle, back in shape for the hike. There was also one other member of the group that was recovering from ankle surgery. Hers was not as major as mine was, but we were encouraging each other to get into shape to complete this hike. I added repetitions to my physical therapy exercises and set reminders on my phone to do my exercised three times a day.

I still only hiked once a week on Wachusett and made each hike a little longer and more difficult than the week before. The ascent was getting stronger and my decent was still giving me issues. I was still not confident in my footing. I had many more hikes on Wachusett Mountain and a few hikes up Mount Monadnock. I was getting excited about getting back in the Whites and finishing my second round of the NH48.

September 11, 2022 arrived. Along with my son, and the Wachusett Hikers, we headed down the North Twin Trail towards the Fire Warden Trail. The day was comfortable temperature and humidity was low. I did not tell the group that I would finish my NH48 on this hike since this hike was not about me. It was about the memory of those lost on September 11, 2011. This would be my ninth time doing this memorial hike. The seventh time with this group along with the two times with the AMC Worcester Chapter. This was the first time I hiked Hale from the Fire Warden Trail. The previous time I hiked Hale was from the Hale Brook Trail. This hike was the easiest 4000 footer hike for me. Maybe because of the purposes of this hike: remembering those who we lost, reaching my rehab goal, and finishing my NH48.



Figure 8: Summit of Mount Hale for the 2022 FOT48 and to complete the NH48

I completed my second round of the NH48, completed my application, and received my patch. It was a major accomplishment for me. My rehab and determination had paid off. Mission accomplished.

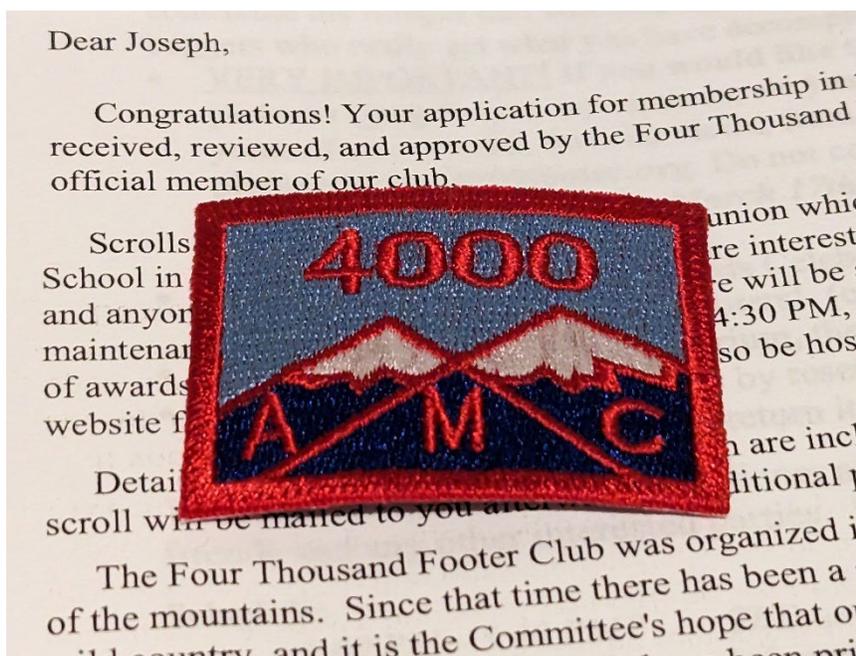


Figure 9: Received my Patch

## *Conclusion*

I wrote this article over a few sittings so it may seem disjointed. I finished it after hiking Middle Carter with the AMC Worcester Chapter for the 2023 FOT48. This article was discussed, and a comment was made along the way that you could not tell that I had fractured my ankle a year and a half ago. I can still feel the pressure from the plates and pins in my bones. The reinforcements have taught me to walk with my left foot correctly. I was slow on the ascent this time and faster on the descent. When I walk barefoot, I can feel the bottom of my foot is not flat. The pain that I expected after the accident never happened.



Figure 10: Summit of Middle Carter for the 2023 FOT48

Here are some take-aways from my accident that I would like to pass on to you so that you can pass on to others.

1. Do not hike alone. You hear this often and many of you say that “I can hike alone, nothing is going to happen to me. This is a short or easy trail. This is only Wachusett Mountain. Etc.” Accident can happen at any time. I am lucky that this incident happened near the trailhead and not somewhere else on the mountain.
2. Always let someone know where you are going and when you will be returning. Do not stray from your plan. If you hurt yourself on the trail, people will know the general area to look for you.

