type. One row of v-tray stacks and one of the shallow troughs were exposed to artificial lighting. One row of v-tray stacks and one of the shallow troughs received only red lighting. The results concluded the more artificial lighting the higher mortality rates in early chum development. Red light exposure had minimal effects on mortality. These results demonstrated the importance of controlling artificial light exposure in a hatchery setting.

Otolith Shape and Microchemistry Revealing Life History Traits of Introduced Chinook Salmon In Patagonia

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Biological invasions can drastically alter aquatic ecosystems and the societies that depend on them. Human activities propagate non-native species both intentionally and accidentally, which in some cases eliminate native species, while in other cases they may coexist or the invasive may never succeed. This begs the question, why are some species successful invaders while others are not? In southern Chile and Argentina (Patagonia) introduced salmon and trout support commercial and recreational industries and attract anglers from around the world. Introduced Chinook Salmon (*Oncorhynchus tshawytscha*) in particular are genetically diverse due to multiple propagations and hybridization, and have high variation in population structure, size, and behavioral traits. Yet, few studies have documented specific life history traits contributing to the success of Chinook Salmon in Patagonia. Here, we will use the otolith morphology of Chinook Salmon to contrast among introduced populations in South America, and hatchery origin fish and wild populations in Oregon. Because these two regions have similar environmental conditions, physiography, and latitudes, we can compare across different origin Chinook Salmon. In addition, otolith microchemistry will identify life history strategies (e.g., ocean versus stream type) among multiple introduced populations along a latitudinal gradient in Patagonia. Determining specific life history characteristics of Chinook Salmon in novel systems like Patagonia will help to better understand conservation strategies for wild and hatchery fish in their native range in the Pacific Northwest. Sampling efforts will involve a network of local collaborators of scientists, volunteers, and anglers in Chile and Argentina as well as collaboration with Oregon Department of Fish and Wildlife for otolith samples in Oregon. This research has implications for future scenarios as Patagonia may face climate change and competition among native and non-native species, and will develop management tools for salmonid populations in South America and elsewhere.

Examining the Genomic Connectivity Among Dungeness Crab (*Cancer magister*) Recruits Along the Coast Of Oregon

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