

**Larval transport of Tanner (*Chionoecetes bairdi*) and Dungeness (*Cancer magister*) crab across Kachemak Bay s inner/outer bay boundary.**

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Closures of the Tanner (*Chionoecetes bairdi*) and Dungeness (*Cancer magister*) crab fisheries within Kachemak Bay reflect concerns regarding the sustainability of these commercially important brachyuran crab species. In order to create effective management strategies of these crabs, it is imperative to understand their entire life history in addition to their larval transport into and out of the bay. Physical forcing, specifically tides and wind, has been shown to control distribution and behavior of larval crabs within estuarine environments; however, no study has documented both larval crab abundance and effects of transport within Kachemak Bay. Three hypotheses of this study follow: 1. General oceanographic conditions in Kachemak Bay produce a net inflow of Tanner and Dungeness crab larvae on the southern shore and a net outflow along the northern shore. 2. Extreme tides increase the abundance of crab larvae entering and leaving the inner bay. 3. Out-transport of later larval stages (megalopae) is reduced independent of tidal flow.

To address these hypotheses, frequent plankton sampling and Conductivity Temperature Depth [CTD] measurements were taken in relation to different tidal conditions throughout the larval recruitment period (March-October). Based on our findings, we begin to determine the oceanographic effects on larval brachyuran crab transport and distribution between inner and outer Kachemak Bay, Alaska.

Student Presentation