

ATTLEBORO LAND TRUST NEWS

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A Monthly Newsletter on Outdoor Adventure, Conservation and History

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Earth Week Recap at the Land Trust and Beyond

Earth Day and Earth Week were busy for the Land Trust, but it did not start there but months before. For weeks, volunteers worked on properties to get them ready for the Earth Week events and generally improve them for the upcoming warmer season. But before that, Charlie Adler tirelessly was planning what work had to be done on each property to maintain and improve them. Evan Foster was planning what events to have during Earth Week, the best places to have those events, and recruited volunteers to help with each event. The end result, despite pandemic restrictions, went off beautifully. (See page three)

The week also brought the country back into fighting climate change and improving the environment. It means innovative technology, new jobs and improved lives. Yes, there will be some turmoil during the change, but change is inevitable. This is no longer the 19th or early and mid-20th century when people worked the same job with the same company for their whole lives. That has been changing for a while. I had five different careers during my working years. There are going to be new educational opportunities, new businesses and new lifestyles. If the governments and businesses of the world can get their acts together for the betterment of the earth, problems can be overcome, people can prosper, and the environment as a whole can improve. Let us look at Earth Week as a steppingstone toward the future of the planet and our lives.

Now is the time to "Choose Your Own Adventure" with the Land Trust. You can enjoy our properties by freely hiking our trails and enjoying the flora and fauna while getting healthy exercise, walk the expanding Hike Attleboro areas, or go beyond and join the Land Trust to help improve our properties and our goals to make our community a better place to live.

Bill Lewis

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<https://www.youtube.com/channel/UCUAeg-BwaBICy-HuIXd2lrg>

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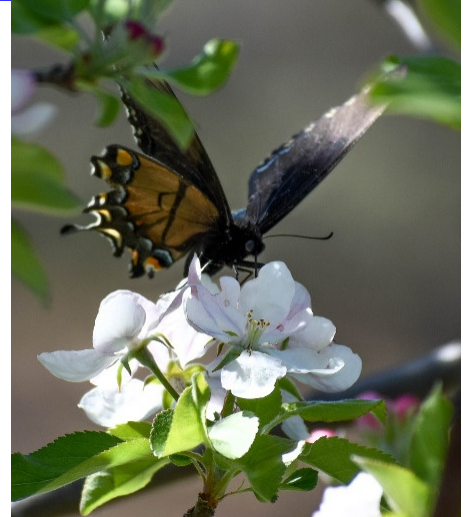
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How Critical are Pollinators and Artificial Pollination?

by Andrae Butler

Pollinators are a vital part of our ecosystem. Without pollination many of the plants that we consume would not be able to exist. According to the United States Department of Agriculture, approximately 80 percent of the plant varieties consumed by humans every day require pollination from an insect or animal. As of 2010, honeybees had pollinated 19 billion dollars of crops that were produced. An additional 10 billion dollars was produced from plants that were pollinated from other common pollinator species. These species include bats, beetles, moths, birds, butterflies and other small mammals.

A pollinator is any animal that assists plants in their reproduction. It is said that pollinators are responsible for one out of every three bites of food that we eat. Pollinator species



Butterfly on apple blossom



Bill Lewis

Bees on Squash blossom

travel from plant to plant carrying pollen on their bodies in an interaction that allows for the transfer of critical genetic material for reproduction. Pollination can also lead to other environmental impacts such as an increase in carbon cycling and clean water. Some of the popular plants that require pollination are chocolate and coffee.

Bees are the most common pollinators because they require pollen in order to feed their offspring. They also tend to stick to one species of flowering plant at a time that allows them to distribute pollen to the stigma of a flower of the same species. This is called cross-pollination and many plants require it to produce viable seeds. Unfortunately bee populations have been declining throughout recent years due to an increase in pesticide use in agricultural and urban areas as well as disease and parasites. Without a substantial bee population, many farmers are struggling to produce viable crops. Most fruit and vegetable species end up perishing due to the lack of pollinators to help them reproduce. However, grass species such as wheat and barley and corn would be able to survive the extinction of pollinator species. This would unfortunately result in a severe decline in the nutritional health of the human population. In response to this decline, people have been encouraged to provide habitats that will be able to sustain a growing colony of bees and limit their use of harmful pesticides in their home gardens.

Another common form of pollination is artificial pollination. Humans carry out artificial pollination mechanically when there is an insufficient amount of natural pollination. This is usually done by extracting pollen from one plant by hand and redistributing the collected sample onto the stigma of another. While presently executing this process by hand is what is most practiced, scientists are working to develop new technology to increase the productivity of artificial pollination. Some of these developments include bubble blowing drones, laser machines and robotic bees. However, none of these developments is a permanent solution to the rapidly growing problem.



