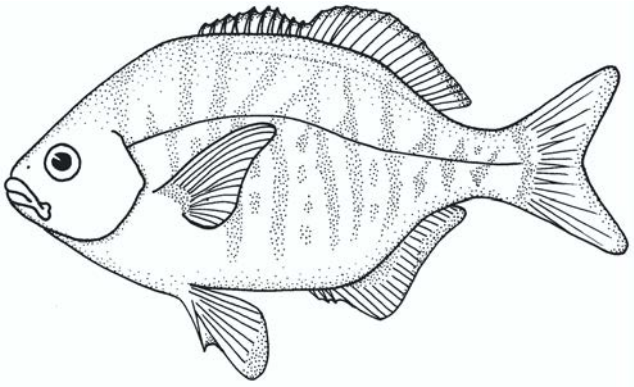
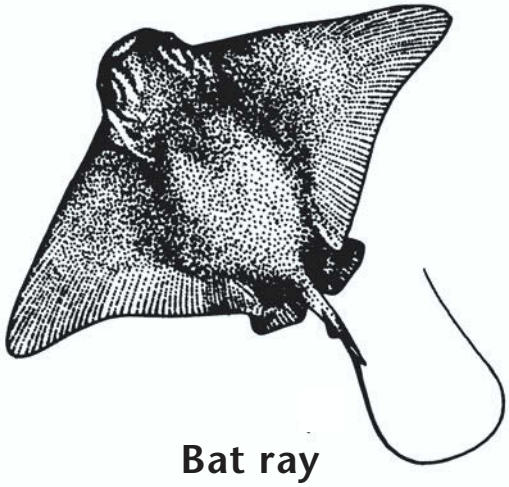


Barred surfperch

Barred surfperch
Amphistichus argenteus [size: to 17 in. (43 cm)]

Barred surfperch usually live in or just beyond the waves, but also venture into waters as deep as 240 ft. (73 m). Instead of releasing eggs, surfperches give birth to live young.

Barred surfperch feed on sand crabs, clams and other invertebrates. Fishermen catch and eat surfperches, as do seals and larger fishes.

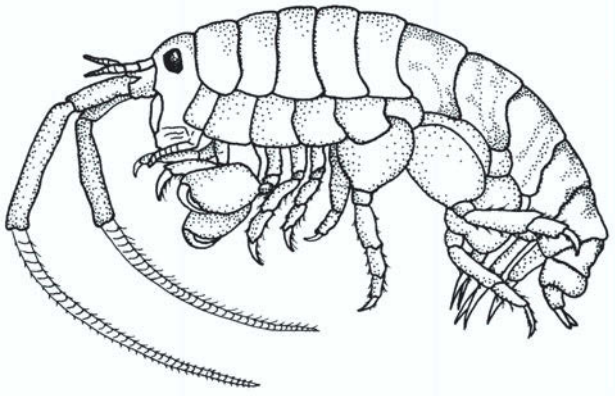


Bat ray

Bat ray
Myliobatis californica [size: to 6 ft. wide (1.8 m)]

Bat rays prey on clams, shrimp, worms and other invertebrates that live in the mud. Flapping their wings to clear away mud, rays suck up their prey, crushing the shells with their strong jaws and hard, flat teeth.

In summer, bat rays enter sloughs and bays where they give birth to live young. It's a trait they share with several other members of the shark family.

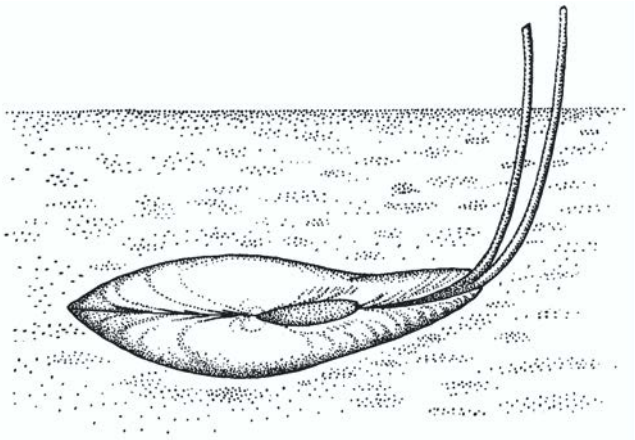


Beach hopper

Beach hopper
Orchestoidea californiana [size: to 1.1 in. (2.8 cm)]

Beach hoppers live high on the beach, out of reach of the waves. They burrow during the day to keep cool and moist and to hide from hungry shorebirds. At night, they come out and hop about in search of food.

