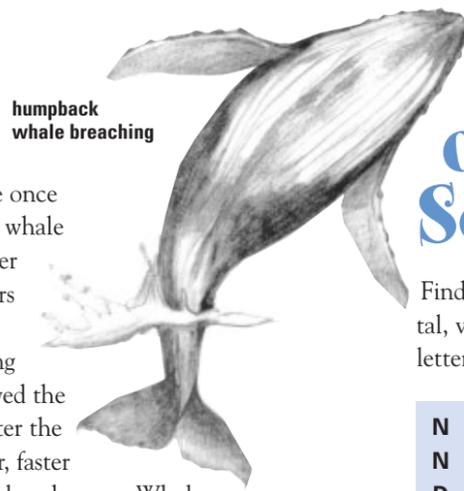


Save the Whales

“Thar She Blows!” was a phrase once commonly heard on our oceans. When a whale surfaces and exhales, a large spout of water vapour can easily be seen, alerting hunters of the location of their prey. Long ago, men hunted whales from small boats using hand-thrown spears, a method that allowed the whale a good chance of getting away. After the industrial revolution, boats became larger, faster and stronger, and exploding harpoons replaced spears. Whales had little chance against these weapons and, as a result, many species were hunted to near extinction. Although a worldwide ban to put an end to commercial whaling was agreed upon in 1986, there are still some countries that defy the international whaling ban and continue to kill these majestic mammals. Scientists question whether whale populations will ever fully recover.

Whales are also vulnerable to habitat destruction, accidental capture in fishing nets, marine pollution and being hit by ships. Toxic chemicals enter our oceans every day.

Untreated sewage, industrial waste, agricultural chemicals and oil spills all threaten the health of our oceans and the lives of the whales that live in them.



humpback whale breaching

A Whale of a Word Search

Find the hidden whale words; they could be horizontal, vertical or diagonal. Write out the remaining letters to spell a phrase about whales.

N Y R O S F E N U G C E N G A L
 N I H E L L E N N O C E A N E A
 D L F U B E A I D N W S E O P I
 E T K M L B H M E A L H C S O G
 H E S A I C U R M E N N A A V I
 T E B T A G W L B A O G T L A T
 O H E E W A R I B I M H E R E S
 O R R A L L C A T P O D C R S E
 T B C T E E S A T T H T E K E V
 G E S A D N C T L I I E G R I D
 E L O H W O L B A C O N F I S H
 T A G U L E B N O T K N A L P T
 A S N O I T U L L O P O F L T H
 I E H E L B A R E N L U V O C E
 L C S Q U I D D O R S A L A N S
 E N I R A M A C I T C R A T N A

- | | | |
|-------------|------------|------------|
| ANTARCTICA | ENDANGERED | POD |
| ARCTIC | FIN | POLLUTION |
| BALEEN | FISH | SEA |
| BELUGA | FLUKE | SONG |
| BLOWHOLE | KRILL | SQUID |
| BLUBBER | MAMMALS | STLAWRENCE |
| BREACHING | MARINE | TAIL |
| CETACEAN | MIGRATION | TOOTHED |
| DECIBELS | OCEAN | VESTIGIAL |
| DORSAL | ORCA | VULNERABLE |
| ECHOLOCAION | PLANKTON | WHALE |

Answer: You can help to save the whales the gentle giants of the oceans.

This paper comes from well-managed forests, independently certified in accordance with the rules of the Forest Stewardship Council A.C. Certified by Smartwood SW-COC-319. FSC Trademark© 1996 Forest Stewardship Council A.C.



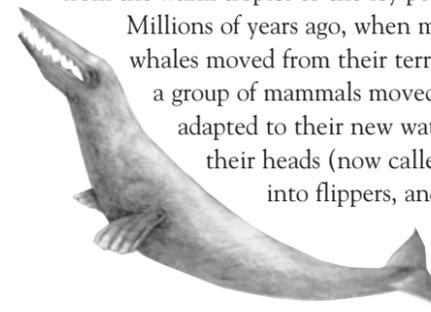
Written by Kerry Everitt
Design and illustrations by Judie Shore

Did you know that the largest species of mammal in the world is found just off the coast of Canada?

Whales Giants of the Ocean

Way up north, in the Canadian Arctic, you can see narwhals and bowhead whales. Hundreds of beluga whales live quite close to us here in Ontario in the St. Lawrence River and farther north in Hudson Bay. Humpback whales, minke whales, fin whales and the gigantic blue whale can be found along both the Pacific and Atlantic coasts.

