Protecting Ocean Forests

Helen Hansma ’75 sees kelp as a key to a healthier planet

Helen Hansma ’75, associate adjunct professor emerita, is the granddaughter of a botany professor; plants are in her genes. After a prestigious career as a biophysicist, Helen found herself returning to her lifelong fondness for kelp. Her bequest to support kelp research at UC Santa Barbara will help provide the resources needed to monitor and protect these critical marine forests.

In 1975, Helen received her Ph.D. in biology from UC Santa Barbara. She is proud to have been renowned Professor Ching Kung’s first graduate student and an early innovator in biological atomic force microscopy. Helen is known for her work proposing that life on Earth may have begun between mica sheets. Behind a dissecting microscope, examining mica pieces that she was splitting into sheets, Helen had an epiphany.

“As I looked at the bits of green algae and brown crud at the edges of the mica sheets, I thought, ‘this would be a good place for life to originate,’” Helen said in a National Science Foundation feature.

A recent letter to the editor in Science Magazine prompted Helen to dive into the field of kelp. Already a UC Santa Barbara donor, she looked to campus to find a way to invest in this passion. That led Helen to discover the Caselle lab.

The Caselle lab has been monitoring kelp forests in California for over 25 years. The team leads large spatial-scale and long-term studies resulting in datasets that illustrate how kelp forests change over time and affect the planet.

"Ever since I was a Ph.D. student here, UC Santa Barbara has been a phenomenal center of expertise in marine science. Fast forward to today and we have some of the leading experts in kelp and kelp forest ecosystems. The work that we do here is based on fundamental ecological underpinnings. The questions we ask are so relevant to society now," said faculty researcher Jenn Caselle '97, marine ecologist and principal investigator.

Kelp is in big trouble around the world, but especially in California. Between 2014 and 2016, an unprecedented marine heat wave decimated kelp forests across the state. Following that loss, the Caselle lab embarked on a project to guide California kelp restoration. The project includes public models and frameworks — like flowcharts and maps — that scientists can use to identify high-priority restoration sites.

"Kelp restoration research is in its infancy. With Helen's estate commitment, we will be able to continue our work towards identifying the locations and methods that are more likely to achieve successful restoration of kelp forests across the state. This kind of support encourages our continued commitment to using the best science with the aim of managing and protecting marine ecosystems," said faculty researcher Anita Giraldo Ospina.

"Gifts like Helen's provide labs with unrestricted possibilities. Things in our ocean are changing so quickly. We need solutions and we need them fast. A gift like this allows us to be really nimble in our science. It allows us to pivot quickly toward solutions,"said Caselle.

As a scientist herself, Helen understands the transformative nature of research support. Her thoughtful bequest will continue the legacy she has begun with the Caselle lab.

"I'm happy to be giving to UC Santa Barbara, which has been such a big part of my life. I hope this gift can make the globe healthier," said Helen.