

Juvenile Bay Scallop (*Argopecten irradians irradians*) Habitat Preferences

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Habitat quality and quantity are known to be important for maintaining populations of bay scallops (*Argopecten irradians*), but data linking habitat attributes to bay scallop populations are lacking. This information is essential to understand the role of habitat alteration in the decline of bay scallop populations and to guide restoration efforts that are being conducted in response to population declines. We conducted laboratory experiments with young bay scallop to determine habitat preference as input for habitat and population models. Bay scallops from 7 to 49 mm shell lengths were offered the choice of a bare sand substrate or a structured substrate composed of either cobble, *Codium fragile*, or *Zostera marina* mimics. The majority of scallops preferred structured substrate over bare sand. Smaller scallops (<15 mm shell length) also preferred to be attached high in the tank, near the area of maximum water flow. Larger scallops (>20 mm shell length) tended to bury in the sand substrate, were less discriminating with regard to habitat structure, and did not attach high in the tanks. These data are being incorporated into a Habitat Suitability Index and a population model for bay scallops.

KEYWORDS: Bay scallop, *Argopecten irradians*, habitat, *Zostera marina*, *Codium fragile*.