

## **Role of grazers in the recolonization of hard bottom communities in Kachemak Bay, Alaska.**

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Grazing by herbivores in subtidal habitats can have dramatic ecological effects. For example, sea urchins grazing on kelp stipes can destroy kelp forests that provide habitat for a variety of species. Grazers can also inhibit recruitment of kelp by feeding on newly settled sporophytes; specifically, mesograzers (<2.5 cm) may have a significant negative impact on the recruitment of kelp and other sessile organisms. Size-density curves suggest that these small grazers should be highly abundant, and preliminary data collected from 5 sites in Kachemak Bay suggests that mesograzers such as chitons, limpets, and gastropods are highly abundant at some sites. Kachemak Bay is an extremely productive estuary, and an understanding of grazer impact on macroalgae would be a partial indication of the stability of the overstory kelp forests that are found there. My work will address 1) whether or not grazing by all grazers has a significant effect on the recruitment of sessile organisms, and 2) whether or not grazing by mesograzers has a significant effect on the recruitment of sessile organisms. These questions will be addressed by deploying and monitoring grazer exclusion cages and controls at 5 sites in Kachemak Bay for a period of 20 months. During the study period I will monitor percent cover of sessile organisms on caged boulders and control boulders, in addition to grazer density and size, light levels, nutrient concentrations, and relative current regimes. Field work for this project will begin in December 2004.