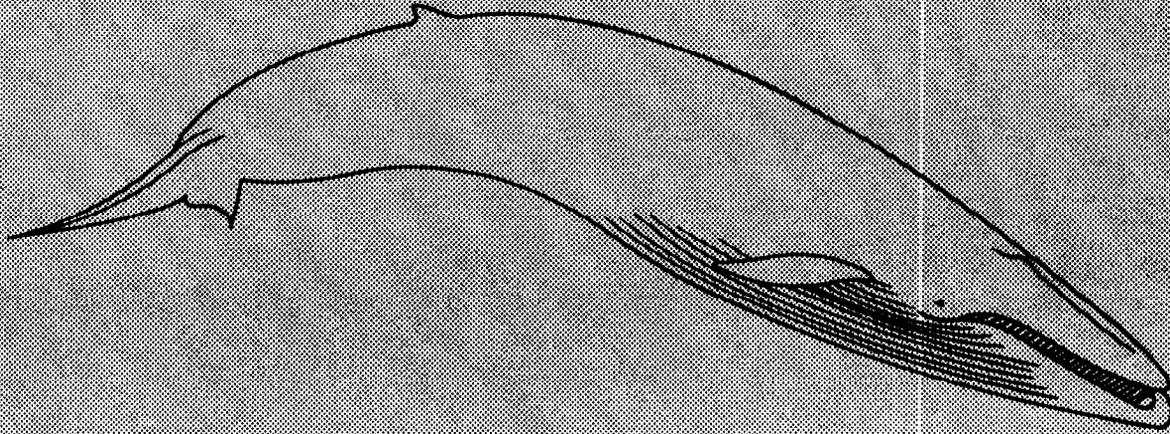


Supplement for the "Whale of a Tail" Activity (Aquatic Guide -- Page 26)

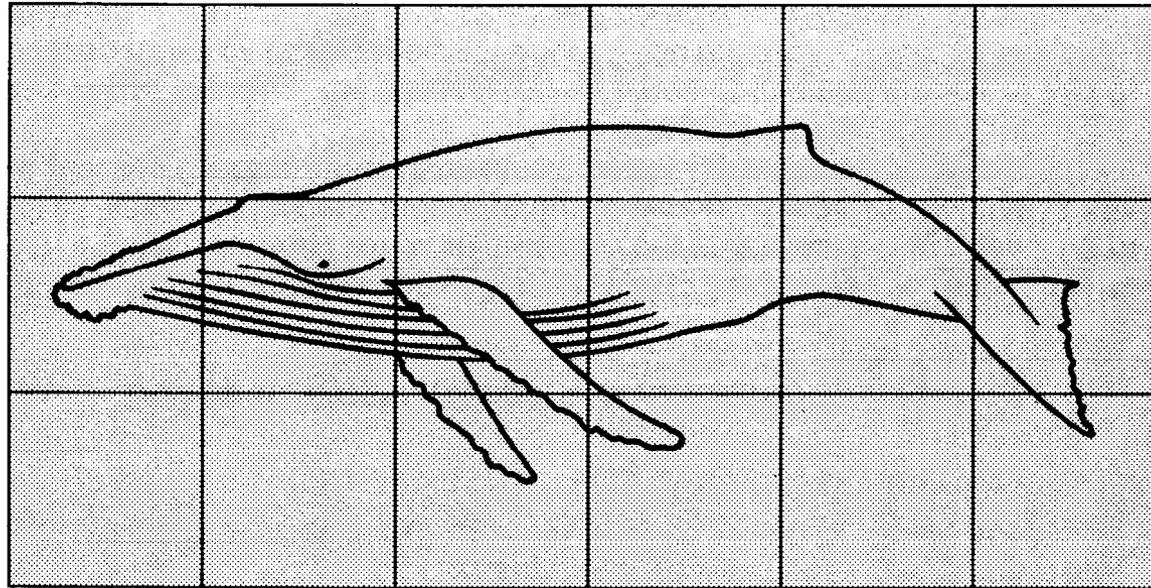


As a part of the pilot-testing for the new aquatic activity "Whale of a Tail," sixth grade students at Maple Hill Middle School in Castleton-on-Hudson, New York, painted a life-size, 90-foot blue whale and a 50-foot humpback whale on the school's asphalt parking lot.

