



Biodiversity and the interconnected web of life

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Tomorrow is [Memorial Day in the U.S.](#) It is traditionally a day to remember fallen soldiers. But this year, it feels like a memorial for something more: for a vision of the U.S. that, just six months ago, held more hope than it does today. It feels, to some, like a kind of death. Also I want to honour the many people around the world who are dying because of the actions of the current administration. I hope people in the U.S. will use it as a time for inspiration and call to action.

But today, I want to turn our attention not to political change, but to something even older and more enduring: the natural world. Today we are thinking about the importance and wonder of our interconnected web of life.

I struggled to write this talk because once I decided to write about biodiversity I convinced myself that I was writing about nature in general. I've been thinking for weeks that somehow I needed to convey all the wonders of nature and bring you onboard with me in 12 minutes. How can I talk about biodiversity without talking about all the animals and plants and fungi that I love? And then I heard Clay's voice – when people are new to preaching the most common mistake is to do too much. You can do another talk. Keep each one focused and keep to the point.

So today we are talking about biodiversity because [Thursday was the International Day for Biological Diversity](#), the day founded by the United Nations to promote not only nature in general but specifically biological diversity. Our seventh principle is Respect for the interdependent web of all existence of which we are a part. This principle doesn't just invite us to care for nature generally. It calls us to recognize, celebrate, and protect the *diversity* of life—the intricate systems that support the very possibility of existence.

What does biodiversity mean? [This definition is from the World Wildlife Fund](#): *Biodiversity is all the different kinds of life you'll find in one area—the variety of animals, plants, fungi, and even microorganisms like bacteria that make up our natural world. Each of these species and organisms work together in ecosystems, like an intricate web, to maintain balance and support life.*

All the different kinds of life you'll find in one area... the variety of animals, plants, fungi, and microorganisms that make up our natural world... like an intricate web.

That definition used the word *ecosystem*, which is the [biological community of interacting organisms and their physical environment \(Auckland Council\)](#). A [geographic area where plants, animals, and other organisms, as well as weather and the landscape, work together to form a bubble of life \(National Geographic\)](#).

Ok, but what does that really mean? Is every garden an example of a diverse ecosystem? Every pond or park? Why is biodiversity a catch-phrase now, compared to other slogans entreating us to save the environment or be green or save the earth. What does it mean in practice?

The short answer is that in order to have a healthy ecosystem you need biological diversity. That is the important message – the concepts of saving the environment or saving the earth are based in the health of life, water, soil. The health of life depends on the natural interactions between species and their environment, and it requires many forms of life all in the same system. That is biodiversity.

I'll illustrate with an example from my current job. My work is in geological conservation, meaning that I protect geological features from over-development. However I work in a team of ecologists, who protect the environment from over-development. That means that they are fighting to save space for animals, plants, soil, and clean water against ever-encroaching building and infrastructure development.

Part of the work of the ecologists is to protect biodiversity, meaning to protect the variety of life, not just life itself. Imagine walking down the street in a suburb of Auckland and passing by a reserve. The reserve has a stretch of grass with some small maple trees. On the other side of the reserve is a gully with a stream running down the middle. On either side of the stream is a thicket of native bushes and trees. You can see a difference between the lawn and the trees, basically two species of plants, and the undergrowth, which has many shades of greens, shapes of leaves, and heights of plants. The ground has lots of dead leaves and twigs, maybe some moss, maybe some mushrooms or fungus on a dead log. There are bird nests in the bushes. The stream has some algae growing in it and some fish.

The grass and maple trees constitute an ecosystem of sorts, as does the gully. However the gully is an example of a richness of biodiversity that has many advantages over the grass and park trees. The plants in the gully are more resistant to the disruption of disease, drought, floods, and pollution because they have a network of roots and fungus that supports the soil, along with the insects, lizards, and algae that accompany them. It is a system that has grown as a network to support life; this is what an ecosystem should look and behave like. The maples and grass do not support each other the same way; they are much more subject to disease and drought. They are a pleasant place for humans to play and rest, but they cannot support animal life over time and environmental changes. The gully is an example of a biologically diverse ecosystem. It is a tiny example of what we need to protect in our interdependent web, of the type of system that sustains life on this planet.

Let me tell you a story. I once visited Queenstown with two friends, maybe 10 years ago. We took the gondola up the hill to the Ben Lomond Scenic Reserve, Te-taumata-o Haki-te-kura. We walked a short way from the gondola through the forest and came to an overlook over a mountainside of dying pine trees. Brown pine needles and bare limbs – death -- as far as we could see. All of us were taken aback – what on earth is happening here? It was shocking.

An informational sign said: Conservation efforts in progress. It explained that they were killing the invasive California pines in order to bring native forest. One friend

and I rejoiced; What we saw was a major effort towards restoring native bush as it was in New Zealand before people came along and started messing things up. The second friend started to cry, filled with horror. All she could see was death. She didn't care that these pine trees represented an unhealthy forest; she said she could feel the death in her body and needed to leave. We walked away.

I admit sadly that this encounter shifted my friendship with that person; it was hard for me to be with her and not want to bring up examples of why exotic pine trees and other invasive pests do not belong in New Zealand and the damage they do. They smother biological diversity because their acidic needles and tight canopy do not support native birds and lizards or the forest understory, leading to weakened ecosystems. We were both emotionally involved with this subject, which led to an impasse.

And this is part of why biodiversity is relevant to our spiritual world through this community. Most of us get emotionally involved with the natural world. When people are asked about what causes them awe and wonder, for many if not most of them the answer is about nature. It's where people feel peace. It's where people feel connected to the universe in some way, something larger than ourselves. It's where we go to recover from life's difficulties. People have strong and in many cases spiritual feelings about the natural world. It is worth saving.

You may have heard about conservation efforts around Auckland to save native birds, lizards, and insects from extinction. In the Hunua Ranges there is an area called [Ark in the Park](#), also known as the [Hunua Kōkako recovery project](#). A kōkako is a lovely grey bird with blue on its face. Their song is haunting, unlike any other bird I had heard before. In 1994 there was one breeding pair of kōkako left; now there are over 100 breeding pairs.

The method for restoring native life to the Hunua Ranges is by killing predators that feed on native birds and their eggs. If we didn't kill rats, stoats, and possums, we would lose our native populations of birds, lizards, frogs, bats, and insects. We would be left with a small number of trees that can resist the onslaught of possums stripping their leaves and bark.

Instead, conservation efforts to restore the kōkako have resulted in overall health in the forest. What is good for kōkako is also good for [kākā](#), one of our native parrots, for Hochstetter's [frogs](#), for other birds [tomtits](#) and [bellbirds](#), and for [bats, our only native mammals](#). When part of the web of life is restored the rest can thrive as well.

I want to say why this is important for humans; the interdependent web is symbolic for us and our communities. But it is enough that today I am talking about the natural world. It is enough.