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GCA Progress Report
Coastal Wetlands Conservation Scholarship

My project examines the relationship of food web connectivity across ecosystems between river-dominated and non-fluvial estuaries. With the help of GCA, I successfully established transects across estuarine vegetation zones in both Skagit and Padilla Bays, including low marsh, mudflat, and eelgrass ecosystems. I transplanted over 800 clams and 400 mussels across the vegetation transitions in order to monitor how food sources change across the landscape within each bay, and how food sources change in response to river flow. The first set of transplants were established in March and April, and after a summer of incubation in the Skagit and Padilla mud, were picked up in August for stable isotope analysis. The second round of transplants were set in place this past August and will be retrieved the following March after submission to the winter period of high river flows. While some casualties were sustained among the transplanted organisms, we are quickly devising ways in which to minimize organism loss, including monthly snorkeling surveys of transects in order to ensure that cages are intact and withstanding the copious amounts of smothering late-summer algae. In addition to monitoring the source of organic matter upon which clams feed, I am also monitoring how differences in food sources relate to growth. Thus, each of the 800 plus clams were individually labeled, measured, and weighed prior to transplantation into the field. The combination of stable isotope analysis and growth measurements will not only tell me what food sources are accessible to the estuarine food web, but will also provide insights into the quality of those changing food resources.