

Smith, J.R., P. Fong, and R.F. Ambrose. 2006. Dramatic declines in mussel community diversity: response to climate change? *Ecology* 87:1153-1161.

Abstract: Mussel beds along the wave-exposed coast of the eastern North Pacific Ocean serve as an important habitat, harboring a high diversity of species. A comparison of California mussel bed community diversity in 2002 to historical data (1960s to 1970s) revealed large declines (mean loss 58.9%), including some declines >141 species (80% loss). Concurrent work revealed inconsistent changes in mussel populations (biomass and bed thickness) along the California coast, suggesting that diversity declines may be related to large-scale processes rather than local habitat destruction. Potential factors causing declines in mussel community diversity are discussed, with regional climate change associated with the Pacific Decadal Oscillation and climate change-induced alterations of ecological interactions and biological processes suggested as likely causes. Although extensive literature has predicted the potential effects of climate change on global diversity, this study is one of the few examples of declines attributed to climate change.