

ROOTED

by (You)th Environmentalists



Biodiversity:
variety of life
forms on Earth

Every creature in an ecosystem has a role: plants provide shelter, food, oxygen; herbivores clear out vegetation to make habitats more accessible and disperse plant seeds; and predators maintain balance in species populations and prevent one form of life from monopolizing. Through an abundance of natural systems, all forms of life are interconnected and dependent on one another. Biodiversity is the root of stability! It's what allows all life on Earth -- including us humans -- to flourish!

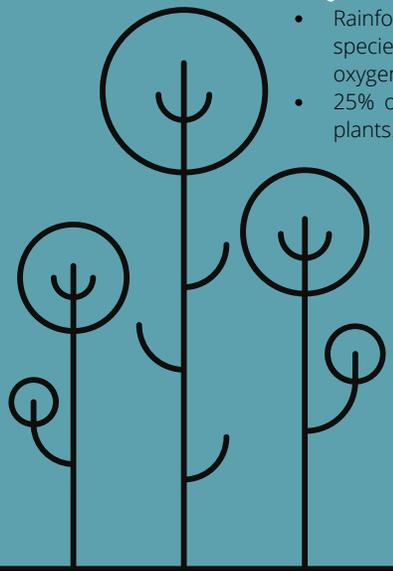
Biodiversity provides ...

- ecosystem services (climate stability, oxygen, clean air, clean water, soil health, etc.).
- biological resources (food, medicine, wood, etc.).
- social benefits (research, education, recreation, tourism, cultural values, etc.).



Did you know? ...

- Rainforests are home to over 50% of Earth's animal species and produce around 20% of the world's oxygen.
- 25% of modern day medicines come from tropical plants.



Tropical rainforests are one of the most biodiverse ecosystems on Earth!

At least 10% of human economy is derived from biodiversity and biological resources.

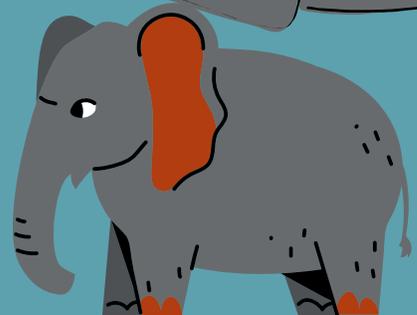
Researchers estimate that less than 1% of the world's species have been examined for their medicinal values.



Biodiversity is important and must be protected. Experts calculate that 0.01-0.1% of all species will become extinct each year! We are in the middle of the sixth mass extinction.

Our solutions are in Nature

Biodiversity and natural processes can support our species, alongside all others, if we choose not to interfere. Awhile back, elephants started to overpopulate two national parks in Africa. This was causing vegetation in the area to diminish. At one park, people decided to cull some of the elephants as an effort to keep their population down, while at the other, they let the herds be. While the problem remained for the park that culled the elephants, the national park that left the growing elephant population alone actually ended up regenerating itself. Due to overpopulation, the elephants started lessening their own food supply and their population went back down naturally! In the end, the vegetation returned at a more natural pace, creating lush habitats with more biodiversity than ever before! Nature truly does contain the answers!



Sources: <https://www.globalissues.org/article/170/why-is-biodiversity-important-who-cares>, https://www.youtube.com/watch?v=GK_vRtHJZu4, <https://www.unenvironment.org/events/un-day/international-day-biological-diversity-2020>, <https://www.cbd.int/ldb/>, https://www.youtube.com/watch?v=b6Ua_zWDH6U, <https://reports.weforum.org/global-risks-report-2020/save-the-axolotl/>, <https://www.permaculturenews.org/2011/10/21/why-food-forests/>, <https://www.naturetrust.bc.ca/conserving-land/why-is-biodiversity-important>, <https://www.compostguide.com/using-humus-to-improve-soil-organically/>, <https://www.greenfacts.org/en/biodiversity/biodiversity-foldout.pdf>, <http://theunfoldingearth.com/10-things-you-can-do-to-protect-biodiversity/>, <https://www.nationalgeographic.org/encyclopedia/biodiversity/>, <https://www.english-online.at/biology/organic-farming/organic-food-and-farming-methods.htm>, https://www.panda.org/our_work/biodiversity/biodiversity/

