



# CALIFORNIA SCIENCE & ENGINEERING FAIR 2019 PROJECT SUMMARY

<b>Name(s)</b> <b>Christopher Anderson; Katelyn Lozier; Celeste Robinson</b>	<b>Project Number</b> <b>S1502</b>
<b>Project Title</b> <b>What the Fungus Is Killing the Sea Stars?</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives</b> Our goal is to determine if there is a fungi exacerbating the effects of the densovirus driven disease, Sea Star Wasting Syndrome, attacking Ochre Sea Stars, <i>Pisaster ochraceus</i>, and other species of sea stars. Sea Star Wasting Syndrome ravaged populations of sea stars along the Western Coast from Alaska to Baja California beginning in 2013 and the overall causes of that disease are largely unknown, postulated that it may be a combination of many pathogens and environmental factors. We hypothesized that if we saw a recurring fungus in the fungi culture from wasting sea stars, that there may be a correlation between that fungi and Sea Star Wasting Syndrome.</p> <p><b>Methods</b> We collect data twice a month at low tide, counting and measuring the radius of all sea stars in our plot along with swabbing all wasting sea stars both on any apparent lesions and on the healthy flesh of the wasting sea star along with swabbing three healthy sea stars. We then take those swabs back to the lab and cultivate the fungi from them and determine different species of fungi based on how they look through the microscope.</p> <p><b>Results</b> Our plates grew two different fungi, which were present in both healthy and wasting sea star swabs. Each fungus was shown in an equal percentage of the overall healthy and overall wasting sea stars, the white fungus showing up in 40% of each, and the black fungus showing up in 60% of each.</p> <p><b>Conclusions</b> Our results demonstrated that there is not one fungi which is solely present in wasting sea stars, although there may be a different pathogen attacking the sea stars. Through this, we concluded that there is not a fungi which is correlated with the wasting disease.</p>	
<b>Summary Statement</b> We cultivated fungi in order to see if there is a fungi related to the cause of Sea Star Wasting Syndrome.	
<b>Help Received</b> We would like to thank John Pearse (Professor Emeritus UCSC), Emily Gottlieb (LiMPETS), and Ian Hewson (Cornell University) for their assistance.	