

3. SEA PALM

Overview of Use and Harvest

The sea palm, *Postelsia palmaeformis*, is a brown alga first described by Franz Joseph Ruprecht in 1852 from specimens collected near Bodega Bay (Sonoma County). Although it is illegal to harvest sea palm for recreational use, it is an important component of the commercial harvest of edible seaweed. Edible seaweed harvesting is a cottage industry which began in the late 1970s. Within the last several years, demand for edible seaweed has increased, particularly for sea palm fronds. In 2001, there were four licensed edible seaweed harvesters who actively harvested sea palm. Currently, edible seaweed landings are not recorded by species; however, it is estimated that between 2 and 3 tons of sea palm were taken in both 2000 and 2001.

Sea palm is harvested primarily in Mendocino County using small cutting instruments. It is consumed raw, or is dried and sold in health food stores and Asian markets. Dried sea palm blades are used in soups and salads, and typically sell for \$24 to \$30 per lb.

Regulatory authority over marine plants has been granted to the Fish and Game Commission (Commission) by the Legislature. Current regulations require that edible seaweed harvesters purchase an annual license for \$100, pay a royalty rate to the State of \$24 per wet ton of algae harvested, and submit a monthly harvest log containing the wet weight and location of each harvest.

Status of Biological Knowledge

Sea palm is an annual kelp that thrives in exposed coastal locations. It is abundant in upper to mid-tidal zones from Vancouver Island, British Columbia, Canada to Morro Bay, California (San Luis Obispo County), but is restricted to rocks exposed to heavy surf and high disturbance. Sea palms are usually found in dense aggregations. Adult spore-producing plants (called sporophytes) can grow to 2 ft tall and possess up to 100 leaf-like blades. They begin producing spores in early spring. The sea palm appears to have a limited ability to form new beds, and most dispersal seems to occur over distances of 3 to 16 ft.

Several studies have documented the sea palm's relationship to its unique habitat. The sea palm is unusual because it tolerates—indeed, depends on— heavy surf, and because of its association with the California mussel, *Mytilus californicus*. It often colonizes new rocky areas when objects such as logs and other debris strike and dislodge the competitive, dominant mussel. Although there is little known about the reproduction and genetic structure of the sea palm, it is thought that individuals within a cluster are siblings, and that distinguishable populations are present along the coast. Research is under way to determine whether genetic connections exist among populations in different coastal areas.

Status of the Beds

Although individuals can regenerate blades, they cannot survive when cut near the base of the stem-like portion of the plant (called the stipe). Cutting the stipe prior to spore production and release can negatively impact recruitment and threaten local populations. Fortunately, most harvesters use the blade-cut method, which provides for

multiple harvests during the spring and summer growing season and can provide for spore production and release.

Sea palms cannot tolerate heavy harvesting pressure due to their restricted habitat, short life span, local dispersal, and limited powers of regeneration. Although many stands of sea palm are difficult to access, others are in or adjacent to recreational areas where they are at risk from human disturbance.

Management Considerations

Public education and outreach is the best defense for the conservation of this charismatic and ecologically interesting alga. The primary management measures that should be considered at this time involve improving the documentation of sea palm harvest, and of other species of algae harvested by the edible seaweed fishery. This can be accomplished by:

- Modifying the monthly harvest log (Kelp Harvester's Monthly Report) to include the weight of each species harvested, the nearest landmark or easily recognizable permanent feature, and the Fish and Game Block number where harvesting occurred.
- Compiling and analyzing logbook information annually to monitor trends in species composition and total take.

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Further Reading

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