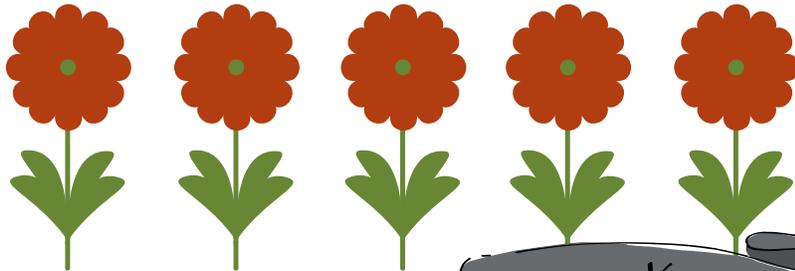


Genetic species and ecosystem diversity can provide so much more to a space than if it had just been set aside to serve one purpose. This is something we must remember as human societies continue to populate the planet, requiring more and more space and resources to survive. The issue? Humankind tends to strip land of the biodiversity which already harbours everything we -- and the other species occupying it -- need.



Monoculture

Growing a single resource in an area at a time

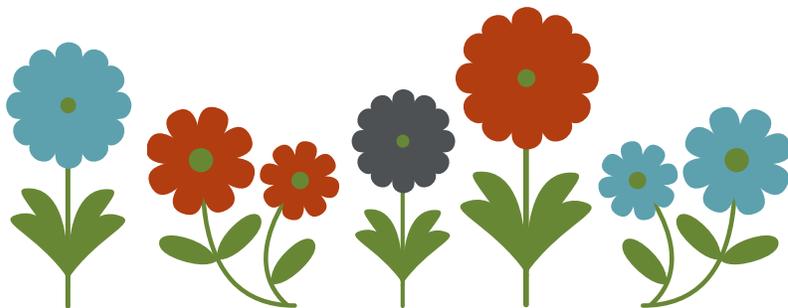


- Without interacting with other species, the crops will need to be maintained through unnatural processes that can be harmful to the environment.
- Crops require fertilizers to make up for soil quality depletion.
- Fertilizers and pesticides pollute water and air.
- Crops are basically clones of one another, making them very susceptible to carrying the same diseases and pests throughout the field.

vs.

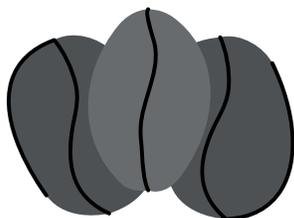
Permaculture

Utilizing systems observed in natural ecosystems, a form of sustainable and self-sufficient agriculture



- Soil is fertilized naturally from decomposing plant waste.
- Pests are kept away by their natural predators.
- The roots of different plants and burrowing wildlife mixes the earth and keeps it loose.
- Animal droppings provide nutrients for the ground.
- Species support and depend on one another, like in a natural ecosystem, and the crops do not need to be maintained through unnatural processes.

Help Restore Biodiversity Loss



Making a seed bomb is a fun **DIY** activity that you can do at home to help restore biodiversity in your area! Click the seeds above for an article that will teach you how.

On May 22, it was International Day for Biological Diversity!

In honour of this day, one of the creators of this newsletter collaborated with two local experts on biodiversity to create a video on her YouTube channel (BE Action Now TV, which is all about taking environmental action). The two guests were Nicola Thomas from Grand River Food Forestry and Stephanie Sobek-Swant from rare Charitable Research Reserve, two environmental leaders in Waterloo Region. If you'd like to check it out, click on the trees in the bottom right corner.

Click on the flowers to check out ...



"The value of one, the power of many."

—Grand River Food Forestry

