



Trees, animals, birds, plants, forests, mountains, lakes and rivers — everything that exists in Nature are in desperate need of our kindness, of the compassionate care and protection of human beings. If we protect them, they in turn will protect us. - Amma

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GreenFriends is a global grassroots environmental movement which promotes environmental awareness and local participation in conservation efforts throughout the world.

GreenFriends is one of the projects of [Embracing the World](#), a not-for-profit international collective of charities founded by internationally known spiritual and humanitarian leader, Mata Amritanandamayi (Amma)

To join the Pacific Northwest GreenFriends Litter Project, write Karuna at karunap108@comcast.net

PNW Gardening

A Malt-Bee Adventure by Marvel Galvin

A Malt-BEE Adventure

"Be like the honeybee who gathers nectar wherever it goes. Seek the goodness that is found in everyone."

- Amma

In writing about bringing honeybees to the M.A. Center PNW - Maltby farm, this could easily have become a mostly introspective, philosophical essay about caring for bees. Instead, for those who are interested in, or have thought about taking it on, the following offers an introductory example of the steps involved in this undertaking. At Maltby farm, we are following Amma's guidelines to work in harmony with nature. Keeping bees is part of that endeavor. Though it's possible to begin beekeeping on one's own, there are sound reasons for partnering with another person or a group. Most of us have many other demands on our time that make the daily commitment impractical, and at peak season, maneuvering heavy hive boxes requires another set of hands. In that light, we have had many hands involved in the caring of our bees.

Unless you are fortunate enough to be a beekeeper's apprentice, your venture into Beekeeping will likely be similar to ours. Initially, there is often the expectation that an eager mentor awaits your budding interest – which is usually followed by the disappointing realization of how scarce that opportunity is. The learning, equipment, set-up, and supplies, etc., all come with a committed effort toward research, classes, bee meetings, and tending the hive. For those who are interested, most counties have a Beekeepers Association with monthly meetings, speakers, and an opportunity to network and ask questions. YouTube offers endless [beekeeping demos](#), which can be helpful, but one might be well-advised to verify the information when possible.



Bee Buddies: Chris, Chaitanyan, Marvel, Yasas & Mechas

PNW Gardening

So our newly-formed Maltby team ventured into the world of beekeeping with little collective experience among us. But with an eagerness to begin and the blessing of Amma's Grace on board, everything gradually fell into place.

The shelter we decided to put up was first disassembled, then transported from Ajayya's Olympia property, and re-purposed for our bees. Our group was led by Chaitanyan and Chris, whose well-honed experience made it look like a simple task.

Two new hive boxes and two new bee suits were also donated, but another little-known fact about starting anew in this endeavor is that it generally costs \$1,000 or more for the start-up. And implementing previously used hives from unknown sources brings potential contamination with viruses – so some argue that it's best to begin with new equipment. There are additional seasonal expenses as well. As Grace would have it, the timing of our annual auction proved very beneficial, with a generous donation from devotees who provided the remaining few hundred dollars needed to purchase our bees, hive tools, and a few miscellaneous items.



Marvel, Anavadya, and Ajayya abuzz in their bee finery.

There are a few ways to obtain bees for a new hive, but unless someone gives them to you, a purchase is required. You can either order a "package" of bees, or a NUC (nucleus colony), both of which will typically arrive at your local beekeeping supply store in April – usually on the back of a truck coming from California. Either way you go, the cost is around \$200. A "package" is a screened box roughly the size of a large shoebox and if it's a 3-lb. package, it will contain about 10,000 bees! The queen (who has likely been bred and is new to that group of bees) is also included in the box, though she is in a tiny little screened box of her own that has a cork in the end of it. She is excreting phero