3. Have the ten essentials with you on all hikes: map, compass, warm clothing, extra food and water, flashlight or headlamp, matches or some type of fire starter, first aid kit, whistle, rain jacket and pants, and pocket knife. Know how to use your essentials.
4. Take a wilderness first aid (WFA) class, or another first aid class. Learn CPR. This training can not only help you in the case of an incident, but you can also save the life of a hiking companion.
5. Take physical therapy seriously. Do all your exercises and do not give up. The more you do them, the stronger you will be. I still do mine to stretch out my muscles. I only do them once or twice a day now and I can feel my ankle getting stronger.

I would like to thank all my family and friends that helped me during my recovery. I would also like to thank the Wachusett Hikers, the Monday and Wednesday Meetup groups, the Thursday Meetup group for the cards and encouragement, and the Worcester Chapter of the AMC for your support along the way. It was great to get back on the trail and have many hikers welcome me back and wish me well in my recovery.

See you on the trail. Hike safe.

# LET THERE BE COMPOST

Written by David K Elliot

In the beginning, there was composting. For 4 billion years organic matter recycled via decay has been the primary driver of the earth's ecosystem. Ironically it's precisely the portion of life and its food chain we think least about.

In a process I'll call accidental altruism, composting microbes extract life's building blocks from dead material, such that in a continuous cycle each subsequent generation incorporates the carbon molecules, nutrients and stored solar energy of the previous one. Even as photosynthetic organisms absorb and store more solar energy. Such that across the eons a thriving biosphere, i.e. the sum total of life, literally grows bigger and more widespread.

Meaning the present physical quantity of life serves as a scientific measure of biosphere health, a familiar notion from Christmas bird counts and census taking of endangered species. But unfamiliar in the realm of the *microscopic that undergirds all* even though it's equally applicable. But then one tends to overlook the invisible and refrain from the as yet impossible. Oh well, there has to be a first time for everything.

I for one am rooting for plants and the micro-biosphere full of generous near relations and the stuff of which I too am made and fed and by which I am given oxygen to breathe. In short, to which I am obliged for the entire life long fact of my existence. Meaning I, or rather we, had better look out for micro interests if we want to stick around as a species. Preserve wildland with its leaf mold. Any patch of bare ground makes my chest tight. Dirt bulldozed clear of life is a mini desert. Salvage organic waste i.e. compost with the triple virtues of reducing climate change, supplementing the biosphere and therefore sustaining humanity. And add recycling, energy conservation and reducing greenhouse gas emissions to minimize damage inflicted from the industrial side.

You'll notice I haven't mentioned charismatic species like polar bears, or even tree frogs, fond as I am of the mottled noise makers. That's in part because they don't inhabit compost piles, but mostly because if you add up all animals, from jelly fish, to earth worms, to domesticated chickens, they make up only an estimated 0.4% of life on earth by mass per the right side of figure 1

below. Compared to on the left 82% for plants plus 17% for fungi and microorganisms. And it's this 99% of the web of life that built and maintains a habitable earth Gaia style, in significant part by pursuing its slow, largely invisible task of decomposition that not only sustains us, but sustains what sustains us.

Not to totally ignore our favorite species, ourselves, or the other Johnny-come-lately "higher forms of life" we commend for operating at a scale we can see, from cockroaches - an arthropod like all insects - to capybaras. Though humans are of course the latest release, complete with experimental features: upright walking, opposable thumbs, and these brains big enough to get into trouble. Only time can tell which ultimately survive.

