

Swearer, S. E., J. S. Shima, M. E. Hellberg, S. R. Thorrold, G. P. Jones, D. R. Robertson, S. G. Morgan, K. A. Selkoe, G. M. Ruiz, and R. R. Warner. 2002. Evidence of self-recruitment in demersal marine populations. *Bull. Mar. Sci.* 70(1) Suppl.: 251-271.

The majority of shallow-water marine species have a two-phase life cycle in which relatively sedentary, demersal adults produce pelagic larvae. Because these larval stages are potentially subject to dispersal by ocean currents, it has been widely accepted that local populations are open, with recruitment resulting from the arrival of larvae from non-local sources. However, a growing number of studies indicate that larvae are capable of recruiting back to their source population. Here, we review the evidence for self-recruitment in demersal marine populations, drawing from studies of endemism, introduced species, population genetics, stock-recruitment relationships, larval distributions, populations at the limit of a species' range, and applications of environmental and chemical markers. These studies indicate that self-recruitment can and does occur across species representative of most life history traits and geographical localities. Thus, the ability of larvae to recruit back to their natal population may be a pervasive phenomenon among marine species. The mounting evidence in support of self-recruitment dynamics indicates a pressing need for a reevaluation of the appropriateness of demographically-open population models and their applicability to the management and conservation of marine ecosystems.