

2012 CMECS

Substrate Origin	Substrate Class	Substrate Subclass	Substrate Group	Substrate Subgroup		
Geologic Substrate	Rock Substrate	Bedrock				
		Megaclast				
	Unconsolidated Mineral Substrate	Coarse Unconsolidated Substrate	Gravel	Boulder		
				Cobble		
				Pebble		
				Granule		
		Fine Unconsolidated Substrate	Sandy Gravel	Sandy Gravel		
				Muddy Sandy Gravel		
				Muddy Gravel		
				Gravelly Sand		
			Muddy Sand	Gravelly Sand		
				Gravelly Muddy Sand		
				Gravelly Mud		
				Slightly Gravelly Sand		
				Mud	Slightly Gravelly Muddy Sand	
					Slightly Gravelly Sandy Mud	
					Slightly Gravelly Mud	
					Very Coarse Sand	
Sand	Coarse Sand					
	Medium Sand					
	Fine Sand					
	Very Fine Sand					
Silty Sand	Silty Sand					
	Silty-Clayey Sand					
	Clayey Sand					
	Sandy Silt					
Sandy Mud	Sandy Silt-Clay					
	Sandy Clay					
	Silt					
	Silt-Clay					
Clay	Clay					

2023 Proposed CMECS

Substrate Origin	Substrate Class	Substrate Subclass	Substrate Group	Substrate Subgroup	
Geologic Substrate	Consolidated Mineral Substrate	Bedrock			
		Megaclast			
	Geologic Substrate	Coarse Unconsolidated Mineral Substrate	Gravel Substrate	Tar	
				Very Coarse Gravel	Boulder
				Moderately Coarse Gravel	Cobble
				Gravel Mixes	Pebble
		Trace Gravels	Sandy Gravel	Granule	
			Muddy Sandy Gravel	Sandy Gravel	
			Muddy Gravel	Muddy Gravel	
			Gravelly Sand	Gravelly Sand	
			Sandy Substrate	Gravelly Muddy Sand	Gravelly Muddy Sand
				Gravelly Mud	Gravelly Mud
				Sandy Mixes with Trace Gravel	Slightly Gravelly Sand
				Muddy Mixes with Trace Gravel	Slightly Gravelly Muddy Sand
		Muddy Substrate		Very Coarse Sand	Slightly Gravelly Sandy Mud
				Coarse Sand	Slightly Gravelly Mud
				Medium Sand	Very Coarse Sand
				Fine Sand	Coarse Sand
Mud	Very Fine Sand		Medium Sand		
	Silt		Fine Sand		
	Silt-Clay		Very Fine Sand		
	Clay		Silt		
	Biogenic Substrate	Consolidated Biogenic Substrate	Reef Substrate	Coral Reef	
				Algal Reef	Rhodolith Reef
				Shell Reef	Coquina Reef
				Worm Reef	Crepidula Reef
Biogenic Pavement				Mussel Reef	
Very Large Wood				Oyster Reef	
Coarse Unconsolidated Biogenic Substrate		Biogenic Rubble	Very Large Trunk or Root	Sabellariid Reef	
				Serpulid Reef	Coral Rubble
				Very Large Trunk	Coquina Rubble
				Very Large Branch	Crepidula Rubble
				Very Large Wood Fragment	Mussel Rubble
				Very Large Root or Root Network	Oyster Rubble
		Biogenic Hash	Biogenic Hash	Wood Rubble	Very Coarse Woody Debris
				Worm Rubble	Coarse Woody Debris
				Algal Hash	Sabellariid Rubble
				Coral Hash	Serpulid Rubble
				Shell Hash	Algal Hash
				Clam Hash	Rhodolith Hash
Fine Unconsolidated Biogenic Substrate	Biogenic Sand	Worm Hash	Coral Hash		
			Coquina Hash	Acropora Hash	
			Shell Hash	Crepidula Hash	
			Clam Hash	Mussel Hash	
			Oyster Hash	Oyster Hash	
			Fine Woody Debris	Sabellariid Hash	
	Fine Organic Substrate	Fine Organic Substrate	Algal Sand	Serpulid Hash	
			Coral Sand	Halimeda Sand	
			Shell Sand	Diploria Sand	
			Clam Sand	Coquina Sand	
			Sabellariid Substrate	Shell Sand	
			Serpulid Substrate	Mussel Sand	

				Ooze Substrate		Carbonate Ooze	Coccolithophore Ooze
						Siliceous Ooze	Foraminiferan Ooze
				Pteropod Ooze	Pteropod Ooze		Radiolarian Ooze
				Coarse Unconsolidated Aggregate Substrate	Fixed Construction Aggregate Substrate	Coarse Unconsolidated Aggregate Substrate	Diatomaceous Ooze
				Coarse Unconsolidated Metal Substrate	Fixed Metal Substrate	Coarse Unconsolidated Metal Substrate	Coccolithophore Ooze
Anthropogenic Substrate	Anthropogenic Rock	Anthropogenic Rock Reef Substrate		Coarse Unconsolidated Anthroponogenic Substrate	Fixed Trash/Plastic Substrate	Coarse Unconsolidated Anthroponogenic Substrate	Foraminiferan Ooze
		Anthropogenic Rock Rubble			Fixed Anthropogenic Wood Substrate	Piling Substrate	Pteropod Ooze
		Anthropogenic Rock Hash			Coarse Unconsolidated Aggregate Substrate	Aggregate Rubble	Radiolarian Ooze
		Anthropogenic Rock Sand			Coarse Unconsolidated Metal Substrate	Metal Rubble	
		Anthropogenic Rock Mud			Coarse Unconsolidated Trash/Plastic Substrate	Trash/Plastic Rubble	
	Anthropogenic Wood	Anthropogenic Wood Reef Substrate			Coarse Unconsolidated Anthropogenic Wood Substrate	Wood Rubble	
		Anthropogenic Wood Rubble			Fine Unconsolidated Aggregate Substrate	Aggregate Hash	
		Anthropogenic Wood Hash			Fine Unconsolidated Metal Substrate	Aggregate Fines	
	Construction Materials	Construction Reef			Fine Unconsolidated Anthroponogenic Substrate	Metal Hash	
		Construction Rubble				Metal Fines	
		Construction Hash				Trash/Plastic Hash	
	Metal	Metal Reef Substrate				Trash/Plastic Fines	
		Metal Rubble				Wood Hash	
		Metal Hash				Wood Fines	
	Trash	Trash Rubble					
		Trash Bits					