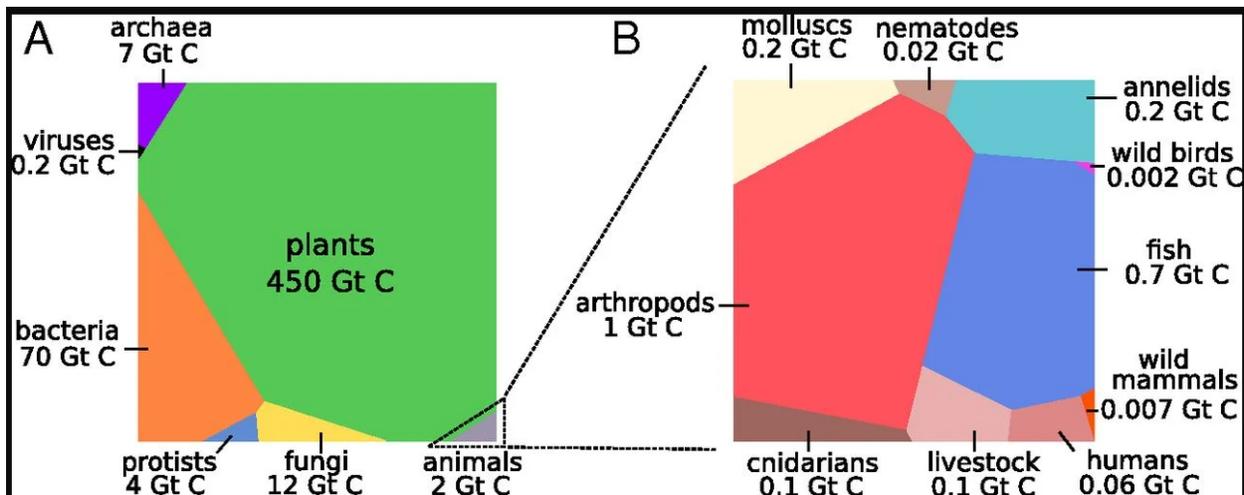


Figure 1: Life forms on earth by mass estimates - measured in gigatons of their carbon content.<sup>1</sup>

By calling life's observed mutual support, its frugal generosity an "accident" I mean to emphasize nature hasn't thrived all this time by being nice or being the literal Greek goddess Gaia, just by being a really efficient system. It's all "hand me down clothes" at mother nature's but accidentally, like how a horse doesn't intend to feed the birds but birds will rummage manure for seeds. Nature is an ace scavenger. If there's a resource, from shit to symbiosis, life is probably taking advantage.

A kicker for the microorganism aspect is how little even today science understands the microscopic world "in the wild," with for instance only a fraction of 1 percent of the estimated 100

million to 1 trillion species having been identified. The microbiome has yet to command great buzz, though its time seems coming. In any case we understand the big picture well enough to appreciate where we stand - if we can handle the humiliation.

So hurray for the uncounted diversity of bacteria, actinomycetes, fungi, algae, protozoa and nematodes numbering a billion organisms per teaspoon of healthy soil laboring in obscurity and for free. Let us celebrate and harness its known capabilities and feed the earth via home composting. Put another way, let us step out of the way of 4 billion years of progress by keeping organic waste out of the trash stream and letting it rot in our yards where it belongs. To paraphrase Hippocrates, "First, till everything organic back in the ground."

Growing up my family always had a compost pile, simply some spot or other where we dumped organic waste for its inevitable transformation back to organic fertilizer. And simple is the operative word here. In 21st century suburbia that translates into just drop it someplace in your yard instead of the trash. "But what about fall leaves?" A perfect compliment to kitchen waste. Make a pile, put a crude fence around it or drop it in a box open top & bottom - the details don't matter. Really, nature will convert it into fertilizer. My father loved to brag about dumping the diaper pail - no disinfectant added - around the tomato plants. It's form, not fancy, fits function.

"Composting isn't a skill," my Cro-Magnon consultant assures me, "in itself it has no learning curve. It's not as if peels and last week's salad might refuse to go mushy. If it's gross it's good. Egg shells too, go ahead and crumble them if you like. Once in the soil they'll dole out their calcium for years. Tea bags, financial statements - it's nature's own shredder. Your only job is to not landfill anything that once lived. As long as you have a yard, drop waste in some back corner and leave the rest to Mother Nature."

"How do I get food to spoil faster?" asked nobody ever," chimes in Mitochondrial Eve. "Here we've spent hundreds of thousands of years trying to prevent it from turning to compost. Just let the invisible wiggles do their job and poof, 'Decay's here!' Composting isn't a fad, it's not a 'Martha Stewart Living' cover story, it's merely leveraging the sun's recent work - speaking of what your 'primitive' ancestors appreciated! And if you're still intent on overcomplicating things, try catching dinner without a shopping cart. Then if you still want to discuss doing rancid wrong..."

When it looks like dirt in a couple of years - what's the hurry - spread it over your flower bed after peeling back the mulch. Don't have a garden? Letting the kids plant peas - it doesn't have to be perfect - is the best way to sell them on vegetables. It worked for me. Spread it an inch thick over the lawn and the grass will shoot up. Spread it over the weeds, sell it on Facebook or just leave it. There's nothing wrong with a random patch of fertility.

There was a time people respected salvaging organic waste. You can still find by the kitchen door of some older houses an iron lid set in the walk. Beneath sat a can for food scraps picked up by a local pig farmer - until there got to be too few farmers and too many houses. People started to forget about the reverse supply chain and got used to throwing everything "away" in the regular trash - though little did they appreciate where that was leading.

