Crystal Cove's Marine Protected Area

Field Guide to Plankton

Copepod Spp.

Size: Up to 0.4-2mm size will vary depending on the species
Diet: Phytoplankton and algae
Plankton Type: Zooplankton that are plankton for the entirety of their life
Description: Copepods can be variable in the way that they look as there are many different species of them. They are typically teardrop or oval shaped plankton that have two antennae and a singular eye. Copepods are an important food source for many birds, fish, and even whales!

Alexandrium

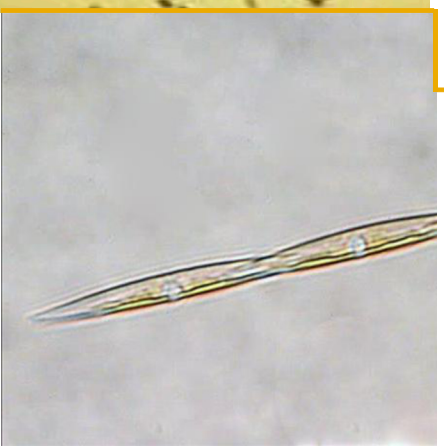
Size: Can range between 15 - 40 µ m
Diet: Produce their own energy through photosynthesis
Plankton Type: Phytoplankton that are plankton for the entirety of their life
Description: Alexandrium are a genus of dinoflagellates, which contains phytoplankton that can produce toxic algal blooms, being harmful to organisms that consume too many of them. Alexandrium can be identified by their round cells that can either be singular or chained together in 2, 4, or 8.

Radiolarians

Size: Up to 0.1-0.2mm
Diet: Other plankton, including copepods, diatoms, and dinoflagellates however, many can get energy through a photosynthetic endosymbiont
Plankton Type: Zooplankton that are plankton for the entirety of their life
Description: Radiolarians can be identified by their spherical shaped bodied and their spiny-like skeleton that is made of silica. Radiolarians may look a brownish-green color and are considered mixotrophs, an organism that gets energy from consuming other organisms but also through a photosynthetic endosymbiont.

Coscinodiscus

Size: Up to 40 - 200 µm
Diet: Produce their own energy through photosynthesis
Plankton Type: Phytoplankton that are plankton for the entirety of their life
Description: Coscinodiscus is a species of diatoms that can be identified by their disc-shaped bodies. Their porous body surface allow for the transfer of nutrients and gas into their bodies.



Pseudo-nitzschia

Size: Up to 25 - 160 µm
Diet: Produce their own energy through photosynthesis
Plankton Type: Phytoplankton that are plankton for the entirety of their life
Description: Pseudo-nitzschia planktonic diatoms that can be identified by their rectangular shape and elongated chain of overlapping cells. They have been found to be the cause of harmful algal blooms in the past. The toxic material that these organisms produce can cause a bioaccumulation of neurotoxins within whatever eats them, or organisms that have eaten them.

Crystal Cove's Marine Protected Area

Field Guide to Plankton

Crab Megalops

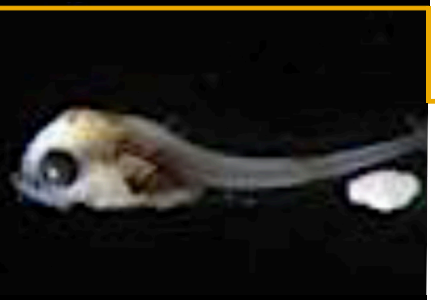
Size: Up to 2-4mm although the size of the crab will be dependent on it's life stage.
Diet: Other plankton
Plankton Type: Zooplankton that are plankton for only a portion of their life
Description: A crab larvae goes through many life cycle stages from the time they are a plankton to when they are an adult crab. The crab megalops is a crab that is within the megalops stage. This is the stage where crabs start to look more like a traditional crab by growing its legs and claws! Like fish larvae and fish eggs, crab larva are ichthyoplankton, plankton that are only temporarily plankton. Once they are adults and are no longer free floating, they are no longer plankton!

Flatworm

Size: Up to 0.5-1.5mm
Diet: Primarily feed on other plankton such as protozoa, smaller worms, or dead animals
Plankton Type: Zooplankton that are plankton for the entirety of their life
Description: Flatworms are, as the name suggests, flat looking worms. They have unsegmented bodies and do not contain any type of circulatory or respiratory organs. This allows for oxygen to easily pass through their bodies.

Sea Star Larvae spp

Size: Up to 0.5-1.5mm
Diet: Algae
Plankton Type: Zooplankton that are plankton for only a portion of their life
Description: Sea star larvae can sometimes be difficult to identify as they go through multiple stages of development from the larval stage to an adult sea star. Within our sample, the stages we see typically have a triangular shaped body with distinct eyes, legs, and one large eye spot. As they mature into adult sea stars the sea star larvae start to develop a more traditional sea star body. Sea stars are of particular interest as their populations have plummeted in the past due to wasting disease, a disease that causes the decay of tissue.



Fish Larvae / Fish Eggs

Size: Up to 5-20mm
Diet: Fish eggs will supply their own food within the egg sack, however, fish larvae will eat other plankton
Plankton Type: Both fish larvae and fish eggs belong to a classification of plankton called, ichthyoplankton. They are also an example of plankton that are not plankton for the entirety of their life. Fish larvae closely resemble a traditional fish with large eye spots while fish eggs resemble a small round bead. Fish eggs and larvae are an important food source for many other organisms.