Does How Long You Live Matter In A Coastal Ocean Environment?

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Many coastal marine organisms possess a sessile, benthic adult stage but develop as larvae in the plankton. It is during this planktonic larval stage that population dispersal principally occurs. A simple mathematical model is presented to address how longevity of the organism can modify the population dynamics, and how it can affect a population's ability to remain in place in the presence of an alongshore current. It is concluded that in environments where moderate growth rates are sufficient to maintain a population, a longer lifespan can be significantly advantageous. For environments where large growth rates are required, the population retention is not significantly improved with increased lifespan.