Next to be judged unworthwhile was the refillable bottle - to the outrage of us kids used to the occasional penny deposit candy money. Almost six decades later I still remember my dismay at having "No deposit, no return" pointed out to me molded in the glass. How I loathed those words. The end of newspaper recycling followed, there being no place to bring the towers accumulating at the bottom of the basement stairs. And just like that the centuries old bottom most segment of the economy vanished, with waste food, glass and paper just getting thrown away and hauled to the dump - in dire violation of nature's mantra that everything is somebody's lunch.

Needless to say my family persisted with that most ancient form of recycling, personally shepherding waste back into the earth. Every leaf, grass blade, stick, banana peel or refrigerator furball sliced into the soil is a blessed certainty, within weeks blossoming into a community of slimy, microscopic, earth loved rot following its biological bliss toward broad spectrum, microbiome enhancing soil fertility. A modest good, but one immune to the foolishness of others. And frankly, besides bringing satisfaction, it makes yardwork easier.

And we had a lot of leaves at that house. Our quarter acre had 4 hundred year old maples, a copper beech that stood out from across the Mianus River, a sizable magnolia, an admirable pink dogwood and a street elm that was somehow dodging the blight. Each year we'd make a super-sized leaf pile in a different spot. One year we circled it with chicken wire and jumped on the

leaves to trample them down, dumping & jumping until every leaf was corralled. Then we walked up to Ada's for a well deserved and refreshing cream soda - in its no deposit bottle.

Meanwhile our neighbors burned their leaves. It was just the tidy suburban homeowner way each fall, converting a barely flammable crop into a blinding, choking, nationwide haze. I was maybe five when I asked my father about burning the leaves he was raking into the woods, as that seemed more fun, the fires up and down the street providing a social occasion. But his reply startled me, forming a permanent memory. He explained top soil and how leaves left on the ground to decay formed into it. Later I followed my older brothers in strapping a bucket of water onto the back of our tricycle and looking for fires to put out. Earth First has nothing on 8 to 5 year olds.

Then came the evening in the mid 70's America woke up drowning in garbage. Walter Cronkite reported on garbage barges and trains roaming the eastern US pleading for a place to unload - to much hilarity and head scratching. With increased disposable products and plastic and everything going in the trash, local dumps were filling up and closing.

So the veil lifted if briefly on the mythical "Land of Away," home of all that's thrown. And land-fill diversion became a hot topic, growing into an industry again as the country restarted recycling. We got the circling arrows logo the "Reduce, Reuse, Recycle" slogan - if to chronically disappointing results.

After all, it wasn't like Americans chucked less stuff. Since the relaunch of household recycling circa 1975 and the EPA's most recent published data (2018), per capita daily waste disposal (both reclaimed and landfilled) went from 3.25 to 4.9 pounds, an increase of 66% - ranking the US number 1 globally. By comparison, in 2018 the average European produced 3lbs. Americans increasingly throw away stuff that's perfectly functional and the majority can't be bothered to recycle. But it was a start, with percentages tending higher over the decades, such that per the EPA we now divert 32% of recyclables from landfills, about 1/4 of which is municipal composting.

Though industry sources have long confessed that typically half of all recycling collected gets rejected as contaminated with - you guessed it - garbage, a small amount of which is frequently sufficient to contaminate an entire truckload. Such that China, which was our best customer by far, banned its import in 2018.