Beach hoppers eat the seaweed that washes up on the beach.

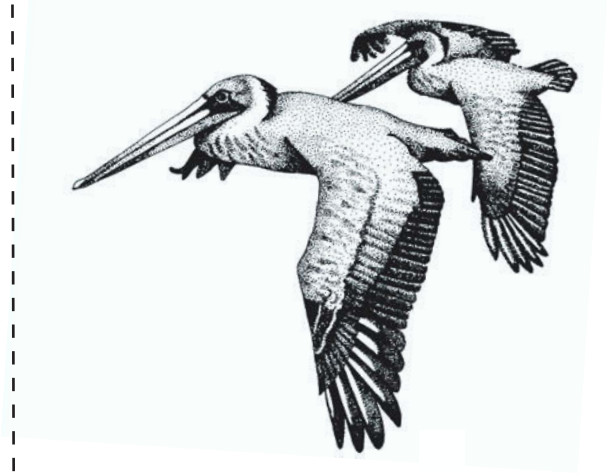


Bent-nosed clam

Bent-nosed clam
Macoma nasuta [size: to 2.5 in. (6 cm)]

Using its muscular foot, this clam digs about six inches down into the mud. It rocks back and forth as it digs, like a coin sinking in water. When it finally settles, it lies horizontally, not vertically like most clams.

To eat and breathe, it sticks a tube up to the mud's surface. Like a vacuum cleaner, the clam sucks down tiny particles, mostly the remains of plants and animals, along with sand and grit. Then it sorts the food from the muck.

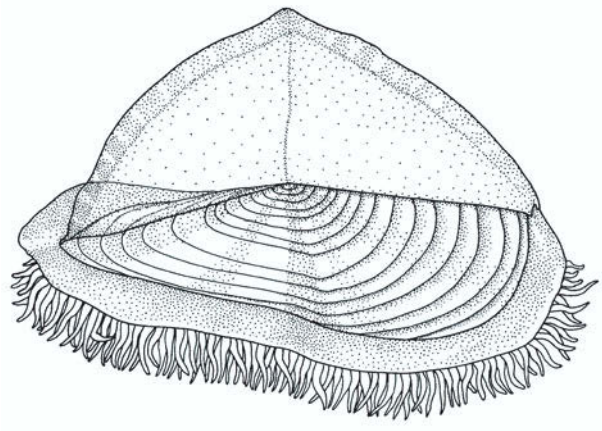


Brown pelican

Brown pelican
Pelecanus occidentalis [size: to 7 ft. wingspan (2 m)]

Thousands of pelicans visit Elkhorn Slough in summer and fall. In late fall, they migrate south to Mexico and South America where they build saucer-shaped nests on the ground or in trees and raise two to three young.

In the 1960s, heavy use of the pesticide DDT nearly killed all the brown pelicans. Today, DDT is banned in the United States. But its use in Mexico and other countries along with habitat loss within the pelican's range are still threats.

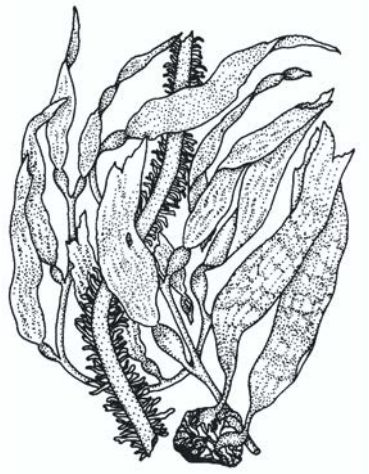


By-the-wind sailor

By-the-wind sailor
Velella velella [size: to 3 in. (7.6 cm)]

By-the-wind sailors usually live far out to sea, but many get blown ashore in the spring. The angle of the sail may determine where they land. Those whose sails angle to the left are blown to our coast, while right-angled ones sail toward Japan.

