I'm Adam Shand, a data and environmental scientist working for The Dry Tropics Partnership for Healthy Waters based in Townsville, Queensland. That’s me on screen with a good friend of mine. **Although for security reasons my friend can’t be shown in this photo**. Today I’d like to tell you about my friend and what they do for a living.

Some might describe my friends job a bit like how they would describe a secret agent, hiding out of sight, stealthy, getting things done when no one is looking. And importantly everyone knows, just because you can’t see them, doesn’t mean they aren’t doing critical work.

Others might say my friend is more like a warrior or a guardian, providing us with safety and protection. They would say my friend is like a sentinel, watching over us day, and night, particularly in the vulnerable areas that need it most.

And I quite like that description, because in fact this friend of mine is a guardian, a protector of a very large part of Townsville. They are responsible for, and protect, an area of Townsville more than 5x the size of Magnetic Island.

But that’s not the only place they protect. My friends job takes them around the world, they are a protector and guardian for parts of Africa, Europe, the Americas, and Asia. My friend has work from hot tropical islands in the pacific all the way up to the Artic Circle!

This is a map of all the places that my friend works or has worked, that’s quite a lot isn’t it. For reference, we are down here in this busy patch on the coast of Australia. What’s even more impressive, is any time my friend is working down here in Australia, they are also working on the other side of the world. How is that even possible?

This is beginning to sound too good to be true, isn’t it? Who on Earth is capable of these kinds of feats? When I describe my friends work, who do you picture? They would have to be incredibly smart, like Einstein perhaps. But don’t forget they are also a protector and guardian, so they would also have to be really strong, like The Rock. So some sort of combination of the two… Maybe if The Rock could still grow hair….

These kinds of achievements deserve global recognition. If you met my friend, would you be in awe of them? If they needed help, would you lend a hand? If you could become a part of my friend’s success, would you join? Well, I am glad to tell you that I am about to reveal my friend’s identity, and that my friend does need help, and that you can join in.

But it’s time to come clean, my friend isn’t actually human. My friend is Seagrass. But everything else I have said is completely true! Although the existence of seagrass isn’t a new discovery, it has only been in about the past 10 years that we have realised the full value of the ecosystem, and the benefits it can provide.

Seagrasses are stealthy and do critical work when we are not looking. Did you know in Cleveland Bay there is about 250 square kilometres of seagrass, and that across the entire Great Barrier Reef there is more than 35,000 square kilometres**. There is more seagrass in the Great Barrier Reef than there is coral!**

And seagrasses are guardians and provide 24/7 protection to our coastlines. Seagrasses stabilise the ocean floor, they protect the shoreline from erosion, storms, and floods, they improve water quality by trapping particles and absorbing nutrients, and they provide food and shelter for many marine animals.

And that map I showed, that is a map of all known seagrass locations around the world. There are more than 70 different species of seagrass growing along the coastlines that we know of, and they can be found in all kinds of habitats including in estuaries, sand, mud, among corals, in the artic circle and even in deep water where there is very little light.

Seagrass meadows are one of the most productive ecosystems on our planet, trapping carbon dioxide and releasing huge amounts of oxygen constantly. They are one of the best ways to store carbon, even though seagrasses only account for 0.2% of the world’s oceans they store about 10% of the carbon buried in the ocean each year.

But how do we know all these facts about seagrass? And how do we track and measure how well they are doing? I was saying earlier seagrass is a bit like James Bond and can be hard to spot. This is especially true when the seagrass is deep underwater, or when the water is turbid like this.

One solution is to send in divers to get up close and personal. Here we can see a researcher laying down a quadrat to create a standardised observation area. Within the quadrat they are recording things such as the species of seagrass and how much seagrass there is.

But sending in divers is not a good idea when the water looks a bit like this. That’s when you ask the interns to jump in. No, I’m kidding. In high-risk areas another monitoring option is to drop cameras off the side of boats and measure seagrass that way.

Sometimes there isn’t even any water, and seagrass monitoring occurs from a helicopter.

In Cleveland Bay this kind of monitoring using divers, cameras and helicopters has been occurring for over 10 years now, and it has allowed us to measure the health, biomass, and diversity of the seagrass under a variety of conditions.

Some of the biggest environmental factors that affect seagrass include climate change, cyclones, floods, and heatwaves. But equally as important are the human factors, which include runoff, physical damage from boats such as trawlers, pollution, and coastal development. The things that we do matter, and the changes that we make will help.

now that I’ve told you a bit about my friend, I just hope I have convinced you to care. To care about the things that we might not see every day. The little things, and sometimes the massive things, that are right under our noses.

If you would like to learn more about seagrass, please come and scan a QR code. There are online interactive resources available, and stories that go into much more detail about the benefits of seagrass and the challenges they face. If you know someone who would be interested or would like to work in the area don’t forget to share this with them.

Thankyou.