Using large wood restoration to increase salmon abundance in Pudding Creek, California: A Before-After-Control-Impact (BACI) experiment

Large woody debris augmentation to coastal creeks is a common means of restoration for salmonid populations, but relatively few studies of the effectiveness of these efforts have been performed. A multi-year, whole-system repeated measures Before-After-Control-Impact (BACI) experiment is being conducted on Caspar and Pudding Creeks in Fort Bragg, California to evaluate population response of Coho Salmon (*Oncorhynchus kisutch*) and steelhead (*Onchorhynchus mykiss*) to the addition of large woody debris. This study began in 2012 and uses Pudding Creek as the experimental watershed and Caspar Creek as the control watershed. Large wood treatments were installed to 80% of the anadromous habitat on Pudding Creek in 2015 using "Accelerated Recruitment" methodologies. The BACI study examines biological and physical responses to this treatment. This study is currently in post-treatment monitoring which will continue through 2020.

Natalie Okun has worked on the Caspar and Pudding Creeks BACI experiment since 2016. She was admitted to the Fisheries Program at HSU in August 2018 and is currently pursuing a master's degree under Mark Henderson. Natalie's continued research will provide a long-term evaluation of Coho Salmon and steelhead response to in-stream restoration using large wood. This analysis will guide management and restoration of coastal northern California streams.

Natalie hails from Carlsbad, California and earned her B.S. in Wildlife, Fish and Conservation Biology with an emphasis in Wildlife Biology from the University of California, Davis advised by Peter Moyle. Her fieldwork has included avian point counts on the Seward Peninsula in Alaska, spawner surveys in California's Central Valley and shark surveys on Southeast Farallon Island. She has worked for Federal and state agencies, private consulting companies and non-profit organizations. These experiences shaped her particular interest in restoration effectiveness and collaboration among agencies, non-profit groups, and other stakeholders. With a lifelong enthusiasm for exploring natural processes and a love for fish biology, Natalie will continue to pursue these themes at Humboldt State University.