

The Influence of Glacial Features on Oceanographic Gradients in Kenai Fjords, Alaska: A Closer Look at Kittlitz's Murrelet Foraging Habitat

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Physical oceanographic processes can dramatically influence community structure in marine and estuarine systems, but these processes are poorly understood in glacially influenced waters. As part of a larger study to define critical marine habitat for Kittlitz's Murrelet (*Brachyramphus brevirostris*) foraging habitat requirements, we conducted oceanographic surveys in two glacial fjords in the Kenai Fjords National Park over the course of the 2007 and 2008 breeding seasons. While the outer fjords are exposed to oceanic waters of the Gulf of Alaska, the inner fjords are influenced by tidewater glaciers. The inner fjords and outer fjords are demarcated by neoglacial terminal moraine shoals that represent the position of the glacier terminus during the Little Ice Age maximum. In June, July and August, we took conductivity- temperature- depth (CTD) profiles in both fjords at 8-10 stations stratified between inner and outer fjord. Here we will describe differences in oceanographic characteristics relative to glacial features within fjords over the course of each summer. Analyses suggest that Kittlitz's Murrelets predominately occur in the inner fjords and prefer the colder, turbid (silt-laden) waters near the head of the fjords, where estuarine conditions are most pronounced.

Student Presentation