Lemon hand pollination

Pollination is vital for our survival. Without pollination an ecological collapse would ensue. The extinction of these species could lead to the loss of the greater percentage of the consumable crops on Earth. It is important for us as humans to promote the growth of these species and ensure that the Earth's biosphere continues to thrive.

Earth Week with the ALT! By Evan Foster



Aziz-Rehan family looking at a deer skull and antler

and have fun!

We started the week off with the first nature scavenger hunt on the Nickerson property where participants meandered their way through the forest and across boardwalks looking for snakes, wild turkeys, mushrooms, birds, maple leaves and more! To find everything on the list, patience and silence was a necessity, but often difficult with the excitement of being outside. By the end of the day, we found out that the squirrel was the most elusive animal on the list... who would have thought?!

The second day involved exploring and discovering the natural features on the Larson Woodland property. An energetic and observant group started us off with some amazing finds including a bird egg, black acorn, lichen, snake, shells and lots of rocks! Their excitement and eagerness to find new discoveries was infectious to all those around. Mike Davis brought additional items which included a wasp nest, deer skull, deer antler, fossils, and old coins. Each time Mike brought out a new item, the kids' eyes lit up with amazement. What an incredible experience!



Killebrew family looking at plant and tree



Burby family creating art with natural items

The third day brought us to the Richardson Nature Preserve for the nature art event where the participants collected natural items while walking the property. When they finished gathering their items, they started assembling the art pieces at the tables. One piece at a time, each participant made masterpieces worthy to be in an art museum! The creativity and imagination that went into each piece of art was incredible.

The fourth day (Earth Day!) allowed us to have a second round at finding the elusive squirrel on the Nickerson property during the second scavenger hunt. Fortunately, a squirrel was found during the event! A truly memorable day for everyone that came out even with the cold and windy weather.

The final day we were back on the Richardson Nature Preserve for the tree/plant identification event where the families learned about the plants and trees that exist on the property. They asked questions, looked at the buds, noticed the leaves and guessed what they thought the plant or tree was. We all learned so much that day and will take our newly acquired knowledge to the next properties that we visit! It was an incredible week filled with unforgettable memories!

News from the Attleboro Community Garden

By Stephanie Furlong

We have officially embarked on our 2021 gardening season! Opening day was a great success! Everyone did a great job working together, while respecting the COVID-19 protocols of social distancing and mask wearing. And everyone did such a wonderful job keeping each other safe!

Starting at 9:30 am, new gardeners participated in orientation. Orientation is mandatory for all new ACG members. It was wonderful to see all the new faces of the Attleboro Community Garden! We are growing into such a wonderful and vibrant community!

Once orientation was completed, returning gardeners arrived. The opening day festivities began at 10 am and lasted until shortly after 12 pm. Opening day was a success as many gardeners, old and new, all worked together on many tasks such as weed removal, raking, plot maintenance, and distribution of new soil into the plots. Thank you to all the gardeners for your hard work!

We have many events coming up at the Garden in May and June! Mark your calendars. Thank you again to all the gardeners for kicking off the 2021 season with such collaboration and teamwork! We are excited to see what this season holds!

The Attleboro Community Garden is located at the corner of Riverbank Road and Mechanic Street



Pictures by:
Anna Garcia-Ipina

Upcoming Events

ACG Plant Swap - Saturday, May 22nd, 10am-12pm. (More details to come) Kids Seed Pod planting activity also from 10am-12pm. Each child can plant their own veggie seeds in peat pots that they can take home with them.

Garden Workday - Saturday, June 12th, 10am-12pm. This is a day to clean up the garden (and get in some volunteer hours.)

Ladybug Release - Friday, June 25th, 6pm-7pm. Join us for a quick informational on Good bugs/Bad Bugs and help us release 9000 ladybugs into the garden.

Annual Garden Party - Saturday, June 26th. (Details TBD. Please stay tuned.)

Biodegradable Plastics and Their Use in Farming and Food Packaging

by Elayna Marinelli

Did you know that most plastics used today can take up to 1,000 years to decompose? Or that over 1 million marine animals are killed each year due to plastic debris in the ocean? Unfortunately, more and more plastic is filling up our landfills every year, which means it's most likely to end up in the ocean. Right now it is estimated that there are 100 million tons of plastic in oceans around the world. As more and more research on the impact of using plastics is discovered, consumers and manufacturers are left scrambling for an alternative to the harmful material. Recently, bioplastics have emerged as a potential alternative.



What are bioplastics?