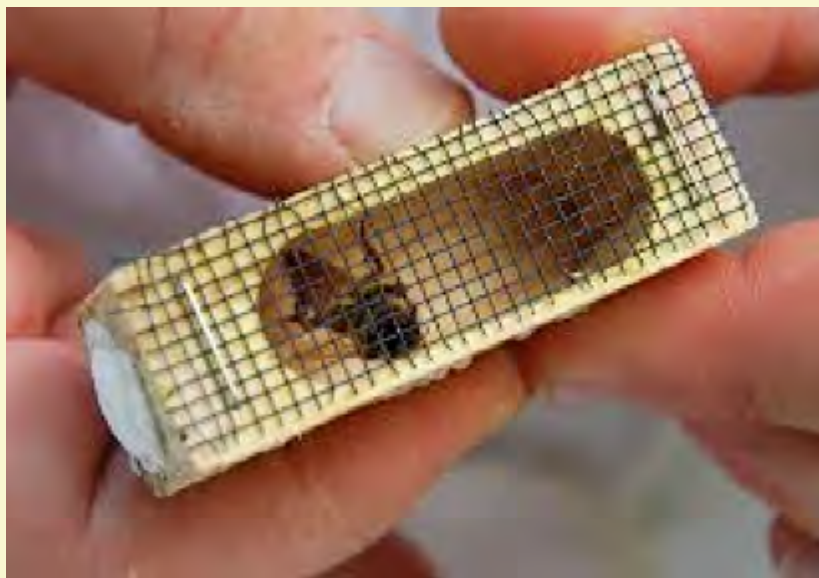
PNW Gardening

mones, which will begin the sophisticated communication system she shares with her colony – they are now bonding with her. Once the package is brought to your own hive box, the queen (still in her little box) is placed in her new home. The remaining bees are set free with the opening of their box next to the new hive. They will stay near as they now gravitate to the queen. One method often included in this transfer is to replace the cork in the queen's box with a marshmallow. Within a couple of days, the bees will have eaten through the marshmallow to free her, and the hive begins its growth process.



Marked Queen Bee

We opted to purchase a NUC of bees. Our style of hive for the time being is a Langstroth hive, which has hanging frames in the stacking boxes. The NUC comes in a box that has five frames already full of bees, and a queen that is bonded with this group. In a NUC, you can expect to see a little honey already stored, along with some brood cells (new baby bees incubating). Our bees were from "survivor stock" – meaning they had survived a winter, which sadly is nowhere near a given outcome.



The Queen in her cage with the marshmallow cork.

PNW Gardening

At this point in the season, a new hive MUST be fed. When a hive has wintered-over, ideally they have plenty of honey stored for nourishment, but such is not the case with a new hive. They are fed a sugar-syrup solution until there is ample food supply for them in nature. In our neck-of-the-woods, commonly this is when the blackberry blossoms are plentiful.



Her servants working on her sweet escape.

Also by this time, the size of the hive should be dramatically larger, and a new hive box will have been stacked on top of the first, giving the bees room for expansion. In addition, a smaller box (called a honey super) is typically stacked on top of the second. This box is for honey storage only. A screen, called a "queen excluder" is placed below the honey super and rests on the box below. This allows the honeybees to climb upward to fill the frames with honey. But since the queen is too large to fit through the screen, there will be no eggs laid in the upper box. If it gets filled, another can be added on top of that. Depending on a broad variance in honey production, an assessment will be made whether there is enough spare honey to extract for us to enjoy – or whether it needs to all be left for winter nourishment. This is typically done at the end of August or beginning of September in the Northwest.

As autumn approaches and the temperatures drop, many changes occur. The bees will not be out for their daily foraging, and tending to their food supply is once again on the to-do list of the beekeeper. Adding sugar syrup will keep them from digging into their winter store of honey, and pollen patties offer concentrated protein fuel which is needed for creating more brood. The new brood helps to compensate for the winter die-off of thousands of bees. The life-span of honeybees (all female) is approximately 6 weeks for the warm months. Though they die off naturally every day, they are replaced by new brood as the queen continues to lay eggs (up to 1500 per day) all summer. When the season changes, the queen stops laying, and more than half of the bees will die off. The remainder will hopefully live through the winter, and begin the whole process anew in the Spring. The only males in the hive are the drones, whose sole purpose is to mate with the queen. Once mating season is over, they are kicked out of the hive, and new ones will be born later.

PNW Gardening



Mili and Atziri helping the hive.

Along with these seasonal changes, come the challenges of temperature control and the dreaded prospect of dealing with potential condensation in the hive. Without adequate heat, the bees will die. It is common practice to wrap, or insulate the hive, which can cause condensation to build on the underside of the inner lid. The condensation can then drip cold droplets of water onto any bees in its path, which is more than they can withstand. Condensation requires intervention with a variety of options. As with all beekeepers in our climate, we will be closely monitoring the situation as the season changes.

