

# Whale Evolution

## *How and When Did Whales Start Eating Differently?*

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### Whales Through Time

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The whales we know today include the largest animals to have ever lived. However, the earliest whales that roamed the earth 53 million years ago did exactly that: they walked on land, legs and all. Over time, whales adapted to live their entire lives in the water.

### Baleen Versus Teeth

Through time, whales evolved many different body shapes and sizes, and ways of catching their food. Today, some whales have baleen in their mouths to help them filter tiny animals from seawater, and some whales have teeth that help them catch larger prey. Baleen is made up of keratin, the same material that makes up our fingernails and hair.

### Whales of the Oligocene



A fossil whale backbone that is approximately 23–33 million years old. It was found on Vancouver Island at Muir Beach. From this fossil we can try to find out what kind of whale it was and learn about the whales of the past. Credit: Elizabeth Rohlicek photograph.

Thirty-three million years ago, at the beginning the Oligocene, all whales had teeth. But around that time, an important change was happening. One group of whales lost their teeth and evolved baleen plates instead! Whales evolved into the two groups alive today: baleen whales (Mysticeti) and toothed whales (Odontoceti). Orcas, dolphins and sperm whales are toothed hunters, while blue whales, humpback whales and grey whales are baleen filter feeders!

Rocks from the Oligocene can be found on the southern and western coasts of Vancouver Island. Some rare whale fossils have been discovered in these rocks and are now part of the Royal BC Museum's palaeontology collection. They may give us new information on the evolution and diversity of early baleen whales.