## Total Municipal Solid Waste Landfill by Material USA, 2018

146.1 million tons

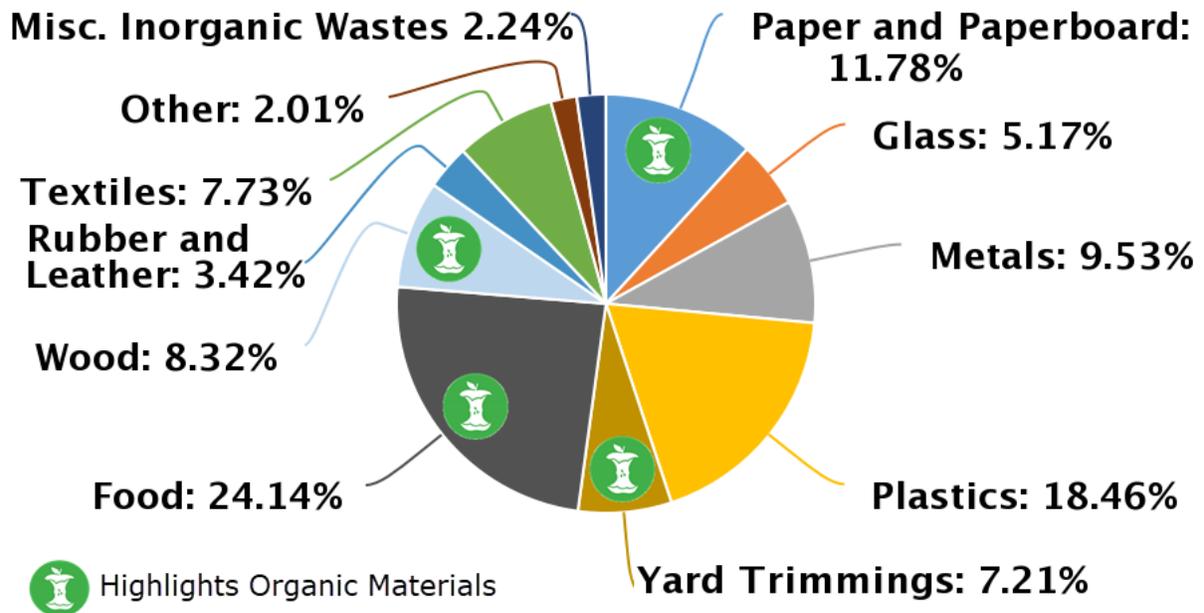
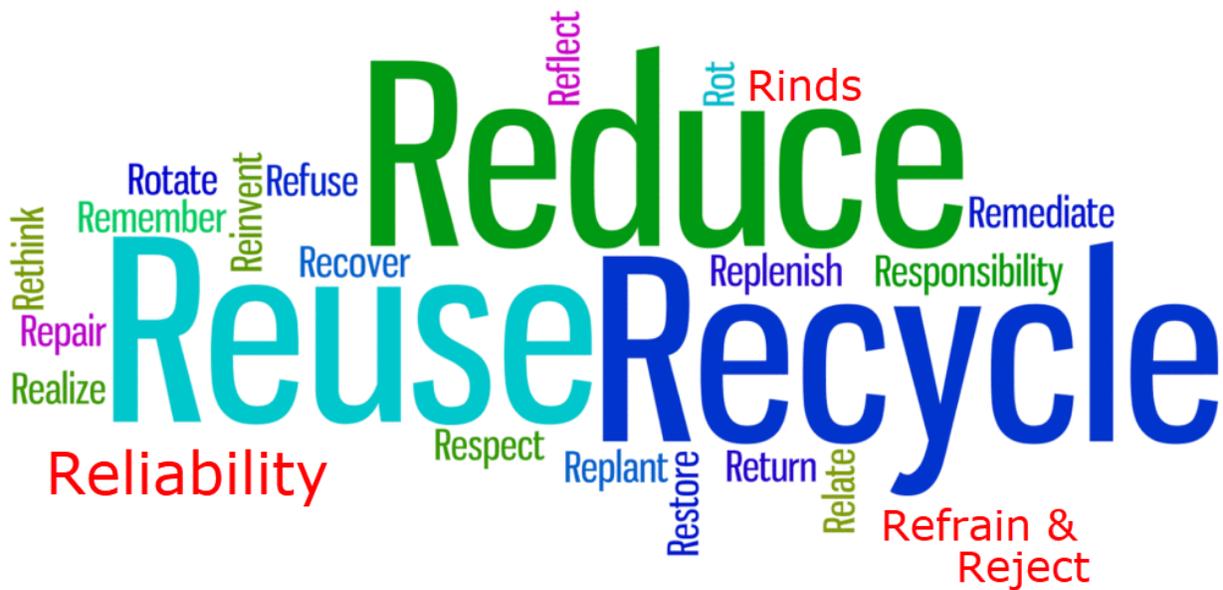


Figure 2: The above EPA graphic had me wondering if the organic half of what's still landfill bound - which I tagged with the apple core graphic - are candidates for composting instead. Absent from the chart because not landfilled are 17.7 additional million tons of food waste "managed by other methods" and 34.6 million tons incinerated in low efficiency energy recovery plants.

Corporate wants a solid 20% return for their trouble - that's the business of business - vs reclamation offering them a hard won break even. Meanwhile consumers are split in two groups: 1) Ignoring the program even exists so dropping banana peels in office paper recycling bins, and 2) Wish/virtue-cycling which measures recyclability in units of guilt. "I so want this plastic bag, half eaten takeout or huge styrofoam packaging recycled I'm putting it in the bin," little appreciating it'll just cost the program to landfill, jam its conveyors and even hurt somebody. Not that

hauler to consumer dialogue couldn't be improved, but "what's allowed" is a complicated and moving target.