Making it through the winter is only one of the survival issues the bees face these days. It is commonly said that it's not a matter of whether they have mites, but how many do they have. There are, of course, a number of ways to check for mites. We chose the sugar-roll method, whereby you shake the bees off a full frame and into a bucket, then "pour" some into a container with powdered sugar. The objective is to gently roll them in the sugar and

pour them out where you can then see the mites more easily. Ajayya and I fumbled through our attempt, and what should have been a light dusting looked more like heavy fleece. We will improve our performance next time, or try another method. For the concerned reader, don't worry! The other bees come to their rescue and clean the powdered sugar off of their mates. They are also vulnerable to a variety of viruses, which are sometimes specific to a particular region. In addition to checking for mites periodically, we are watching for signs of the general health of the hive.

At each step of this process, there are decisions to be made: nationality of the bees, integrity of the supplier, type of hive, type of food, type of shelter, whether to treat for any illness, and if so, which treatment, all-natural vs. more conventional, etc. There is an endless amount of information available and a seemingly equal number of conflicting opinions offered. Beekeeping humor: "What do you get when you put two beekeepers together? Answer: Three opinions! It doesn't take long to experience the truth of that! We have been fortunate, in that our team has been

fairly harmonious through the decision-making process. We've asked the questions, weighed the options, and when applicable, acquiesced to prior successful experience. People often ask whether we've ever been stung. Yes! But only a few times in a couple of years, and the bees have had a good reason for doing so. One example is when lifting bee-packed frames out of the box for inspection, we can sometimes unknowingly squeeze a bee, since there are large numbers of them in constant motion under your fingers. Wearing the heavy gloves will prevent a stinger from going through – but I personally find them clumsier, and will wear a thin pair of latex gloves instead. They can sting through them, however, but it's unusual. Sometimes when feeding, I don't wear any – but I typically suit-up, and definitely recommend doing so. If you're deathly allergic, or can't tolerate a rare sting, you'll have to weigh your options.

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Chris, Marvel & Yasas, part of the team who relocated and reassembled the repurposed hive hut with resounding success!

Volumes have been written about the superior intelligence and amazing abilities of the honeybee. Googling the topic will bring up pages of options for further inquiry. Following are a few varied recommendations:

[Amma's Embracing the World environment initiatives website](#)

[Song of Increase:](#)

[Listening to the Wisdom of Honeybees for Kinder Beekeeping and a Better World](#)

Jacqueline Freeman's book is a rich and satisfying account of her experience and unique communication with bees.

[NOVA Online - Tales from the Hive](#)

[Beekeeping For Dummies - Howland Blackiston](#)

Tending our bees is such a privilege, and a humbling, on-going learning experience. Those of us who have the honor of working with them, begin with a love and respect for these magnificent little beings and do our best to care for them as they bless us with every second of their short lives. They are the essential pollinators that support a significant portion of our produce, and when we humans take their excess of honey, they tirelessly continue making more. We would do well to learn from them as they completely focus on their given tasks, working in total harmony with each other and with nature to create beauty in the garden and nourishment for our bodies. They show great tolerance of us humans as we sometimes clumsily tend to those who arguably do best on their own.

If you've made it to the end of this article and are considering a hive of your own, hopefully the resources mentioned will be a good beginning. If you have a specific question for us, you can send an email with Beekeeping in the subject – to me at: marvelg7@aol.com or to Ajayya at: aprilajayya@gmail.com.

PNW Gardening

Maltby Farm Gardens



PNW Gardening



PNW Gardening

Raised Vegetable Beds by Lin

In the fall I visited a beautiful garden belonging to a friend of a friend on Whidbey Island. I was very taken with the construction of her raised beds and the way PVC pipe had been mounted to support shade cloth in the summer and greenhouse plastic in the winter.



I was envious of the convenience of her tool shed (oriented with its back against wind and rain), the wide-open composting bins made of cinder block, and the clever bamboo trellises supporting swaths of fragrant sweet peas. A couple of standpipes provided hose connections, and a third kept a stock tank full of water that made for easy filling of watering cans for careful spot watering (and probably for washing muddy hand tools).



