

Sagarin, R.D., R.F. Ambrose, B.J. Becker, J.M. Engle, J. Kido, S.F. Lee, C. M. Miner, S.N. Murray, P.T. Raimondi, D.V. Richards, and C. Roe. 2007. Ecological impacts on the limpet *Lottia gigantea* populations: human pressure over a broad scale on island and mainland intertidal zones. *Marine Biology* 150:399-413.

Abstract: Here long-term monitoring data taken at 33 sites in southern and central California coast and islands were used to evaluate the size structure of the large intertidal limpet, *Lottia gigantea* in restricted-access and in easily accessible intertidal zones that encompass a wide range of ecological variables. Using multi-dimensional analysis of population size structures, we found that sites on islands and strictly protected mainland sites have significantly larger median limpet sizes and a greater range of limpet sizes than unprotected mainland sites, while no pattern occurs in latitudinal or regional comparison of sites. Although intertidal predators such as oystercatchers were not the primary focus of the monitoring efforts, extensive natural history notes taken during sampling visits support the argument that predation was not a primary cause for the size structure differences. Finally, substratum differences were determined not to have biased the observation of larger limpets in protected sites. In regard to human interactions with limpets, we conclude that the degree of enforcement against poaching is the better predictor of limpet size structure than proximity to population centers or visitation to intertidal sites.