

**North-central California Coast and Ocean Climate-Smart Adaptation
Vulnerability Assessment Workshop
Final Focal Resources**

Habitat	Species, Assemblages
Rocky Intertidal	1. Black Oystercatcher
	2. California Mussel
	3. Sea Palm
	4. Ochre Sea Star
Kelp Forest	5. Blue Rockfish
	6. Coralline Algae
	7. Red Abalone
	8. Sea Urchin (Red and Purple)
	9. Southern Sea Otter
Nearshore <ul style="list-style-type: none"> • Water Column/Soft-bottom Subtidal • Estuaries 	10. Pacific Herring (nearshore)
	11. Pacific Sardine (nearshore)
	12. Northern Anchovy (nearshore)
	13. Black Rail (estuaries)
	14. Gaper Clam (estuaries)
	15. Olympia Oyster (estuaries)
	16. Tidewater Goby (estuaries)
Offshore <ul style="list-style-type: none"> • Pelagic water column • Benthic habitats for specific shallow banks in the deep water region: Cordell, Rittenburg, Fanny Shoals 	17. Pteropod (pelagic)
	18. California Hydrocoral, Red Sponge (benthic)
	19. Cassin's Auklet (pelagic)
	20. Copepod (pelagic)
	21. Pacific Krill (pelagic)
	22. Widow Rockfish (benthic)
	23. Blue Whale (pelagic)
Beaches and Dunes	24. American Dune Grass
	25. Mole Crab
	26. Western Snowy Plover
Cliffs (coastal and island)	27. Surface Nesters: Brandt's Cormorant, Common Murre
	28. Cavity Nesters: Pigeon Guillemot, Tufted Puffin, Ashy Storm Petrel

Ecosystem Services	
Provisioning Services	1. Food Production
Regulating Services	2. Flood and Erosion Protection
	3. Water Purification
	4. Carbon Storage and Sequestration
Cultural Services	5. Recreation and Tourism

Ecosystem Services Key Terms and Definitions

Ecosystem Services: the benefits people obtain from ecosystems

Ecological Integrity: necessary for the production of all other ecosystem services

("supporting services" MEA 2005); support and preservation of those processes and structures which are essential prerequisites of the ecological ability for self-organization of ecosystems (Barkmann et al. 2001);

based on variables of energy and matter budgets and structural features of whole ecosystems and represent the base for the other types of ecosystem services

- Includes things such as: abiotic heterogeneity, biodiversity, biotic waterflows, metabolic efficiency, nutrient cycling, storage capacity

Provisioning Services: the products obtained from ecosystems (MEA 2005)

- Includes things such as: crops, livestock, capture fisheries, aquaculture, wild foods, timber, wood fuel, energy (biomass), freshwater

Regulating Services: the benefits obtained from the regulation of ecosystem processes (MEA 2005)

- Includes things such as: local and global climate regulation, flood protection/erosion control, groundwater recharge, air quality regulation, nutrient regulation, water purification/quality, pollination

Cultural Services: the nonmaterial benefits people obtain from ecosystems through spiritual enrichment, cognitive development, reflection, recreation, and aesthetic experiences (MEA 2005)

- Includes things such as: recreation and aesthetic values, intrinsic value of biodiversity, spiritual value

Millennium Ecosystem Assessment, 2005. *Ecosystems and Human Well-Being: Synthesis*. Island Press, Washington, DC.