The entire area, including the raised beds, was enclosed in deer fencing. Hardware cloth around the base of the fence kept out rabbits, even baby ones that could otherwise have squeezed through.

Tree Planting

Free Trees (Part 3 of 3) by Sri Lakshmi



Remember the fruit trees I wrote about cloning in Part 1? As of this writing, I'm happy to report there are new roots forming on them. We hadn't planned on it, but we also have a half dozen Willow volunteers from the Willow water we started in October.

The Weeping Willow is one of my favorite trees. My family must have lived on a monarch butterfly migration path because as the butterflies visited our Willow tree each year. As a child, I vividly recall my time spent playing under the tree with the butterflies. As an adult, I'm not at all surprised by the many blessings of this beautiful tree. One of these blessings is that of Willow Water.

From [Wikipedia](#):

Willow water is a biological method to extract the rooting hormones indolebutyric acid and salicylic acid that are present in sufficient quantities in the Willow trees to extract as a liquid that stimulates root growth.

Basically, Willow water is like a tree tea for plants. Willow branches and cuttings for sets are placed in a bucket of water to soak for a minimum of 24 hours to extract rooting hormones. From this point, cuttings can be set in the water for some time or planted directly after being splashed with the Willow water. Old wives' tale or hard science, there are many stories to explore online about Willow water.



Our pledge of planting trees has brought our family so much joy by strengthening our connection to nature. It has become clear that this labor of love is only a humble beginning, and we will share a progress report later in the spring when we will have photos to share of the fruit tree project site.

To Read: [Part 1 GreenFriends November Issue](#); [Part 2 GreenFriends December Issue](#)

Forest and Habitat Restoration

Greenbelt Restoration Work Party

December 10, 2018: A New Beginning

In August of 2016, if you had stood on the property that borders the western section of our GreenFriends Greenbelt Restoration Project, you would have seen land covered by blackberry, bindweed and ivy vines.



If you viewed the Greenbelt from that same place today, you would see an expanse of cleared land. The invasive plants have been replaced by more than 800 native trees, shrubs and ground covers.



Forest and Habitat Restoration

While there will always be more work to do on this site... lots more... it also seemed like it was time for us to begin to focus on the adjacent Greenbelt site, the one to the north of the Hanford Stairs.

On December 10, we held a tiny work party. Four of the five people who registered for the event were individuals who have served as team leaders at previous work parties. Most of them have been involved with this project from the beginning. (The fifth person was a neighbor we had not met before. She and her daughter came for the last hour of the work party and dove right in, helping wherever they were needed.)

This small group was ideal for beginning our new focus. The photos below show what the area looked like when we began to work that morning.



Three of the participants worked in different areas along the Hanford Stairs. One other cleaned up an old trash dump that was about 20 feet into the site from the stairs. From time to time, the person who was cleaning up the trash pulled out ivy in the surrounding area.

Forest and Habitat Restoration

This work party was interesting for a variety of reasons. It was the first time in years that we were working as individuals instead of leading teams of volunteers. Also, since we were each working in a different area, there was little interaction between us. From time to time, it was so quiet that Karuna wondered if everyone had gone home. Soon after having that unlikely thought, she would see or hear the rustling of a branch and know that she wasn't alone. Working in silence felt very sacred to her.

We accomplished so much during that three-hour period. The transformation of the land was remarkable. Below is a cropped version of a photo Lin took at our November 10th work party. The second photo shows the same area after our December 10th event.

November 10



December 10



And here are some other “after work party” views.



Forest and Habitat Restoration



This land seems very different than our original site. There are fewer blackberry vines and more ivy covers the ground. There are lots of sword ferns and an abundance of Oregon Grape shrubs. It will be interesting to identify some of the other plants when they bloom in the Spring.

We haven't even begun to explore this land yet, but we only have to look beyond the area we cleared at this work party to know what our next steps will be.



Forest and Habitat Restoration

A Question for Readers

On December 10, some of the Greenbelt Restoration Project team leaders worked on the site alone. Since we were spread out over the area, we had little interaction with each other. It basically turned into a silent work party.