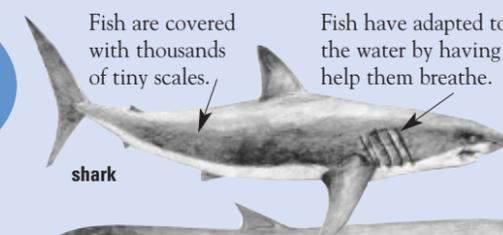
Although they live entirely in the water, whales, dolphins and porpoises are actually mammals. These sorts of mammals are called cetaceans. Unlike insects, which have millions of different species, there are only about 80 species of cetaceans worldwide. Whales of all shapes and sizes are found in every ocean.



Millions of years ago, when mammals first evolved, they lived on land. How and why ancestors of the whales moved from their terrestrial habitat into the seas and oceans is unknown. About 55 million years ago, a group of mammals moved into the shallow marine environment. Gradually these creatures evolved and adapted to their new watery habitat and became the whales we know today. Their nostrils moved to the top of their heads (now called blowholes), and they developed strong tails for swimming. Their front legs transformed into flippers, and their hind legs completely disappeared. In some whales you can still find leg bones called vestigial bones, remnants of the time when these creatures were land mammals and walked on four legs.

Protocetus was a primitive cetacean that lived 50 million years ago. (2.5m)

Fish or Cetacean?
Even though whales live in the water, they are not fish. They are warm-blooded, give birth to live young and breathe oxygen just like you.



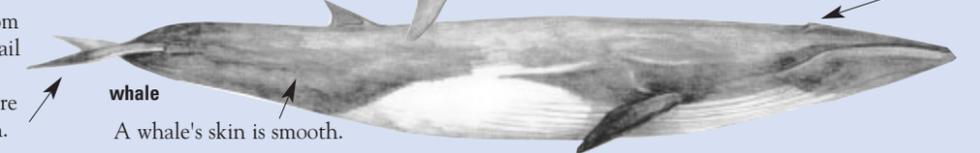
shark

Fish are covered with thousands of tiny scales.

Fish have adapted to life in the water by having gills to help them breathe.

Because whales are mammals, they must breathe oxygen directly from the air. To do this, they use blowholes on top of their heads, which let them breathe once they reach the surface of the water.

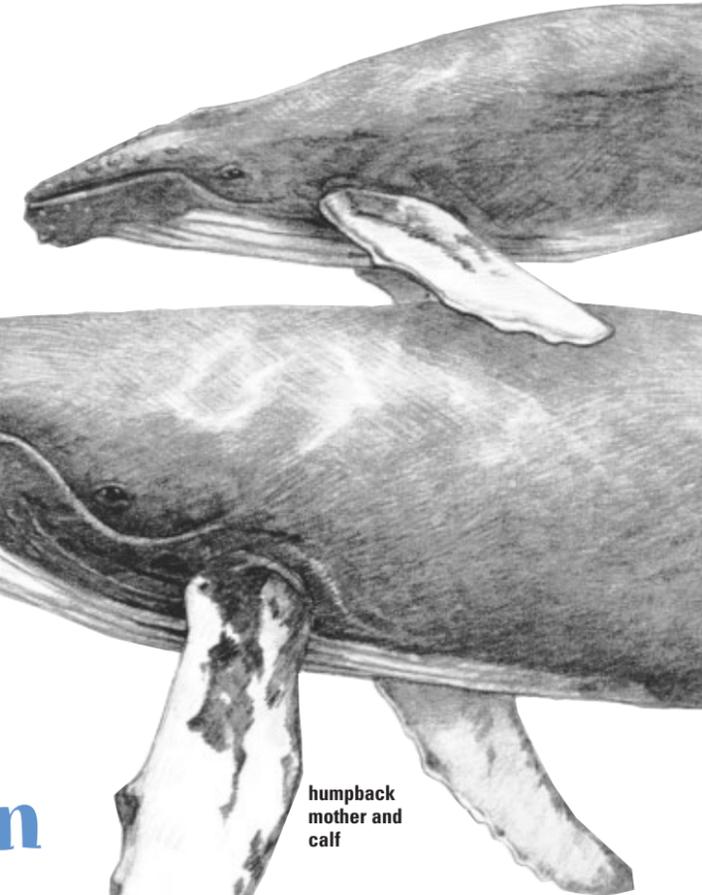
The easiest way to tell a whale from a fish is to look at its tail. A fish tail is vertical and moves side-to-side. A whale's tail fins, called flukes, are horizontal and move up and down.



whale

A whale's skin is smooth.

humpback mother and calf



head whales. Hundreds of blue whales can be found along the Pacific and Atlantic coasts.

millions of different species, there are many different species of whales and sizes are found in every ocean.

