

Former PISCO/OSU graduate student Matt Bracken's research provides insights into the factors influencing the diversity of intertidal seaweeds. High-intertidal pools are isolated from upwelled nutrients for extended periods of time. Seaweeds require these nutrients for growth, and this lack of nutrients limits the number of seaweed species that can survive in tide pools. In many pools, this nutrient stress is alleviated by a positive interaction: the excretion of nutrients by invertebrates like mussels and sea anemones. Bracken found that the number of seaweed species in a tide pool is closely associated with the rate of invertebrate-mediated nutrient loading. He also found that when more seaweed species are present in a tide pool, those seaweeds tend to be more efficient at using limiting nutrients.

Given threats to marine biodiversity, Bracken's research, which illustrates the important links between nutrients and diversity, is particularly timely. In particular, his research suggests a reciprocal relationship between diversity and nutrients: not only does nutrient availability influence seaweed diversity, but more diverse seaweed assemblages are more effective at nutrient uptake.