These jellyfish relatives use their tentacles to catch passing plankton.

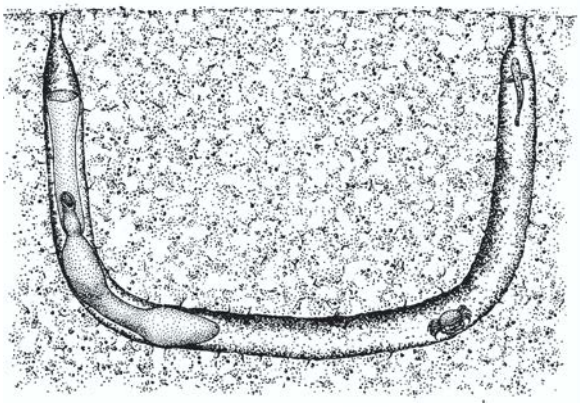


Drift seaweed

Drift seaweed

Rough waves rip seaweed from offshore rocks and toss it onto beaches. Often these tangles bring in offshore creatures that lived on the seaweed.

These seaweeds are the only large plants you'll see on the beach, so they're centers of activity. Small animals like beach hoppers eat the decaying algae and hide beneath it. Larger animals, like shorebirds, come to hunt the smaller animals.



Fat innkeeper worm

Fat innkeeper worm
Urechis caupo [size: to 20 in. (51 cm)]

An innkeeper worm digs a U-shaped tunnel in the mud. At one end, it attaches a mucous net that it secretes from special glands. Slowly pulsing its body, the innkeeper pumps water through its tunnel. As water flows through, the net traps tiny plankton floating in the water.

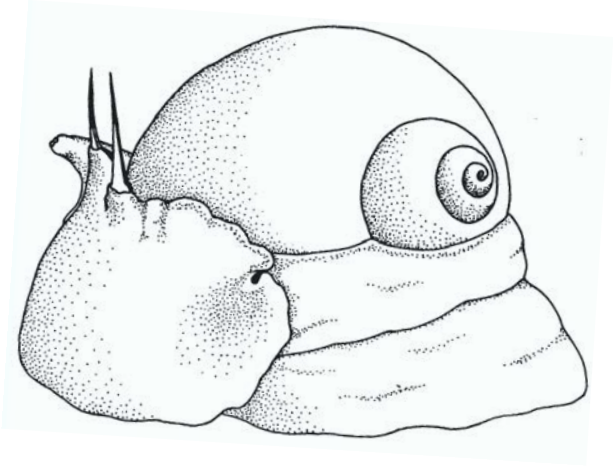
When the net is full, the innkeeper eats both it and the trapped food. Worms, crabs and even goby fish share the tunnel, eating anything the innkeeper misses.

Great blue heron

Great blue heron
Ardea herodias [size: to 6 ft. wingspan (1.8 m)]

Great blue herons live year-round at the slough. They depend on the slough to eat, rest and raise their young. Look for them standing still in shallow water, quietly waiting to snatch and eat small fishes that swim by.

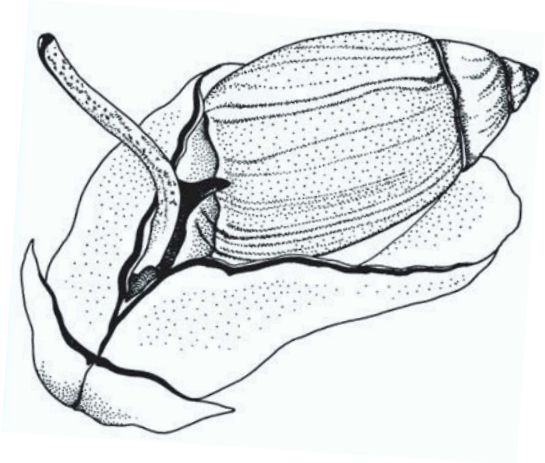
In early spring, great blue herons build nests in the tops of trees. Made of twigs and leaves, each nest shelters three to five bluish-green eggs. Both the male and female incubate the eggs, which take about two months to hatch.



Moon snail

Moon snail
Polinices lewisii [size: to 5 in. (13 cm)]

The moon snail plows slowly through the sand, hunting for clams. Finding one, the snail surrounds the clam with its huge foot. It drills a hole in the shell, rasping with its filelike tongue and softening the shell with a special liquid. When the hole is finished, the snail eats the clam's soft insides.