As a result of this experience, we have begun to explore the idea of offering one or more silent work parties, during which participants would talk only when it was absolutely necessary. That modality would be an opportunity to go inside ourselves and to commune with and serve nature.

Would you be interested in the possibility of attending a silent Greenbelt work party? If so, please write Karuna at karuna@karunapoole.com and let her know.

Nature

An Unexpected Visitor by Karuna

The plant order for our Greenbelt restoration site arrived on October 30th. As I was sorting the plants, a shiny object caught my eye. When I looked closer, I discovered that it was the shell of a snail.

The snail was moving along the top of a pot. By the time I grabbed my iPhone, so I could take its picture, the snail looked like it was planning to go down the side of the pot.



I was wrong. That was not what the snail had in mind.



Nature



Nature



I loved watching the snail's amazing journey. However, I didn't want it eating the new Greenbelt plants, so I carried it to a place where it could munch on something else.

Nature

Visiting the Amazon Spheres by Karuna



I have wanted to see the Amazon Spheres since they opened on January 30, 2018. Amazon's [website](#) says:

The Spheres are a place where employees can think and work differently surrounded by plants.

The Spheres are a result of innovative thinking about the character of a workplace and an extended conversation about what is typically missing from urban offices– a direct link to nature. The Spheres are home to more than 40,000 plants from the cloud forest regions of over 30 countries.

Amazon offers two public showings a month, but at the time I checked on them the reserved spaces were full far into the future. I decided to ask Rashmesh, a satsang member who works at Amazon, if employees were allowed to bring visitors. He said "Yes" and offered to show me the Spheres. It took me until November 20th to take him up on his generous offer, but the day finally arrived.

When we entered the Spheres, the first thing I saw was a living wall (aka green wall). I had looked up living walls when I was working on a PNW GreenFriends Newsletter (Issue 87, page 23) a few months ago. I was impressed by the concept and by seeing photos of living walls throughout the world. And now I was standing in front of one.

Nature

This living wall was 3 stories high. It was impossible for me to photograph it in its entirety, but I did my best.



When I left the wall, I looked around me. I felt as if I had entered a wonderland. The area shown in the photo below had small waterfalls.



Nature

There were so many beautiful and/or interesting plants.



Nature

I was surprised to learn that the plants in the photos below were ginger.



As Rashmesh and I walked up the stairs, we saw different parts of the big living wall.



There was a tree inside the spheres that was three stories high. How in the world had they brought it to Seattle? And how did they get it into the building, or did they build the spheres around it? I wish I had asked. The first photo shows the top part of the tree; the second shows the middle section; and you can see part of the trunk on the right side of the third photo.

[Note: While I didn't know the answer to these question at the time, I later was told that the answers to those questions was on a YouTube video "Rubi's trip to her new home. "]

Nature



Nature

The plant in the first photo below is fan aloe. I've never seen aloe that looks like that! I don't know the name of the plant in the second and third picture, but I thought it was beautiful... and fascinating.



Before I knew it, we had made it through the spheres. I imagine I could visit these structures over and over and each time see plants I hadn't seen before. Perhaps I will do that.



Source Reduction

New Year's Gratitude and Resolutions by Diya

Season's Greetings and Happy New Year to you all! As I reflect on the past year, I am grateful for so much, but one thing in particular really stands out to me. I am so grateful for the changes I was able to make internally and in my life last year as the result of participating in Amma's 3-Step Plastic challenge.

In case you aren't aware of that challenge, last year Amma launched a Source Reduction campaign in an effort to raise awareness about the detrimental effects of single-use plastics on Mother Nature and to inspire us to make small changes and better choices. All who wanted to participate were asked to calculate their plastic footprint and make a pledge to reduce their dependence on single-use plastics. Like many other people, I took the pledge very seriously. I did a lot of research, read a lot of zero waste blogs and tried a lot of new products. This article will be the first in a series of sharing some of the new discoveries I made, things I learned and products I tried and now love.



