

Your future in STEM: A-Z

Where might **science** take you?

Please can you introduce yourself and tell us a bit about your job?

My name is Rachel Langley and I have been a marine conservationist at Essex Wildlife Trust for almost three years now. My role focuses on championing, protecting and restoring the marine and coastal wildlife of Essex – and the UK!

My role as a Living Seas Coordinator is extremely varied - which is one of the reasons I love it! I could be undertaking practical conservation in the field (one of my current projects is restoring our wonderful saltmarshes, so it can be muddy work(!)); running citizen science projects (such as **Shoresearch**) to collect valuable coastal data; chairing and contributing to partnership meetings (collaborating with other organisations is a big part of my role); supporting national campaigns and projects (such

as The Wildlife Trusts' current work on **Highly Protected Marine Areas**; championing and being a spokesperson for Essex Wildlife Trust's marine wildlife and projects (such as our **Share Our Shores project**); or doing some essential project planning, funding applications and admin to make sure all of this is possible!

How did you get into this line of work and what qualifications did you study, or experience did you gather, to enable you to become a Living Seas Coordinator?

Although I have always loved the sea and coast, I got into marine conservation from a slightly meandering route! This started through a passion for geography and biology at school; landscapes, ecosystems and learning how the world works has always fascinated me. My fascination with wildlife



M

is for
Marine Biologist

continued throughout my BSc Geography degree, where I chose conservation, coastal and climate change modules. Going to University gave me the opportunity to continue to travel (I already had the bug!) and meet like-minded people and cemented my passion for wildlife and the natural world. However, when I finished my degree I knew what I interested in but almost loved too many things! My first job after university was in London and after about a year of being there, the break from academia helped to crystallise my thoughts and I knew that I wanted to pursue a career in marine conservation. After saving up for and travelling to Australia and New Zealand (which included gaining my PADI Open Water diving qualification), I started a MSc in Marine Biology. The MSc was a big step up from my undergraduate degree – especially since I was learning a lot of things from scratch.



It was hard and stressful at times, but I loved learning, I was determined to succeed and my passion grew. The MSc provided me with invaluable fieldwork experience in a remote area of Indonesia, where I honed my diving and marine wildlife identification skills – absorbing everything I was being taught and experienced. I was lucky enough to secure a staff position in Indonesia during the summer of my MSc, which allowed me to collect data for my own project, whilst supporting undergraduate students to collect data for theirs. It was a truly amazing experience; not only do I feel privileged to have lived on a truly beautiful tropical island and become familiar with its marine wildlife, but it improved my project management skills and I am convinced it put me in good stead for applying for future roles.

My local knowledge of Essex and its marine wildlife certainly played a part in helping my current role too. However – and I feel strongly about this – a marine conservationist needs more than sound fieldwork



skills and ecological knowledge; you also need to be able to put science into practice, communicate well, enthuse and inspire others, have strong organisation and prioritisation skills, be able to build positive relationships, work in partnership and so much more. These are all things I gained from my marine conservation roles and experiences, but also from roles in other sectors (not mentioned here). These soft skills should not be underestimated, and I could not do my job successfully without them.

enough to do this, I'm sure you will agree it is a truly awesome experience). I was in awe of the beauty and strength of these frozen rivers and the impact they have on the landscape. I was also troubled by the impact that climate change was (and is still) having on these frozen giants and how this was affecting us on the global scale. There are many parallels between glaciers and our oceans – their strength, their impact, their importance and their vulnerability. Science underpins the evidence needed to push forward protection of the natural world.



Are there any particular science practicals, teachers or other moments in schools you fondly remember to this day?

I always loved – and still love – a fieldtrip or site visit! It's an opportunity to explore a place and experience it as a team! The example I have chosen is not marine-related but I feel demonstrates my wonder in the natural world, and that action must be taken to protect it. I was in Switzerland on an A-Level fieldtrip to study glaciers (for anyone who has been lucky

Were there any moments or events that inspired you and led you down this path, either as a child, a student or since entering work, and were there any people who have inspired you into this line of work?