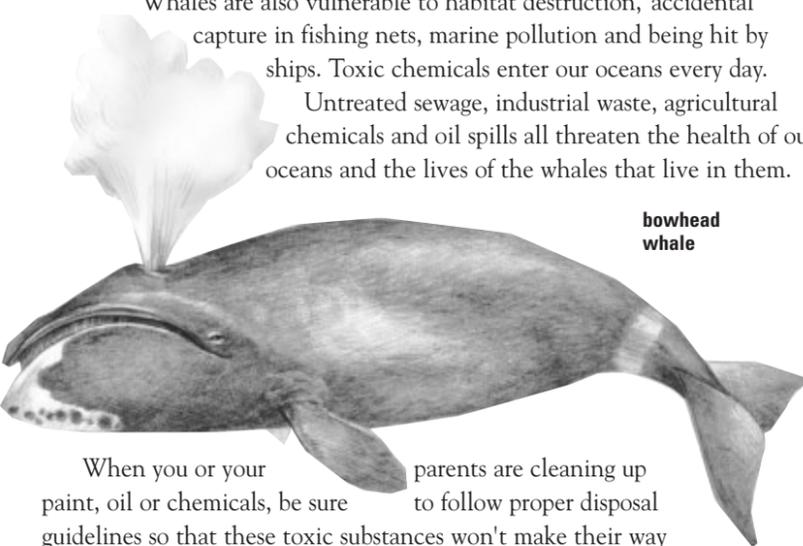
land. How and why ancestors of the whales moved from their terrestrial habitat into the seas and oceans is unknown.

Gradually these creatures evolved and adapted to their new watery habitat and became the whales we know today.

Their nostrils moved to the top of their heads (now called blowholes), and they developed strong tails for swimming.

Their front legs transformed into flippers, and their hind legs completely disappeared.

In some whales you can still find leg bones called vestigial bones, remnants of the time when these creatures were land mammals and walked on four legs.



bowhead whale

When you or your parents are cleaning up paint, oil or chemicals, be sure to follow proper disposal guidelines so that these toxic substances won't make their way into our waterways.

If whales become entangled in drift nets meant to capture fish, they will drown. Remember, whales are mammals and need to breathe oxygen. Hundreds of thousands of cetaceans are caught in fishing nets each year or become entangled in the rope that is attached to the fishing gear. Because very few are able to break free, nearly all that are caught drown. If you eat tuna, be sure to buy dolphin-friendly brands, meaning the tuna is caught in a method that does not kill dolphins or other marine mammals.

Some large whales do break free from fishing gear, only to die from bacterial infections or have the rope tightly wrapped around their mouths so they cannot feed and slowly starve. Teams of people try to disentangle these whales, but it is very difficult work and can be very dangerous. The whales may still die afterwards from infections. Fishermen and scientists often work together to try to solve this difficult problem.



Reviewer: Laurie Murison, Managing Director, Grand Manan Whale and Seabird Research Station; Copy Editor: Joan Clark; Editor: Victoria Foote; Printing: MPH Graphics Inc.

355 Lesmill Rd, Don Mills, ON M3B 2W8 Tel: (416) 444-8419, 1 800 440-2366 Fax: (416) 444-9866 E-mail: info@ontarionature.org

Supplement to SEASONS, Winter 2003-2004

Whales in Canada

Many whales spend a portion of the year in Canadian waters. If you go out on a whale-watching expedition on the east coast, west coast or to the Arctic, you may be lucky enough to see beluga, bowhead, gray, minke, sei, blue, fin, humpback, northern right, narwhal, pilot or orca whales.

Northern Right Whale (East and West Coast)

This large whale can grow to be 80 tonnes! It is mainly black but has small white patches of skin on its belly and chin. Their massive heads are about one-quarter the length of their bodies. These slow-swimming whales are found off the east and west coasts of Canada and got their name from the fact that they are the right (correct) whale to hunt because they are slow moving. Their populations have been greatly over-hunted, and they are on the endangered species list.

Narwhal (Arctic)

Called the unicorns of the sea, these unique whales have one long tooth or tusk — it is thought that the narwhal was the basis of the unicorn myth. The male's left tooth may grow as long as three metres (that's more than a storey high!). Some scientists believe that the tooth is used to establish dominance among group members. Just as deer and moose use their antlers to fight younger males to win the right to mate with the females, it is believed that narwhals also fight male competitors. The narwhal lives in the icy waters of the Arctic. It lacks a dorsal fin and is covered with brown and white spots.