One of the first decisions I made was to stop using paper towels, and this was probably the hardest habit for me to break at first. I did a lot of research and decided to order some 'paperless paper towels' from a zero-waste shop on Etsy. I love to support independent artists who are trying to make a difference in the world. It's also easy when working with a small business owner to request they not use plastic when they package the items. These beautiful little towels are made of 100% cotton, are absorbent and great for cleaning counters, glass or windows. They hardly take up any space, so I just throw them in with my regular laundry loads. Looking back now, I don't even miss the paper towels, and I can't imagine ever going back. To order: [Paperless Paper Towels](#)

This glass soap dispenser from Etsy is a favorite. I use it for my dish washing soap. When I'm down to the dregs, I take it to my local grocery store, weigh it first, then refill it from the bulk section. It looks fresh and pretty on my counter and I've had several compliments on it! To order: [Glass Soap Dispensers](#)



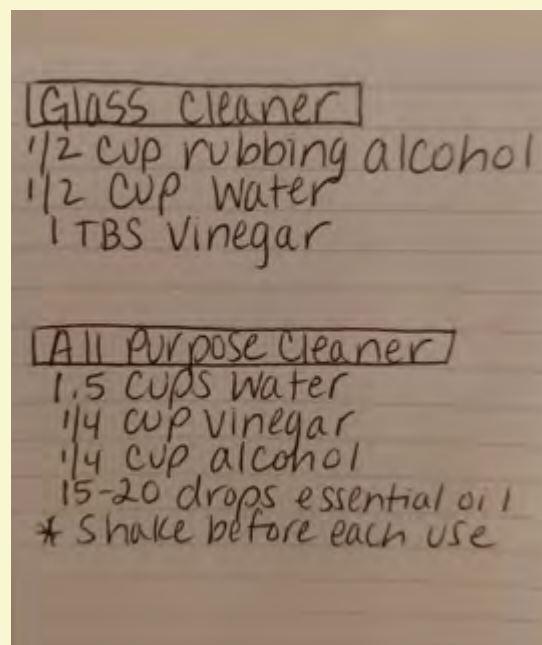
Source Reduction



One of the best discoveries during my search to find plastic alternatives was coming across The Package Free Shop: <https://packagefreeshop.com/>. They do not use plastic in their packaging, and their products are sustainable and zero-waste. On this site, I found my latest obsession – my 100% compostable beechwood toilet brush! It's made in Germany by an ethical family business committed to creating high quality products from renewable materials. I know it sounds strange to be obsessed with a toilet brush but this thing is really cool. It should last forever but, if it does reach the end of its life, the little terra cotta dish can be removed, sanitized and used for something else and the entire brush and holder can be composted! To order: [Toilet Brush in Wooden Stand](#)



I also took a look in my cabinets and hall closets and decided I no longer want to buy cleaning supplies containing toxic chemicals in plastic bottles. I read a lot of blogs and websites that had suggestions and recipes for DIY alternatives. I bought these beautiful glass bottles and, although they have plastic sprayers, they are made very well and should last a long time. They're compatible with my attitude of not being completely against plastic if it



can be long-lasting or reuseable. I found a couple recipes for earth-friendly household cleaners that seemed to be used consistently by various people, with good reviews. I feel much better cleaning my counters, sinks and toilets with these natural ingredients that won't harm the environment. I can also get all of the ingredients in bulk, except the essential oils—and those come in glass bottles, not plastic. To order: [Amazon Glass Spray Bottles](#)

The 3-Step Plastic challenge really opened my eyes and inspired me to find alternatives to single-use plastics, to break out of old habits and conditioning, and to research and learn about new products and new ways of living that are more in alignment with Amma's teachings about protecting and caring for Mother Nature. I am looking forward to continuing this practice each day throughout the new year. Stay tuned for Series number two next month!