We could benefit from a lot of rethink about consumer responsibility and product lifecycle. For instance how about reinforcing that recycling slogan, only add "Rinds Rot, Return, Reliability, Repair" and what may be the biggest of the now eight "R's," "Refrain and Reject" buying such junk in the first place? It's gotten so bad high end appliances barely last their year or two warranty. It's past time we take a page from China and ban the import of trash products - too many of which fail by poor design and manufacture right out of the box. And how about mandating easy access to and reasonable cost for repair parts? That would make a big dent in landfills and drive local entrepreneurship.



Alternative Recycling Logo

The down stream piecemeal materials handling challenges inherent to recycling are enormous. And only worse for plastic, amplified by its multiple incompatible formulations, sensitivity to contaminants and degradation by heat. Think of it like sorting socks, dumpsters and dumpsters of them, except instead of just color you have to look for a blurry little symbol on the heel of each

one - ultimately leaving a significant fraction unidentified. And don't forget disassembly. Each "sock" may come with a cap or sleeve to remove because a different material.

Precise separation by type of plastic is vital because unlike with socks, if you put a "wrong color" in a pile you affect not one pair but the whole melt batch. The incompatible material doesn't blend in but scatters in droplets that leave mechanical flaws in any product molded from it. This sensitivity to contaminants makes it likely a batch of post consumer plastic will downcycled from bottles to fabric or even plastic lumber. That is, recycling typically gives plastic a one way ticket to the landfill with only one layover as a fleece or plastic decking.

Finally, there is very little plastic in a bottle, between  $\frac{1}{2}$  and 3 ounces, which is a positive in terms of less petroleum used, but means each earns only a penny or 2 on the scrap market to pay for all that sorting, cleaning, storage and transportation before realizing a profit. Which is precisely why bottlers went for "no deposit, no return" in the first place. They're in the flashy, high profit business of persuading people to drink sugar water, superman water, genius water, and micronutrient water. The Marketers running such companies have neither interest nor expertise for a gritty, low margin, capital and labor intensive reclamation sideline. To quote Marie Antoinette, "Let somebody else collect the empties."

Yet, I'll say it, what a technical marvel a plastic bottle is, such structural integrity achieved with so little material. Okay, forget plastic. "All praise that marvel the aluminum can!" Not perfect, but at least we can actually recycle it. And it comes in only one color.

On the negative side aluminum from raw ore has a large carbon footprint, 4 times that of a plastic container. But, the carbon footprint of recycled aluminum is 1/10 of that, aluminum is infinitely recyclable and enjoys a real 50% recycling rate nationally, 75% in states with bottle bills. How the math works on that is that by its 5th generation aluminum produces less atmospheric carbon than plastic. And aluminum recycling has only a single primary weakness, consumer compliance aka the "Slob factor." Of the waste reclaimers handle, aluminum cans are a favorite for offering the most value and ease of reprocessing. (Though it might surprise you that corrugated cardboard is another reclaimer favorite because of the reliable demand for it from local box manufacturers).

Speaking of keeping things local, let's address some nitty gritty on nature's recycling program, the compost pile. Up to this point I've emphasized the simplicity of composting, and I'll contin-

ue in the spirit of the “Keep It Simple and inexpensive.” But the ways of the home composting industrial complex also need addressing if only to debunk the boutique.

To start, I admit I like my sturdy washing machine sized plastic composting bins with air holes, lid and a door down low for eventually shoveling out my black gold. Size matters. Any container can fill quickly with fall leaves, though it'll have room again by spring. My 2 bins are roughly 2.5 foot cubes for about 16 cubic feet or 115 gallons capacity, and personally I wouldn't want anything much smaller. Keep in mind it takes 7.5 gallons to make a cubic foot. So by comparison, those 40 gallon compost bins you see online are tiny!

Even as I confess my rather small rotating drum composter on a stand works quickly in warmer months by mixing microbes into freshly added organic waste. I give it 5 - 10 turns each time I add something. Being on a stand even keeps mice away.

Full disclosure, next to these bins we also accumulate piles of weeds, branches, whatever didn't make it into the official compost. That's fine as it's not at a landfill and will breakdown eventually. And my secret weapon? Any time I dig a hole - say to plant a push or start a plant bed - I stuff it with material from those piles right to the top before filling back in. Also, it can always provide me with something brown to add to the bins. In the end, you can't have too much compostable matter. I've even been known to bring other people's leaves home from the transfer station just to dump in the woods. If I had a dump truck I'd be dangerous...

