

# Question and Answer with Seafloor Ecologist Sarah Cook

## Why are glass sponge reefs important?

Glass sponge reefs are amazing, complex ecosystems with lots of nooks and crannies for fish and invertebrates to hide in—they provide important refuges for lots of creatures, such as juvenile rockfish. The glass sponge reefs on the coast of BC are also the only known examples of this ecosystem still in existence, although sponge reefs used to be common in shallow seas around 100 million years ago. So they are also important because they give us insight into Earth's history and what the seas were like at that time.

## What inspired you to study glass sponge reefs?

When I was starting my master's degree, the sponge reefs had just been discovered. I couldn't think of anything more fascinating than to study the ecology of a completely new benthic (seafloor) ecosystem. It was an opportunity to truly discover something new!

## Tell us about your research on glass sponge reefs

My master's thesis focused on characterizing the ecology of the sponge reefs by characterizing the community associated with them. I analyzed video shot by submersibles and ROVs on two expeditions as well as collecting, sorting and analyzing grab samples taken both on- and off-reef. I also compared areas of the reef with living sponges to areas with only dead sponge skeletons, which were generally areas that had been exposed to bottom trawling. The most important findings from my thesis were that the live portions of the reefs had increased species diversity and abundance and that those areas also acted as nursery habitats for juvenile rockfish.

## Why did you donate your specimens to the Royal BC Museum?

The Royal BC Museum was kind enough to give me space to work, use of their equipment and access to the taxonomic keys and the specimens in the wet collection to aid in identification of my specimens for my master's thesis work, and I was very grateful for that support. I also strongly believe in making sure data is accessible to other researchers, and the Royal BC Museum was the best way to do that and hopefully help to further more research on the sponge reefs.