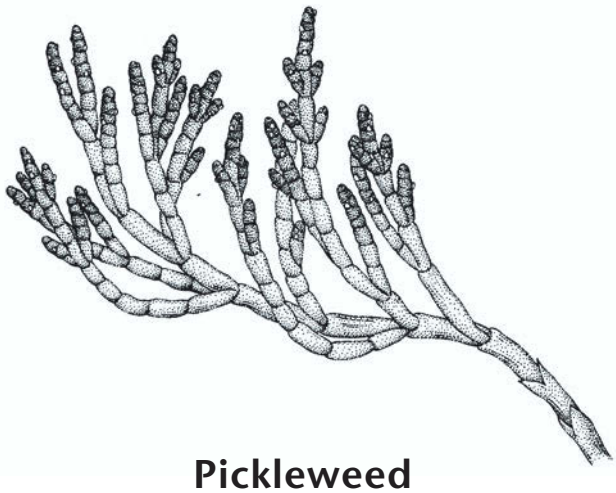


Olive snail

Olive snail
Olivella biplicata [size: to 1 in. (2.5 cm)]

The olive snail plows through the sand just below the surface, leaving a furrow behind. Its smooth, streamlined shell helps it slip through the sand. To breathe, the snail sends a tube above the sand.

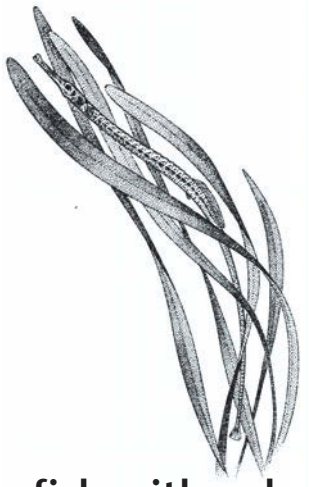
The olive snail eats dead animals and plants. It may also gather tiny food bits from the sand.



Pickleweed

Pickleweed
Salicornia virginica [size: to 25 in. (63 cm]

This plant can withstand salty conditions that would cause other plants to wither and die. Pickleweed draws the slough's saltwater into its stems and stores the extra salt in the tips of the stems. In fall, the stems turn color, becoming an orange or rosy red. Then they wither and drop off, taking the stored salt with them.

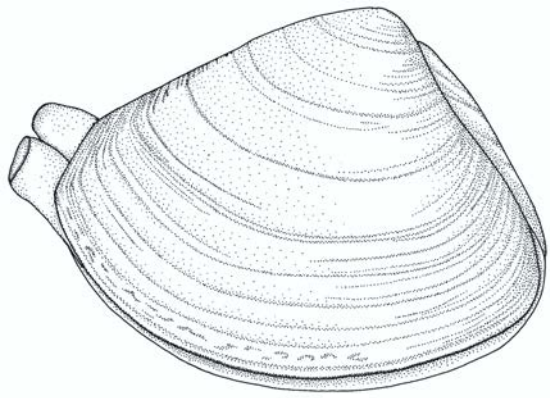


Pipefish with eelgrass

Pipefish with eelgrass
Syngnathus leptorhynchus with *Zostera marina*
[size: pipefish to 13 in. (33 cm); eelgrass to 3 ft. (91 cm)]

With its long and thin green body, a pipefish blends in well with the eelgrass blades it lives in. It even sways back and forth with the currents like eelgrass does.

Eelgrass, unlike most flowering plants, lives with its roots in mud under the water. Its matted roots trap sediments, helping to keep the mud in place and providing a stable home for many animals.

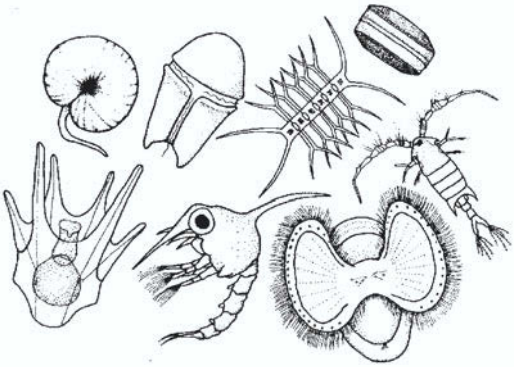


Pismo clam

Pismo clam
Tivela stultorum [size: to 6 in. (15 cm)]

Pismo clams dig into the sand near the surf zone. To dig, a clam pushes its foot downward through the sand like a wedge. Then it anchors the foot and pulls the shell along after it.