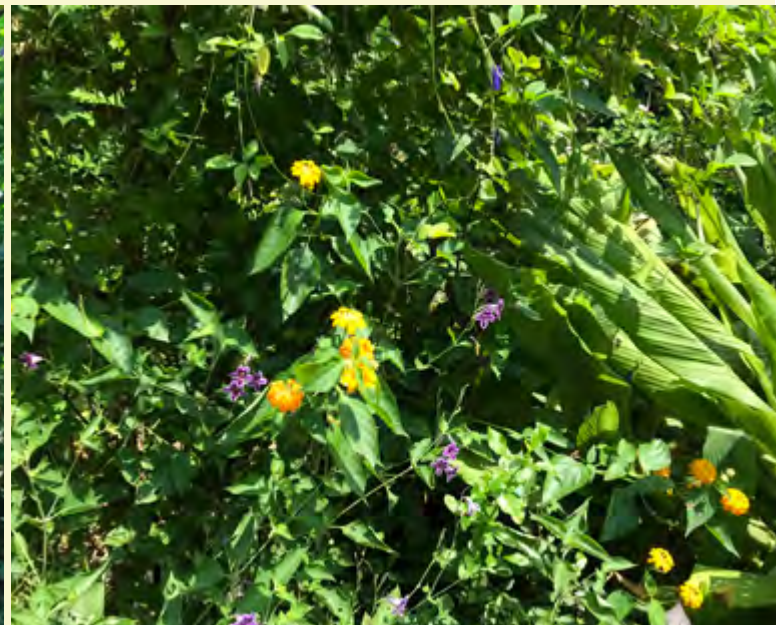
Amritapuri Gardens

Nature Sanctuary

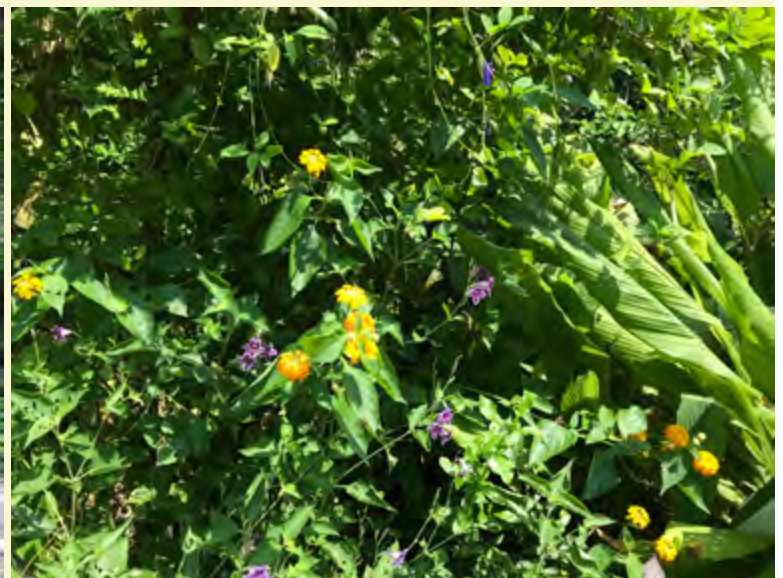


Sometime in 2018, the name of this garden was changed from Kuzhitura Farm to 'Nature Sanctuary'. The sanctuary is located south of the main part of the Amritapuri ashram. Entering the property is like walking into a magical wonderland. The top sign at the entrance says Nature Sanctuary; there is a drawing of a heart to the left of the words and a flower drawing to the right. The bottom sign says 'Please don't disturb wildlife'.

The sanctuary grounds are so lush...



Amritapuri Gardens



Amritapuri Gardens

... and there are beautiful flowers.



Amritapuri Gardens



There are numerous turtles on the property. In January of 2018, the volunteers were installing some tubs for baby turtles to live in. The babies would move or be moved to bigger ponds when they got older. By August of the same year, the area was so dense with vegetation that the tubs were barely visible.

January 2018



August 2018



Amritapuri Gardens

The bigger ponds are also not easy to spot. The photo below shows one of them:



The volunteer staff sometimes call the turtles that are living in the bigger ponds. The turtles often come when called and may take treats (food) directly from the volunteer's hands.

There is no need to carry the turtle babies to the tubs since there are turtle eggs all over the property. When the eggs hatch, the babies find their way to the water.

The sanctuary does not have any problem with mosquitoes, even though there is standing water, because tadpoles eat the mosquito larvae. Among the other forms of wildlife are birds; butterflies, bees, bumblebees, dragonflies, and other pollinators; crabs; bats; crickets, hoppers and a variety of other insects; owls; water hen; fish; non-venomous snakes; squirrels; lizards and mongoose.

If you would like to volunteer to help at the Nature Sanctuary, talk to the seva desk staff when you arrive in Amritapuri.