Bioplastics are plastic materials produced from renewable biomass sources, such as vegetable fats and oils, corn starch, straw, woodchips, sawdust, recycled food waste, etc. Some of these biomass sources include corn, sugarcane, tapioca, and other forms of cellulose. The term 'Biodegradable' generally refers to a substance that can be broken down by microorganisms in the environment within a fixed period-of-time. However, the term bioplastic does not refer solely to biodegradable or

PlasticsToday



Disposable tableware

Biowaste bags

Carrier bags

Rigid packaging

Flexible packaging

compostable plastics made from natural materials. The name is also applied to petroleum-based plastics that are degradable, plant-based plastics that are not necessarily biodegradable, and plastics that contain both petroleum-based and plant-based materials that may biodegrade or not.

Bioplastics are divided into 3 distinct groups:

- Group 1: Plastics that are both bio-based and biodegradable
- Group 2: Bio-based or partly bio-based non-biodegradable plastics
- Group 3: Plastics that are based on fossil fuel resources and are biodegradable

So, how are they being used? At the World Economic Forum on January 22nd, 2018, The Ellen MacArthur Foundation announced a list of 11 big brands working towards using 100% reusable, recyclable or compostable packaging by 2025. Some of these included Amcor, Evian, L'Oréal, Mars, M&S, PepsiCo, Unilever, and Werner & Mertz. Coca-Cola is also currently using sugarcane from Brazil to create bio-monoethylene glycol for its fully-recyclable (but not compostable) Plant Bottle packaging. Lavazza, an Italian coffee company, launched a fully compostable and biodegradable coffee capsule using Novamont's Mater-Bi third-generation bioplastic. Now the used capsules can be chucked in with the food waste and will break down within 6 months. Now there is no denying that bioplastics have their flaws, we know not all of them are 100% biodegradable. Here is a list of the biggest pros and cons:

Pros:

- They reduce the use of fossil-fuels and reliance on non-renewable resources.
- Manufacturing process can use up to 65 percent less energy and generates fewer greenhouse gases than conventional plastic.
- Some are biodegradable and/or compostable.
- Some can be recycled alongside conventional plastics.
- Some are non-toxic and safe for medical and internal use.

Cons:

- They have a higher manufacturing cost
- Not all are recyclable.
- Not all are biodegradable.
- Some can interfere with or damage standard plastic recycling processes.
- If sent to landfill, some can release methane, a potent greenhouse gas, into the atmosphere.
- They are not suitable for use in a number of products.
- Use of plant sugar and starch sources could have a negative impact on food prices.



0 week ▶ 2 weeks ▶ 4 weeks ▶ 6 weeks

So, after reading all that, do you think we should continue to promote bioplastics or should we invest in finding a different route? Scientists and companies are still asking themselves this question. But there is one thing that is certain-

We need to become more sustainable, and we need to do it quickly.

SAW SAFETY by Phil Boucher

With so many power equipped tools available for outdoor work, it may seem strange that I want to talk about handsaws. Not just any handsaws. but the newer versions of tree and pruning saws with the razor teeth that are available in so many of our major stores. They surely have advantages over the older models, but if used poorly they can become quite dangerous or even lethal.



These new razor-sharp saws do save time when cutting as they can cut on the push and the pull strokes in the wood leaving a clean wide kerf cut with ease. Problems can develop due to the speed in which a branch can be cut and finished sooner than expected. These saws can easily cut through a pant leg, a glove or even a boot if unintended contact is made. So along with the desire to do a



good job safely and efficiently, there are safeguards that should be observed to lessen the danger of accidents.

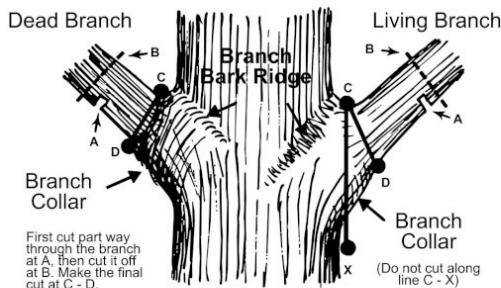
Short of using old, dull saw blades which are not practical since it would add time and frustration to the work, thinking safety is a better approach. It begins with sizing up the job as you select a tree or brush to be cut.

- Use just enough speed and force to do the job.
- Avoid awkward positions and poorly thought-out cuts overhead.
- Be very aware of other people and trees, etc., around you always.
- Be careful to place hands and feet out of harm's way while cutting.
- Make sure a folding saw is locked open.