You can always start composting simply by piling it on the ground or build your own enclosure. Go for ugly and cheap or better yet free. Tying 4 pallets together like a kind of picket fence can be a crude but effective way of corralling material. Let the “bottom” be the earth - for microbes & moisture. Let the sides be leaky - for air. Microbes aren't social climbers looking for a swanky address, they're literally invisible! Hard core folks eventually setup 3 bins in a row and cycle through them each year. .

Whatever kind of bin or pile you have, just add your organic waste as it comes along, sprinkling on a handful of rich soil to start (not purchased starter microbes. I promise your yard isn't sterile). Add urine as a nitrogen accelerator if feeling mad scientist. Then don't give it another thought. Mother Nature's in charge. Feed and once a season or never as the spirit moves you pull

the older material to the top with a digging fork to stir the microbes. Please just don't get antsy. Meditate on the pile if you must. Composting taught *my* young self patience.

What should or shouldn't go in the compost? If it was once alive, in it goes. Anything from the yard or woods is game, though leave out the pressure treated or painted lumber. With weeds, it's best to verify they haven't set seed or you'll be spreading them in a couple of years. If you have a covered box, plants with roots are no problem as for instance sod will die and any clinging dirt aid in the process. I entertain myself with wondering how many years it'll take to break down avocado, mango, peach, cherry and olive pits. I like to push it a bit with greasy paper plates, tissues, cotton swabs, fish bones and shrimp tails when they come to hand, all equal in nature's eyes. It's okay that bits like clam shells linger, their job is long term and meantime are too small to really notice. Even my torn jeans & cotton shirts go in. You won't know until compost harvest the odd inadvertent envelope window or nylon thread that slipped in, but that's no biggie. Little bits of not quite finished rot will soon finish up in the flower bed.

I've never composted in the house, don't intend to start, and sorry this article doesn't address apartment living, though there are many organizations that accept or even pickup organic waste. But even outside real stink (from rotting meat) would bring big furry animals, particularly if your homemade bin has no cover. In my experience the only real no no is bones, mostly because years later after your compost is spread they'll still attract animals to dig up your garden, unless you're a municipal operation grinding bones up. I settle for dropping bones and fat on a hot fire in the wood stove. A chicken carcass makes a merry blaze while heating the house. Then I spread the resulting ash.

And that would conclude today's lecture, except we're well past the point a proper "expert," your typical rot egghead, would have raised technical points, so best touch on those. Yes, you want "aerobic" decomposition, meaning by bacteria that thrives on exposure to oxygen, from the Greek *aero*, "air," and *bios*, "life."

So include fluffy organic matter so the pile can breathe, generally referred to by analytical composters as "brown" and "high in carbon." That includes anything you'd gather with a rake, anything relatively dry and crumbly like leaves, dead weeds and twigs, also low grade paper products like egg cartons, toilet paper tubes and crumpled cereal boxes that are the least desired by

recyclers. You want any bin to have ventilation holes along the sides, drilling them if necessary. Also, turning fluffs up the pile and exposes new material to the air.

By contrast fresh fruit & vegetable matter is the formula one race car of decomposition as you have doubtless observed in your refrigerator. It performs accordingly within your compost heap taking everybody else along for a fast ride. Composting nerds refer to such as “green” and “high in nitrogen.”

And yes mixing these green vs brown, nitrogen vs carbon, slimy vs dry, fresh vs well dead, they complement each other in the aerobic decomposition process, working not only faster, but retaining more nitrogen and carbon in the finished compost. Though as long as you tend to drop both kinds of material into your compost periodically, being generous with brown, I wouldn't worry too much about ratios. It's not a hospital patient requiring vital signs on the hour. It's more a salvage party and everybody's invited.

Technical details are of far greater interest to industrial scale composters. That said, *Anaerobic* or *without oxygen* decomposition is less desirable because it releases nitrogen and the powerful greenhouse gas methane to the atmosphere instead of retaining it as fixed nitrogen and carbon for use in the soil. As it happens, anaerobic decomposition is what always happens to organic material buried in landfills - in case you needed another reason for avoiding that.

Still, if you find yourself lying awake at night worrying that your yard is contributing to global warming, never fear. Leaf mold, the forest floor, nature around you generally provides an aerobic environment 6 inches deep or so. Second, exposing anaerobic bacteria to air literally kills it, letting the aerobic take over. So by all means go turn your compost. It's also an excuse to add brushy twigs underneath the mix to provide air passages as the pile grows. Then relax.

