Biodiversity 4 Survival – Friends of the Brush-tailed Rock-wallaby Inc

Just like every other species, humans around the world have adapted to their environment.

Different environments have influenced the development of different cultures. Different cultures have different foods, languages, customs, knowledge and beliefs that have been passed down for generations.

Throughout history, biodiversity has been very important in inspiring many cultural traditions, such as ceremonies, music, art, holidays, mythology and decorations. Our different human cultures also have different influences on the local environment. For example, the food crops people grow and the animals they raise or hunt create different waste products that they send back into the environment.

Protecting biodiversity helps preserve many cultural traditions. Protecting cultural traditions helps protect the natural biodiversity of the very environment which each culture needs for survival.

The natural diversity of species on Earth is incredible. There are more than 1.7 million species that have been discovered and named, but there are millions more we don't even know about yet.

The different plants, animals and other forms of life interact with each other in so many ways that we are still figuring them out.

Biodiversity is absolutely essential in maintaining and balancing the environment we rely on to live.

Without the various plant communities that provide us with essential biological services, we would be much less comfortable and healthy.

Plants clean the world's air by removing the carbon dioxide from it and producing the oxygen that we need to breathe. By taking carbon dioxide out of the air, plants also help decrease the risks of climate change.

Forests and wetlands also help us by filtering freshwater so we can use it again and again. This is very important because the world has a very limited supply of freshwater.

Plants help control flooding by slowing down running water, giving it more time to soak into the ground and by letting the water soak into the ground easier through soil channels made by the roots.

Plants help control erosion because their roots hold the dirt in place and help to keep it from sliding down a slope. Plants help protect our coast from the impact of cyclones, hurricanes and damaging big waves.

Did you know … If you plant trees and shrubs on sloped areas you can help control flooding and mudslides. If you plant deciduous trees (that lose their leaves in winter) on the north side of buildings you will use much less electricity to cool the inside of the building in summer. You can even plant windbreaks!

Biodiversity provides all animals, including humans, with food. Growing the food that we eat depends on a number of different factors. The more meat we eat, the more forests that are cleared around the world for grazing and growing crops to feed the livestock. Eating meat is actually the least sustainable way to feed the human population. Eating legumes, grains, fruit, nuts and vegetables is more sustainable and helps save us from harmful climate change. Buying locally and organically grown food reduces the pollution produced by transporting our food around the world and encourages less use of nasty pesticides.

Unfortunately, over the last 50 years, humans have relied on unsustainable practices to grow much of their food. For example, humans have used a lot of synthetic fertilisers to promote plant growth as well as chemical pesticides and herbicides to control weeds, pests and diseases that can damage crops.

Over time scientific studies have shown that many synthetic chemicals used on crops contaminate the soil, and our rivers and underground water. They contaminate the food crops themselves, and even the people and animals that eat the food crops or use the contaminated water.

Organic farming is gradually becoming more popular for food growers and consumers, simply because it makes so much sense. The idea behind organic farming is 'zero impact' on the environment by producing food naturally and sustainably. Natural fertilisers and pesticides are used, but not synthetic chemical and genetically modified organisms. Adding compost to soil also helps the soil hold onto water, reducing the amount or irrigation required and the loss of crop yield due to drought. The food produced via organic farming is better for our health as well as the very environment that makes it all possible to grow.

Crop rotation is a simple farming practice of alternating the crops grown on each piece of land on a regular basis. The rotation of crops is important on huge commercial farms as well as tiny home veggie gardens. It helps to nurture the soil, increase crop yield and get rid of weeds, plant diseases and pest insects.

Although some insects are considered pests, other insects such as bees and butterflies are beneficial. These insects, along with bats and birds, pollinate 90% of all flowering plants and about 75% of the world's main types of crops. There are still nasty pesticides used that are killing our bees, birds and other animals.

Many species from around the world are close to extinction because humans are killing too many too fast. Many fish species are being over-harvested for human consumption. Sometimes the way that the fishing is done destroys ocean habitats and catches many other marine animals by accident. These unsustainable practices cause marine populations to shrink.

Many animal species are hunted for sport or are illegally poached. Thousands of animals, big and small, are taken from their natural habitats every day to be sold, traded or made into various products, including gifts (ivory from elephant tusks, coral, sea turtle shells and reptile skins are popular souvenirs that threaten species). Other products, like traditional Chinese medicines, are even made by killing endangered animals. For example, tiger bone was often used to help relieve swelling and pain. Moving species from one part of the world to another, then letting them go into the wild often creates chaos for native biodiversity.

The harvesting of forests and the extraction of coal, oil and gas are examples of non-renewable resources whose over-use has severely impacted local environments and biodiversity. The clearing of forests and the burning of fossil fuels to make electricity and run our vehicles is causing our world's climate to change.

Climate change is affecting air and ocean temperatures, polar ice and sea level, the length of seasons, and patterns of rain, storm, wind and ocean currents. These changes affect the habitats, food sources and behaviour of many different species. Many species will not be able to adapt fast enough and may become extinct. A larger population of a species has more genetic diversity and will therefore be stronger and better able to adapt to change. Sensitive and small populations of species cannot adapt to climate change and other human-caused changes to their environment. We will lose them forever … unless we all help.

Human activities are responsible for most of the loss in biodiversity throughout the world. With an increasing population, humans are consuming more and more natural resources. We do this by driving more, using more energy in our homes, and buying many more products than we need to survive.

Many people work very hard to make changes to their lifestyles that lessen their impact on the environment, which also helps preserve biodiversity. For example, they grow their own food, they buy efficient cars and appliances, they recycle, buy recycled products and have solar power and hot water.

Did you know … Biodiversity is behind 90% of our top medicines

Biodiversity is important since it provides us with raw materials that we use to make products such as clothes, shoes, furniture and paper. Although we use many natural products and materials in our daily lives, we also use many human-made chemicals, such as skin and hair care products, cleaners, fertilisers, bug sprays and pesticides. Even though we use them to help us, they have many toxic side effects. Many chemicals that we use end up in our waterways. Toxins and pollution are very harmful to biodiversity. Plants and animals are killed by oil and mine tailing spills. Wildlife gets caught in and accidently eats plastic rubbish. Often toxins bio-accumulate up food chains, poisoning large top predators. You get the idea!

There are many things that you can do to help. Start by asking yourself a few simple questions about what you buy. Do I really need the item or just want it? Is the product made using environment-friendly materials and processes? How far does the product have to travel to get to me? What is the social and environmental reputation of the company that makes the product? Is the product able to be disposed of in a manner that doesn't negatively impact the environment?

In the end it is up to every one of us to make informed choices in our daily lives.

Don't be ignorant. Learn more!

Here is a list of some very important benefits of biodiversity conservation. Can you think of more benefits?

Food and medicine

Building materials

Textiles

Bioenergy

Protection against natural disasters such as floods and storms

Cycling of water, energy and nutrients

Food crop and native plant pollination

Seed dispersal and germination

Soil fertility

Pest control

Clean water to drink

Oxygen to breath

Carbon storage in forests, soils and coral reefs

Regulates global climate and local weather

Prevents erosion

Natural beauty and wonder

Long term economic stability