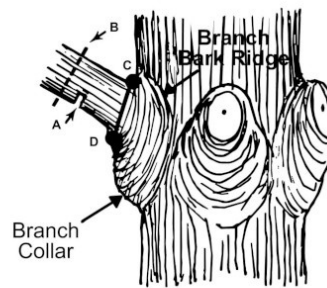
There is a reason the new blades are so sharp. They were designed for the workers benefit to use fewer strokes per cut to reduce the potential of tendonitis or repetitive motion stress in the arm. The drawback is that it can cut whatever it



Proper Pruning Principles



Hardwoods



Conifers

touches. Another safety measure to be considered for Land Trust volunteers or homeowners is in the sharing of tools on our various volunteer outings. We should always give sufficient forewarning to anyone that needs or wants to use one of these saws. Good directions are as important as the word "timber" in the woods. Be safe.



The Attleboro Land Trust is looking for Supporters by becoming a member, making a Tax-Deductible Contribution and/or as a Conservation Volunteer. Membership, contributions or volunteering can be done securely at Attleborolandtrust.org or by mail at Attleboro Land Trust, P.O. Box 453, Attleboro, MA 02703. Thank you for your support.

What's Happening on the Barrows' Farm in 1721

It is planting time. The kitchen garden is doing well and providing them with some fresh greens, carrots, parsnips, beets and herbs. Of course, they always let some of the plants go to seed so they will have more seed for the next year. They never plant all their seed in case of a late frost, animals, disease or insects destroying a crop. In any probate inventory from that period, you always see "old seed" listed.

The frost threat should be over by the middle of May

and the soil should be warm enough for germination by the end of the month. So, they are distributing the composted cow and horse manure and plowing it into the fields. Poultry manure



needs to be composted for at least a year before it can be used. All manure needs to be composted for at least a couple of months to kill weed seeds.

The flax has already been sown by broadcasting it over an area and raking it into the wetter but well drained areas. The rye was planted in the fall and is now growing well. Some of it will be turned under as "green

manure" in the corn fields as it puts nitrogen into the soil. Corn is a big nitrogen consumer. Some of the rye plants will be allowed to go to seed so they will have seed for the fall as well as for flour or beer production.

The cows, sheep, and horses have been out in the pastures eating the new shoots, but they still must be brought into the barns at night.

When it comes to planting the corn, beans and squash, the young children will get to participate by making a hole with a stick and spacing the seeds the length of their two hands along the rows. They carry the seeds in a pouch made of leather or cloth that was made by their mother. They plant the corn first, the beans



when the corn is about six inches tall, and the squash and pumpkins when the beans have attached themselves to the corn stalks.

It is also birthing season for the livestock and the poultry are laying. It



means, milk, butter, cheese, and eggs are added to the menu. It also means fun for the kids as they have turtles, frogs, salamanders and snakes to play with. They just had to be careful

because copperheads and rattlesnakes were still in this area at that time.



Updates, Comments, and Interesting Reading

Growing rice, the largest staple crop in the world, in flooded fields produces vast amounts of methane and nitrous oxide contributing to climate change. Producing rice out of water improves quality and yield, saves water and reduces methane release.

Posidonia seagrass which grows in the Mediterranean Sea absorbs 15 times more carbon than an equivalent area in the Amazon rain forest. It is long lived and slow growing. It is being destroyed by both increased temperatures from climate change, excess nutrients from waste and fertilizer and the anchoring of ships and boats.

Shellfish of all types help to sequester carbon because their shells are made of calcium carbonate.

Due to climate change, farmers working in drier climates are causing more land degradation when working their fields. This includes areas of almost half of the world's population. "We are still degrading more land and we are still harvesting more water, so where are we going?" asks Ibrahim Thiaw, executive secretary of the UN Convention to Combat Desertification.

According to the journal Geographical Research Letters, one third of all rivers in the U.S. have changed color since 1984. They are becoming greener, redder and more violet. This is caused by dams, soil erosion, temperature increase from climate change and fertilizer runoff. This cuts their productivity and the environmental stability of the rivers and can make the rivers anoxic producing methane emissions.

UN Decade on Ecosystem Restoration aims to prevent, halt and reverse the degradation of ecosystems on every continent and in every ocean. It can help to end poverty, combat climate change and prevent a mass extinction. It will officially launch with World Environment Day 2021 (5 June). They have plans to restore, grasslands, shrublands, savannahs, peatlands, mountains, farmlands, oceans, coasts, freshwaters, forests, and even deserts. You can join the effort as the Land Trust restores our properties.

Gates Ag One, part of the Bill and Melinda Gates Foundation, owns 242,000 acres of farmland, the largest owner of farmland in the U.S. They are working toward helping "smallholder farmers adapt to climate change and make food production in low- and middle-income countries more productive, resilient, and sustainable."



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