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ECOLOGICAL STUDIES IN A KELP FOREST INHABITED BY SEA OTTERS. J.S. Pearse and A.H. Hines. University of California, Santa Cruz, CA 95064.

Population densities of the major species of large brown algae and invertebrates have been estimated bimonthly for over a year in a kelp forest off Pacific Grove, California. Macrocystis is the major canopy forming kelp and primary producer, while Cystoseira forms the main understory plants. Three species of snails (Tegula) are major herbivores; their densities fluctuate erratically and can exceed 100 per m^2. Algal drift feeders include spider crabs, abalones, sea urchins and bat stars; their densities are relatively stable except for sea urchins which showed a dramatic increase in early 1976 from about 0.2 to about 5 per m^2 followed by a decline in late 1976. Sea stars are major predators feeding mainly on snails and encrusting animals, particularly vermetids. Sea otters are also major predators and seem to be supported by this system at densities of about 1 per 10,000 m^2.