Sampling sites along the southern California coast around 32N 117W and northwest coast of Mexico from 2003-2009 (Bivalve Connectivity project)

Website: https://www.bco-dmo.org/dataset/3635
Version: 29 March 2012
Version Date: 2012-03-29

Project
» Temporal and spatial scales of variability in bivalve connectivity (Bivalve Connectivity)

Contributors	Affiliation	Role
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Dataset Description

Sampling sites for Inshore larval connectivity studies conducted from May/2003 - Nov/2009

Methods & Sampling

Contributed by PI

Data Processing Description

Downloaded as a separate file from sheet: "Site Locations" in file "BC_M.californianusMatrices.xls" contributed by Lisa Levin
- Corrections to original list made by Jen Gonzalez
- 4 Stations added to original list by Jen Gonzalez
- Lat/Lon converted to decimal degrees

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Data Files

File
Sampling_Sites.csv (Comma Separated Values (.csv), 833 bytes) MD5:dc518a5417d2b89b885cf9e28131392e Primary data file for dataset ID 3635

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Parameters

Parameter	Description	Units
Latitude	latitude in decimal degrees (positive is North)	decimal degrees
Longitude	longitude in decimal degrees (negative is West)	decimal degrees
Abbreviation	Site Abbreviation	text
Site	Site Name	dimensionless

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Deployments

BC_May2003-Nov2009

Website	https://www.bco-dmo.org/deployment/58788
Platform	Bivalve Connectivity
Start Date	2003-05-01
End Date	2009-11-30
Description	Life history data collection and Inshore larval connectivity studies May/2003 - Nov/2009 A series of sites re-visited on separate occasions from May/2003 - Nov/2009 General Location of the Sites: Southern California Coast around 32N, 117W Northwest Coast of Mexico - Bajamar, MX and Punta Morro, MX

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Project Information

Temporal and spatial scales of variability in bivalve connectivity (Bivalve Connectivity)

Website: http://levin.ucsd.edu/

Coverage: Southern California Coast around 32N, 117W, NW Mexico

Temporal and spatial scales of variability in bivalve connectivity

Larval connectivity, the extent to which sub-populations exchange larvae, has emerged as a fundamental concept within the diverse arenas of population ecology, biotic resource management, biodiversity

conservation, invasive species control, and habitat restoration. However, determining dispersal trajectories of larvae and their scales of variability remain a major challenge. Project investigators Levin, Muccino and Rasmussen will use an integration of prospective modeling and retrospective (elemental fingerprinting) approaches to assess variability in larval connectivity and its demographic consequences for mytilid mussel populations in southern California. This project builds on initial studies of mytilid connectivity to address in greater depth and with a more strongly coupled physical/biological approach, questions of variability and its causes.

These collaborating scientists will address hypotheses concerning the spatial and temporal scales of connectivity for mussels, Mytilus californianus and Mytilus galloprovincialis, examining their consistency among sites and species. This will be accomplished through (a) larval out-planting at 18 locations in San Diego County several times a year to generate reference signatures for trace elemental fingerprinting, (b) collection of recruits and elemental analyses of their larval shells to determine sites and regions of origins, and (c) high frequency data collection at 2 bay locations for M. galloprovincialis and 2 open coast locations for M. californianus to carry out weekly analysis of recruitment variability, its link to chemical signals and recruit origins, and for collection of demographic data (size-specific survivorship, growth and fecundity).

Through numerical dispersal simulations of the coastal ocean and bays, and subsequent comparisons to fingerprinting based assessment of recruit origins, they will examine the roles of circulation, local vs. remote forcing, bay-ocean interaction, episodic events, and larval attributes (vertical behavior, release times, planktonic duration) in defining the variability of connectivity. Demographic data will be combined with connectivity data to model the population and meta-population level fitness consequences of observed mytilid connectivity patterns.

The results of connectivity studies have direct applicability to conservation and management of commercial and natural bivalve populations, and given the key structural role of mussels, to the conservation of rocky shore habitats.

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Funding

Funding Source	Award
NSF Division of Ocean Sciences (NSF OCE)	OCE-0648656
NSF Division of Ocean Sciences (NSF OCE)	OCE-0648193

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