Clams send a feeding tube above the sand. They inhale water through it, filtering out tiny plants and animals called plankton.



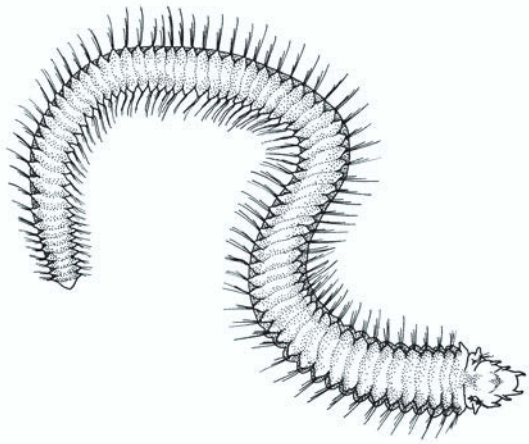
Plankton

(Plant plankton, top row from left: two dinoflagellates, chain diatom, diatom. Animal plankton, bottom row: sea urchin larva, crab larva, snail larva, copepod.)

Plankton

Plankton are plants and animals that drift on ocean currents instead of swimming. Most are tiny; these pictures are many times larger than the actual organisms.

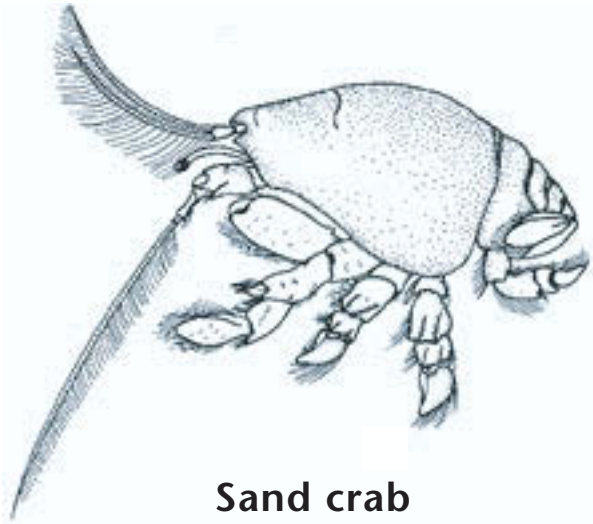
Plant plankton form the first link in many of the ocean's food chains. Animal plankton eat these tiny plants. Filter-feeders like clams and sand crabs eat both kinds of plankton.



Polychaete worm

Polychaete worm
Nephtys californiensis [size: to 12 in. (30 cm)]

This sandworm is similar to earthworms, but has a row of bristled flaps on each side. It burrows through the beach sand. If a wave uncovers the worm, it quickly swims down and digs in again. This worm preys mostly on smaller sand-dwellers.

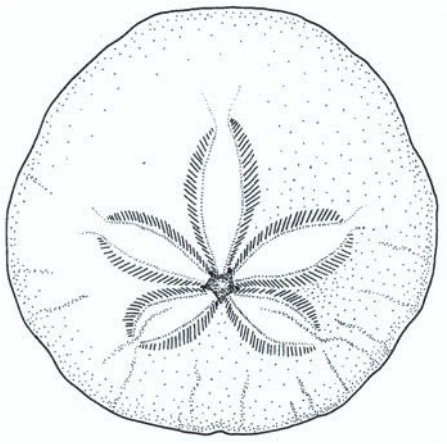


Sand crab

Sand crab
Emerita analoga [size: to 1.4 in. (3.5 cm)]

Sand crabs live in the surf zone, following the tide up and down the beach. To keep from washing away, they burrow tail-first into the sand. Burrowing also protects them from predators, like surfperches and plovers.

To filter plankton from the water, a sand crab sends fringed antennae up from the sand into the passing waves.