In the “how finely shall we split this hair” department, one of the sillier pieces of composting advice I've read was a solemn warning against letting rain fall on your compost. Mother Nature says, “Huh?” Okay, you don't want your compost underwater or a permanently soggy mess, so no composting in old bathtubs! Another suggested “must” is that your bin have a bottom. My experience is that no on the ground compost bin is mouse proof, nor is the ground beneath your bird feeder. You have rodents! Speaking of animals, there's little enough in a compost pile to attract, say, racoons. They used to raid our trash cans, never the compost, so I don't worry about

them. But if you've got an open pile, a food item concerns you and you don't want even the possibility of a critter snagging a meal: freezing will turn vegetables to liquid, you can bury it in the pile or designate a temporary secure enclosure and it'll soon be of no interest.

#### CONCLUSION:

Home composting takes little effort and provides an unambiguous win for the environment, yay. But bigger picture, how to balance 8 billion people benefitting from an industrialized world with things like medicine and hot running water against sustaining a planet capable of supporting life? In weighing the two sides - dollars, quick market returns and comfort versus life's often mysterious but solid 4 billion year track record - which will side will humanity choose?

Half the problem is like all organisms humans are programmed to eat what's in front of them. The other half is that via technology we've achieved such super apex omnivore status that nothing escapes our dinner plate. Meaning, for the planet to survive we have to rise above our natural programming. It's like trying to persuade the lionfish currently eating its way through the northern Mediterranean to reconsider. Hmm, not good.

Except we're smarter than lionfish, so let's examine the problem. Our home is a living solar powered vehicle swinging around the sun in the Goldilocks zone. Every good we've ever received has been via the life thriving on its surface. But now, under the impact of industrialization, the environment is growing less capable of supporting life. Which would seem to suggest rolling back industrialization including by cutting back on carbon emissions. But instead, just to feed our 8 billion selves we're drastically drawing down aquifers and turning fossil energy into fertilizer directly responsible for 40% of global harvests.<sup>2</sup> Meaning, not only are we borrowing against i.e. impoverishing our future, but that our doing so is accelerating.

So it seems we need a plan, and as survival depends on it, we'll need a high level of compliance. We'll have to legislate boldly and enforce protections and energy reductions. Nor will even the best intentions suffice. For instance nostalgia notwithstanding, just declaring refillable bottles mandatory would multiply our handling problem. Then again, since we don't need 450 unique carbonated sugar water containers, when 1 standard bottle, a flashy sticker and local bottling operations would do - a rethink might help. After all, at home we wash the glass we drink from. Surely industry could manage the same?

Or, with intelligent oversight, incentives and enforcement, near 100% container recycling is achievable as Michigan long ago demonstrated with its 10¢ deposit. At which point, ending plastic and going with aluminum cans could make sense. With its surprisingly small carbon footprint glass could also work with standardization and a big increase in local glass molding capacity to reduce transportation.

Speaking of transportation, low occupancy vehicles have to get lighter across the board, with smaller engines, so reduced performance and great mileage. Add robot traffic enforcement to make non-aggressive driving the new normal - and everyone's safer. Semi-driverless - it delivers itself - car subscription services for the suburbs would reduce car ownership from the current insane one per US resident, while increasing mobility for the elderly and unlicensed. Shift long distance freight back to efficiently routed and monitored trains. Short haul freight can be supplemented with ride sharing algorithms.

Though let's face it, all that's a drop in the bucket without an overarching policy of rapid population reduction - because as mentioned, just trying to feed everybody is digging us a giant grave. Impending extinction makes having a child a privilege. Though that in turn solves the major contemporary problem of overwhelmed caregivers. Suddenly every kid has parents, uncles and aunts by the dozens, not unlike traditional village life only more so.

Yes, it's shocking, our reality. There will of course be those who push back, who already regard recycling as an imposition, who demand lower energy costs while they leave their vehicle idling and keep their house frigid in summer and broiling in winter. They don't care unless it's about them, oblivious that Nature is the queen of indifference. You see, if humans wipe out 80% of life along with themselves, new species will emerge to replace what's lost. Maybe a future civilization of sentient Tardigrades will nod their hoover heads at our folly - from their steamy, comfy compost homes.



The Water Bear, Moss Piglet or Tardigrade grows to the size of a comma, has 1,300 known species and diverged from its closest relatives half a billion years ago. Meaning that while they may look roly-poly they've already survived several mass extinction events.

FOOTNOTES:

<sup>1</sup>"The biomass distribution on Earth," Yinon M. Bar-On, Rob Phillips, and Ron Milo, Proceedings of the National Academy of Sciences, May 21, 2018

<sup>2</sup>"Growth: From Microorganisms to Megacities," Vaclav Smil, MIT Press 2019 p390

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