I have always lived by the coast and have fond memories of spending many a happy hour frolicking in the murky (and wildlife-rich) Essex waters as a child! It is perhaps not surprising that the coastline would continue to play a big part in my life. I have often been inspired ►



How has studying science at school prepared you to become such a successful Living Seas Coordinator?

Studying science at school provided me with solid foundations to build my knowledge and interests from. Science urges you to think in a pragmatic, evidence-based way and to also be curious, seek answers, and ask why and how. This is something I continue to do in my role on a daily basis.

I have always found science subjects interesting, but not always easy, so I feel that this has probably made me more determined to put in the time and effort to keep learning and discovering!

Were there any obstacles or factors that put you off this route at any point?

It is notoriously hard to secure a paid and permanent role in the marine conservation sector. One of the biggest obstacles I faced was money, as entry-level roles are often voluntary or even require payment. Through hard work and dogged determination, I was able to save up and also applied for funding whilst at University, which enabled me to take advantage of the amazing fieldwork opportunities. There is funding available but you may have to search for it! ►

by teachers and lecturers – listening to someone who is at the top of their game and so passionate about what they do is inspirational. Whilst working at the Royal Geographical Society (with IBG), I organised their lecture series and can remember listening to Professor Callum Roberts talking about the future of our oceans; it cemented my plans to go into this field. I now go to the same venue but as a delegate at marine conservation conferences and continue to learn from experts in their field. I am also inspired every day by my colleagues and project partners in Essex and around the UK, all working together to create a Wilder Essex and a Wilder Future. And, lastly, and perhaps like every conservationist, I have been inspired by Sir David Attenborough! I have grown up with him and he has embedded a deep-rooted love of wildlife in me. His Blue Planet II series was breath-taking - but also hard to watch at times - we must take action now to safeguard our wildlife.

How has your line of work changed to when you first started as a Living Seas Coordinator to now? Perhaps around: technology advancements, gender and diversity in the industry, climate change on the sea, animal/plant behavior changes etc.

In only a few years, a fundamental change has been that the biodiversity and climate crisis has gained a louder voice. These are not new concepts but there has become a sense of real urgency to take action to solve them – and rightly so. The Wildlife Trusts' Let nature help report outlines how nature's recovery is key to tackling the climate crisis. With large (but often degraded) areas of saltmarsh habitat in Essex, we are well-placed to contribute to this by protecting and restoring key areas. These 'blue carbon' habitats are natural solutions to climate change - one hectare of saltmarsh can capture two tonnes of carbon a year and lock it into sediments for centuries!



What advice would you give to someone thinking about going into the same line of work as you?

Go for it! Don't give up and take advantage of opportunities that can help you to gain those invaluable soft skills along the way. You need the background science and understanding but if you can translate and share this with others and into projects, you will have a much greater impact. I took a couple of 'considered' gambles along the way and took advantage of volunteering and other opportunities. Competition in the sector is high – what makes you stand out?

And don't think that you can only be a marine biologist/conservationist abroad; there are lots of great and varied opportunities in the UK and the UK's marine wildlife needs our help! I'd also recommend keeping up to date with what's going on in the sector as a whole – check out my Twitter account ([EssexWT_Rachel](#)) to get some ideas of individuals and organisations you could follow.

What advice would you give to others thinking about a career in STEM?

A career in STEM is rewarding. There are so many different opportunities available and you will certainly not be pigeonholing yourself! Scientist roles aren't

always based in a lab; many roles at environmental conservation organisations such as Essex Wildlife Trust undertake valuable data collection, research and projects in the field – and the office!

What is the reaction from friends and family when you shared your desire to become a Living Seas Coordinator?

My parents have always urged me to do something that makes me happy – and I feel very lucky that I have been able to do that! But it hasn't been without some blood, sweat and tears (!) along the way and my family and friend's support throughout has been invaluable – so a massive thank you to them!



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