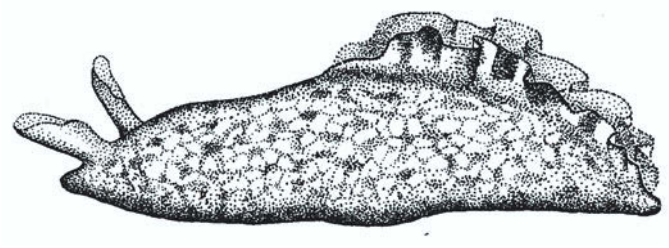


Sand dollar

Sand dollar
Dendraster excentricus [size: to 3 in. (7.6 cm)]

Sand dollars live half-buried in the sand just beyond the waves. They stand on end when the water is calm, but dig in during storms using their short spines. Young ones swallow heavy sand to weigh them down.

Sand dollars feed on plankton and small organic particles found on the sand or in the water.

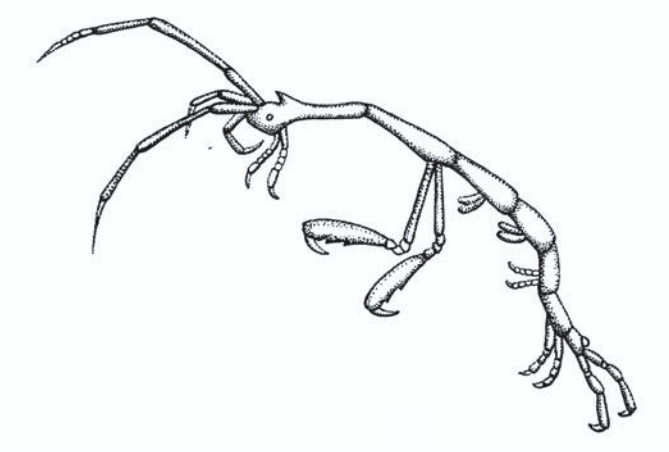


Sea hare

Sea hare
Aplysia californica [size: to 16 in. (41 cm)]

A sea hare glides along the muddy bottom, searching for algae to eat. With its filelike tongue, called a radula, it scrapes up its food, eating nearly 10 percent of its body weight a day.

An adult sea hare is both a male and a female, but it must mate with another sea hare. After mating, it lays strings of greenish eggs that look like spaghetti. Each string contains up to a million eggs.

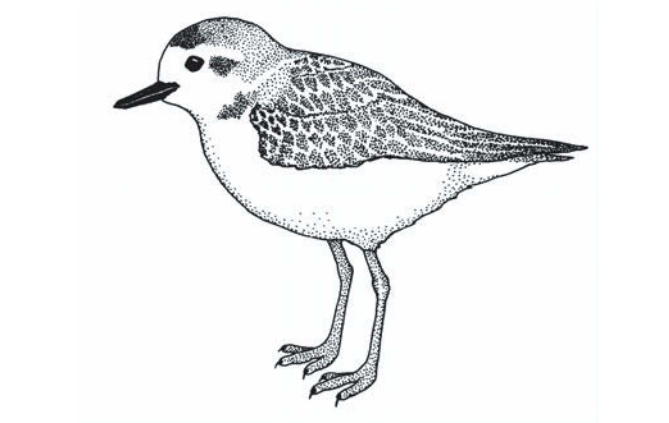


Skeleton shrimp

Skeleton shrimp
Caprella californica [size: to 1.5 in. (4 cm)]

You have to look closely to find skeleton shrimp. Their small, clear, sticklike bodies blend in well with the eelgrass where they live. They cling to the plants with three pairs of legs, and use their clawlike "arms" for grabbing food, fending off predators and cleaning themselves.

A skeleton shrimp eats whatever it can. It feeds on smaller plants and animals and scavenges for other bits of food.



Snowy plover

Snowy plover
Charadrius alexandrinus [size: to 6.5 in. (16.5 cm)]

Snowy plovers skitter about on the dry upper beach. They hollow out their nests right on the sand. This is safer than it might seem; both eggs and bird blend in so well, they're almost impossible to see.

Plovers eat sand crabs, beach hoppers and other invertebrates. They hunt in quick spurts, stopping to grab a bite, then darting off again.