

ABSTRACT

Brouwer, S.L., Griffiths, M.H. and M.J. Roberts (2003)

Adult movement and larval dispersal of *Argyrozona argyrozona* (Pisces: Sparidae) from a temperate marine protected area

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Adult emigration and larval dispersal of carpenter *Argyrozona argyrozona* from the Tsitsikamma National Park (TNP), South Africa, were investigated using mark-recapture data and Acoustic Doppler Current Profiler measurements of currents. Tagging data showed that adult carpenter were mainly resident, with a small proportion (7%) leaving the TNP in both easterly and westerly directions. There was no relationship between fish movement patterns and fish size or time-at-liberty. Current pattern suggest that eggs and larvae spawned within the TNP are mainly transported eastward towards established nursery grounds; the median estimated distance moved was 229 km (range 42 – 561 km) in 30 days (time of flexion). Given this pattern of ichthyoplankton dispersal, together with the fact that adult carpenter within the TNP displayed a high degree of residency and that they are much more abundant than in adjacent fishing grounds (catch per unit effort being 23 times greater), it appears that the TNP protects a viable carpenter spawner population capable of seeding adjacent fishing grounds.