Orca (mainly West Coast)

The orca is one of the most recognizable whales with its sleek black and white body and the male's long black dorsal fin. It can reach lengths of nine metres and weigh up to 10 tonnes, most of which is muscle, making it the fastest mammal in the water. Orcas are proficient hunters and will eat anything from fish to other whales. Many pods are found off the coast of British Columbia, and individuals can live to be 90 years old.

DID YOU KNOW... The blue whale is not only the largest mammal, it is also the loudest. Its low-frequency calls reach up to 188 decibels and can be heard for several hundred kilometres. In comparison, a jet engine is only 140 decibels, and anything over 120 decibels will cause your ears to ring and hurt.

blue whale mother and calf

A Whale of an Appetite

Whales eat a wide variety of food, depending on their species and location in the oceans. There are two main types of whales, toothed and baleen. Baleen is like a giant sieve made of the same material as fingernails and hair. Rows and rows of comb-like structures hang down from the upper jaw of the whale. Each of these "combs" has stiff hairs that filter the tiny plankton and krill out of the ocean water. Some whales, like blue, fin, humpback and minke, take a big gulp of prey-filled water and then force the water back out through the closed baleen using their tongues, leaving the tasty plankton and krill or fish behind in their mouths. Although they are some of the largest creatures on earth, the humpback, blue and right whales don't even have teeth!

The narwhal, beluga, orca and sperm whale are just a few of the species that do have teeth. These creatures feed on fish, squid, octopus, crabs, turtles and other marine mammals.

krill

northern right whale

narwhal

DID YOU KNOW... A baby blue whale, at birth, weighs as much as an adult elephant. Each day it drinks over 300 litres of rich milk and gains 90 kilograms — that's as much as a large man weighs!

At a length of 30 metres (as long as a Boeing 737 passenger jet) and weighing 200 tonnes, the blue whale is the largest animal that has ever lived — it's even larger than the dinosaurs!

orca

pod of orcas

beluga

Whales in Ontario

Beluga (St. Lawrence River and Hudson Bay)

The beluga is easily recognized since it is the only completely white whale. Unlike most other whales, the beluga has a flexible neck, which allows it to look from side to side. These whales were once called "sea canaries" because they make a variety of noises that sound like the chirping and whistling of birds. They feed on fish and plankton and are also found in the Canadian Arctic and subarctic regions. Beluga populations are threatened by pollution, habitat destruction and whaling. The smallest and the most vulnerable group of belugas is found in the St. Lawrence River. These whales are severely affected by toxic chemicals that are dumped into the Great Lakes from cities, agricultural lands and ships.

The Life of a Whale

Much like their mammal cousin the bat, many whales (mainly whales with teeth) use echolocation to see a "picture" of what is in front of them. Using a series of clicks and whistles that bounce off nearby objects, a whale can easily manoeuvre in its dark, watery environment even when it is difficult for it to see.

Just as birds sing elaborate songs to attract a mate, many male whales also sing long and beautiful songs to attract females. Whales in different parts of the ocean sing different songs, and scientists use this information to distinguish different populations of these elusive mammals. Many whales jump out of the water, which is another form of communication known as breaching, or pound their flippers on the surface of the water. Other whales can hear the sound of the splashes from several kilometres away.

Whales have a thick layer of insulating fat, called blubber, just below their skin. A whale's blubber not only helps keep it warm in the icy waters of the northern and southern oceans, it also stores calories for times when the whale cannot find enough food.

For most whales, pregnancy lasts about a year. Baby whales, called calves, are born in the spring and are able to swim almost immediately. Most calves nurse for the first six months to two years of their lives and gain a tremendous amount of weight in a very short time.

Most whales are very social creatures and often live with other members of their families. A group of whales is called a pod. Depending on the species, a pod may be only a few individuals travelling together or large families containing many aunts, uncles, cousins, grandparents, parents and siblings — quite the family reunion!

Migration

The temperate and polar waters are home to countless species of whales during the warm summers when food is abundant. Each fall, as the days become shorter and the temperature drops, most baleen whales begin their annual migration to the warmer waters of the tropics. There is little food during the journey and whales must live off the energy stored in their blubber, often for several months.

The grey whale has the longest migration of any mammal. It travels from the Beaufort Sea in the Arctic to the Baja Peninsula near Mexico, a distance of nearly 20,000 kilometres. Grab an atlas and check out how far apart these places really are!