

# The 17 Services of Nature

This list has been compiled from the work of many experts to try to summarize all the incredible things nature does for humans, and to keep our planet not just liveable, but healthy and vibrant and a place for life and civilization to thrive. It also could be viewed as a list of reasons to slow down and to appreciate and value nature. How can we ensure that Nature's Services (also known as "ecosystem services") are factored into decisions that we make? How can we make sure that nature can continue its hard work of giving us the things we need to live?

It is easy to think about the vital "services" of food, water, and shelter. But if we look closely at any aspect of our lives, we understand that our relationship with nature is very complex. We need nature for almost everything. Healthy ecosystems provide for healthy people. Nature needs to be nurtured for the health of both nature and humanity.



### Water Supply and Purification

Water cycle keeps the rivers flowing, and our wells and reservoirs full. Wetland plants filter and clean water. Percolation into the ground adds minerals, cools things down and filters water.



### Waste Treatment

Decomposers and scavengers break down waste in all forms to nutrients that can be reused. Everything, from dead animals to dead plants, gets recycled through natural processes. Even municipal wastewater treatment plants use bacteria to treat sewage.



### Weather Protection

Trees, forest canopy, shelter, caves, mountains, valleys all help shelter living things from the weather.



### Nutrient Cycling

Decomposers, such as ants, beetles and worms turn organic waste back into nutrients. Lichens and soil microbes help break down rocks to cycle minerals and make them available to other species as soil or minerals.



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### Air Supply and Purification

Trees and green plants take up the CO2 we breathe out and produce oxygen for us to breathe through the magical process of photosynthesis. Plants can also filter out air pollution.



### Temperature Control

Without our atmosphere, the average temperature on the planet would be an average of -18°C instead of +15°C! Right above us, cloud cover helps keep things from heating up too much.



### UV Protection

The ozone layer and cloud cover protect us from most of the harmful, burning ultraviolet rays of the sun (while still letting in the nice warming rays).



### Raw Material Creation

“Natural resources” provide the building blocks for all of the “stuff” we make. (Think about the difference between the renewable (wood, hemp, water) and non-renewable (oil, metals, coal) resources.



### Education and Inspiration

So much to learn from nature...many valuable lessons!

We learn so much outdoors about the world and ourselves.

Nature is also a place for design inspiration- as we see in biomimicry, and spiritual inspiration- vision quests or totem animals are part of many cultures.



### Soil formation

Micro creatures, including bacteria, protozoa, and other single-cell organisms working the soil (up to 5 billion in every handful!) help build “healthy” soil, and make nutrients available to other organisms to grow.



### Pollination

Bees, wind, insects, birds, bats all help make sure that plants get pollinated so there is plenty of food available for consumers to eat. They help with seed dispersal too.



### Food Production

Gardens, jungles, oceans, etc. Pick a favourite food item and deconstruct- where does it come from, where was it grown. Natural ecosystems are the origin of most of the foods we eat. Even our agricultural systems need nature’s support.



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### Sanctuaries

Natural areas, like parks, protected areas, and even a yard or nearby 'wild space', provide places to 'get away from it all.' Are "parks" just for people or for nature too? Recreation or conservation?



### Genetic Storehouse

Biodiversity – having a range of genetically different organisms makes for much healthier, or resilient ecosystems.

Humans are building seed storehouses to protect rare varieties of plants for this reason.



### Outdoor Recreation

For FUN and pleasure – what's your favourite thing to do outside? Gets us healthy and active too!



### Land Loss Minimization

Erosion control – what happens when the steep slope loses all its trees and then it rains? Loss of tree cover and critical root structures can lead to massive erosion or even desertification in extreme cases.



### Disease and Pest Control

Natural systems keep diseases and pests in balance. For example, birds and bats help control the population of mosquitoes. Tree diversity in forests is supported by natural "pests" as long as they are kept in balance. Pine beetle – help control the lodgepole pine by killing them, allowing other species like larch, cedar, and spruce to flourish. But too many beetles due to warmer winters means imbalance in the system and unhealthy forests

Nature's 17 Services listed above have been organized into an-easy-to-remember acronym that takes the form of an imaginary website: **www.nature'spfs.gold**. The *www* refers to the world wide web, but not the internet. This web is in fact much older and more complex than the internet, it's the world wide web of life! The *pfs* stands for personal flotation system. Like a personal flotation device that you wear to keep you afloat and alive in the water, the personal flotation system that Nature offers keeps you alive in all aspects of life! And the *.gold* reminds us of the idea of value- these services are so important, we think they are priceless!

The acronym (not a real website) to help us remember all 17 services is **www.naturespfs.gold**. This acronym was originally developed by educators at Sea to Sky Outdoor School for Sustainability Education.



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