

Common Name: bull kelp
Scientific Name: *Nereocystis luetkeana*
(NER-ee-o-SIS-tis lute-KEE-a-na)



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Defining Characteristics

- Max length of 24 m
- Consists of a long whip-like *stipe* with a bulb/float at the top that has four groups of flat blades that can reach 3 m in length
- It is attached to rock with a branching ‘holdfast’
- The hollow stock and bulb are filled with a gas (mainly carbon monoxide)

Habitat & Range

- Near shore shallows to 20 m deep
- Rocks on protected shores or open coasts
- Alaska to southern California

Prey & Predators

- Food is produced on its own through photosynthesis
- Predators are sea urchins
- Kelp wash-up in the fall/early winter provides cover and scavenging for amphipods

Reproduction

- Produce swimming spores, which fertilize each other and survive through the winter as filaments
- These filaments anchor themselves to rocks and begin to grow into kelp in the spring

Additional Information

- Extirpation of sea otters along the west coast of British Columbia increased sea urchin populations that destroyed many kelp forests. Kelp forest habitat has increased since the reintroduction and re-establishment of sea otter populations
- Stipes and the holdfast can be sliced and pickled to eat
- Is the fastest growing seaweed in the world, up to 60 cm/day!
- “*Nereocystis*” means mermaid’s bladder

Common Name: stalked kelp / southern palm kelp

Scientific Name: *Pterygophora californica*

(TAIR-ee-GO-for-ah kal-i-FOR-ni-kah)



pt-lobos.com/algae.html

Defining Characteristics

- Max length of 2 m
- Straight or gnarled undivided stalk
- Smooth straplike blades, opposite sides from the top of stalk
- Long lived perennial, up to 17 yrs

Habitat & Range

- Subtidal zones up to 12 m deep
- Rocky, exposed shores
- Alaska to Baja California

Prey & Predators

- Food is produced on its own through photosynthesis
- Predators are sea urchins and other organisms that feed off of kelp

Reproduction

- Sporangia develop on the *sporophyll* (blades) and at maturity can almost cover it completely
- Estimated that an individual can produce between 1,000 and 10 billion spores per year

Additional Information

- Can determine the age of this kelp by cutting the stalk and counting the rings, just like trees
- Only species in this genus
- Known as “walking kelp” by First Nations in reference to its movement in water
- Was used by First Nations to deflect salmon into their traps by arranging them in a row (by moving the cobble the plant was attached to)

Common Name: sugar wrack kelp
Scientific Name: *Laminaria saccharina*
(lam-i-NAIR-ee-a SAK-ka-REE-na)



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Defining Characteristics

- Max length of 3 m
- A branched *holdfast* anchors this kelp to rocks and is joined to the long, wrinkled blade by a *stipe*, or stem, that is only about as long as your baby finger
- It has a corrugated look
- Rich yellow-brown colour

Habitat & Range

- Intertidal to near-shore shallows
- Slightly exposed and protected rocky shores
- Alaska to Oregon

Prey & Predators

- Food is produced on its own through photosynthesis
- Predators are sea urchins

Reproduction

- Kelp produce swimming spores, which fertilize each other and survive through the winter as filaments
- These filaments anchor themselves to the rocks and begin to grow into kelp in the spring

Additional Information

- Brown algae are harvested commercially for use in products like ice cream and toothpaste
- Kelp was an important food source for First Nations
- This seaweed has a sweet sugary taste and is used in soups to add flavour
- A good source of iodine

Common Name: rockweed
Scientific Name: *Fucus gardneri*
(FEW-kus gard-ner-eye)



http://en.wikivisual.com/index.php/Brown_alga

Defining Characteristics

- Max size of 40-50 cm long, 15 mm wide
- Perennial brown algae
- Two pronged float at the tip of the blade, yellow in colour

Habitat & Range

- Upper to middle intertidal
- Does not do well in the shade
- Has wide salinity tolerances
- The outer coast, in inland protected waters, and even at stream mouths where it can be inundated with freshwater during changing tides
- Bering Sea to central California

Prey & Predators

- Food is produced on its own through photosynthesis
- Deters predators by releasing *polyphenols* (chemicals that make it undesirable to grazers)
- Predators are periwinkle snails, pacific false limpet, rockweed isopod, humans

Reproduction

- Swollen tips serve as flotation chambers and contain sperm and eggs
- During low tide the tips dry and squeeze out gametes which unite to form a zygote which moves on the next flood tide and settles onto a substrate

Additional Information

- Can tolerate extreme desiccation (drying out)
- Attaches to rocks using a holdfast
- Can live up to four years
- Significant spawning habitat for herring
- Native Americans historically harvested the dried swollen tips of fucus - sometimes referred to as “Indian pop corn”
- Used as a popular spa treatment “rockweed exfoliation”