*Low pH and high temperature exposure differentially affects larval viability and juvenile growth between subpopulations of* O. lurida *from Puget Sound, WA*

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A broadening body of work indicates that low pH and high temperature negatively affect fertilization and early life stages of many marine invertebrates. Oysters may, however, contain a unique capacity to keep pace with rapidly shifting climate stressors via genetic variation. To examine the transgenerational carry-over affects of these exposures on *Ostrea lurida,* the only oyster native to the United States’ west coast, larval production, larval survival, and juvenile growth were measured following adult-only exposures. First-generation hatchery reared broodstock from three sub-populations in the Puget Sound estuary in Washington State were exposed to elevated temperature and dissolved CO2, then conditioned and induced to spawn. We will present results on eight weeks of larval production data, as well as survival to metamorphosis and juvenile stages, and growth after nine months for a subset of the progeny, which were collected over seven weeks. Results will include gonad histology, sampled after each treatment exposure. Initial findings suggest a universally negative effect of elevated temperature on larval survival to the juvenile stage, and differential responses to low pH by sub-population.