

Marine Life Protection Act Initiative



Connectivity in the MLPA South Coast Study Region

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Connectivity in Southern California

- What is the level of connectivity between the northern Channel Islands and Santa Barbara Island (where the Channel Islands marine protected areas are located) and the mainland of the MLPA South Coast Study Region?



Methodology: Assessing Connectivity

- Assess “regional connectivity” using model of larval dispersal

Species	Spawning Season	Pelagic Larval Duration
Kelp bass	Apr-Nov	25-33 days
Red sea urchin	Dec-Feb	40-60 days
Lingcod	Nov-Apr	30-120 days
Blue rockfish	Jan-May	60-120 days
Canary rockfish	Dec-Apr	60-120 days
Cabezon	Oct-Mar	90-120 days



Regional Connectivity: Kelp Bass

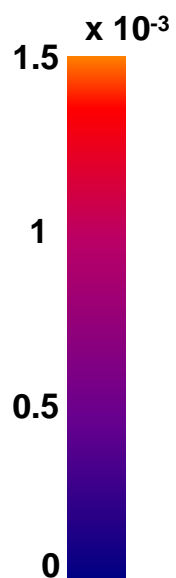


	To Northern Islands	To Southern Islands	To Mainland
From Northern Islands	More	Less	Less
From Southern Islands	Less	More	Less
From Mainland	More	More	More to SBI & Cat I

S. Mitarai; SBI = Santa Barbara Island and Cat I = Catalina Island



Regional Connectivity: Red Urchin



	To Northern Islands	To Southern Islands	To Mainland
From Northern Islands	More	Less	Less
From Southern Islands	Less	Some	Less
From Mainland	More	Some	More

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Regional Connectivity: Lingcod



	To Northern Islands	To Southern Islands	To Mainland
From Northern Islands	More	Less	Less
From Southern Islands	Less	More	Less
From Mainland	More	More	More

S. Mitarai



Regional Connectivity: Blue Rockfish



	To Northern Islands	To Southern Islands	To Mainland
From Northern Islands	More	Some	Less
From Southern Islands	Less	More	Less
From Mainland	More	More	Some

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Regional Connectivity: Canary Rockfish

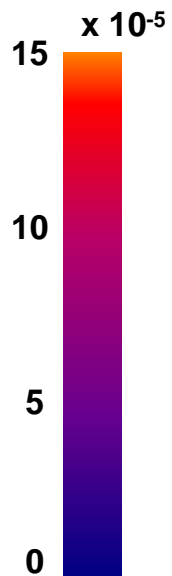


	To Northern Islands	To Southern Islands	To Mainland
From Northern Islands	More	More	Some
From Southern Islands	More	More	Some
From Mainland	More	More	More

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Regional Connectivity: Cabezon



	To Northern Islands	To Southern Islands	To Mainland
From Northern Islands	More	More	Some
From Southern Islands	More	More	Some
From Mainland	More	More	More

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Number of Strong Connections

	To Northern Islands	To Southern Islands	To Mainland
From Northern Islands	6	2.5	1
From Southern Islands	2	5.5	1
From Mainland	6	5.5	5.5

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Summary

For species with short larval duration, mainland and islands are not strongly connected

For species with longer larval duration, strong connection from mainland to islands, but not the other direction

Connection between northern islands and southern islands is weak, except for species with longer larval duration (cabezon and rockfish)