Before attempting this giant artistic endeavor, the students had to learn a great deal about the habits, haunts and history of marine mammals, as well as acquire the math ratio and proportion skills necessary to make a grid on the parking lot that would expand their miniature drawing to life size. Flexible rulers and chalk snap lines were used to lay down the grids, and the students worked with great discipline and precision. When the artwork was finished, it was photographed from the air. Pride in their accomplishment will remain long after the parking lot traffic has erased their painting, and when they returned to school the following fall, they found a mural size photo of it hanging in the school's hallway.

Since some of you may have difficulty locating pictures of various whale species drawn in comparable sizes, this packet contains some grid illustrations adapted from material made available by the International Wildlife Coalition as a part of their Whale Adoption Project. This illustrations can be used for a "Whale of a Tail" art project such as the one described above.

An extension to the activity, which was developed by one of the Idaho Project WILD facilitators, simulates how long it takes for a whale to react to an outside stimuli or get a message from its brain to its tail. When the full-sized whale has been laid out, the students stand inside the whale, holding hands, stretched out in a straight line from the nose to the tail. When given a signal, the students standing at the nose squeezes the hand of the next person in line and the "squeeze" is passed along as quickly as possible down the line to the person at the tail. Have someone with a stop watch time how long it takes for the message to travel from the "brain" of the whale to its "tail."

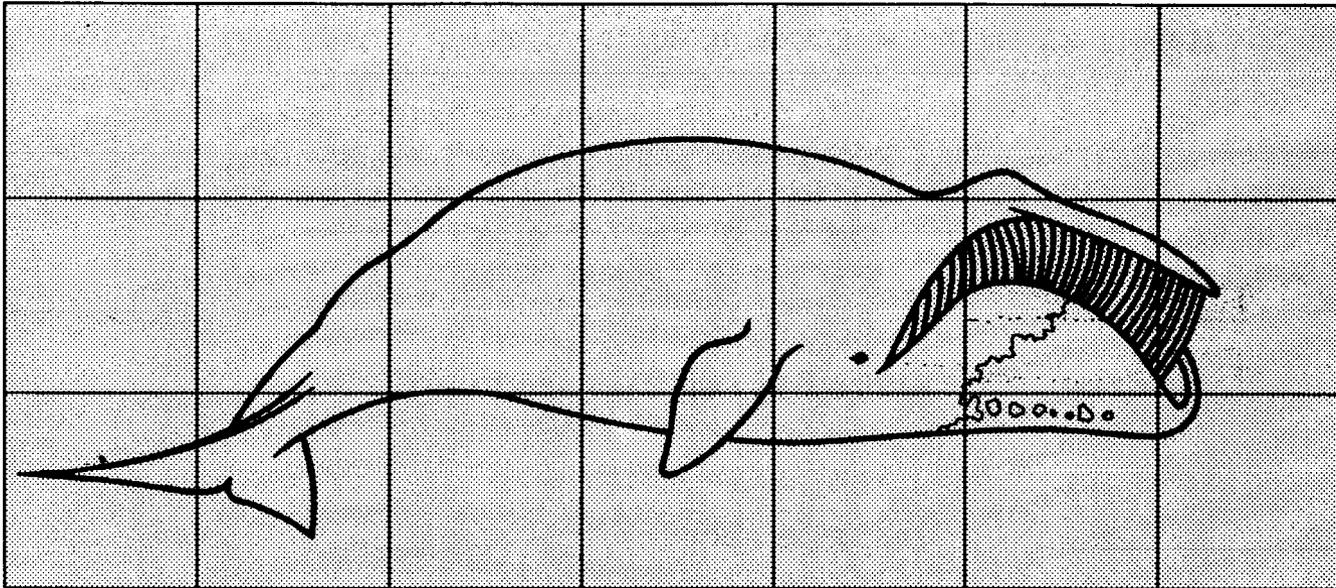


Baleen Whale -- Size: 1 inch = 10 feet

Humpback Whale (*Megaptera novaeangliae*)

Length: 38 to 53 feet. Weight: up to 65 tons. Baleen: 300 to 400 plates per side, 2 to 2-1/2 feet long. Color: Black with variable white patches on flukes and ventral surface, white grooves. Body: Narrows quickly after dorsal hump, long winglike flippers, slightly flattened head. Range and Habitat: worldwide. Calves: 15 feet, 1-1/2 tons.

Comments: the songs of the humpback whale are the longest and most melodious, observed in groups of 200 or more, known for magnificent breaches, endangered-world population estimated at 8,000 to 10,000.

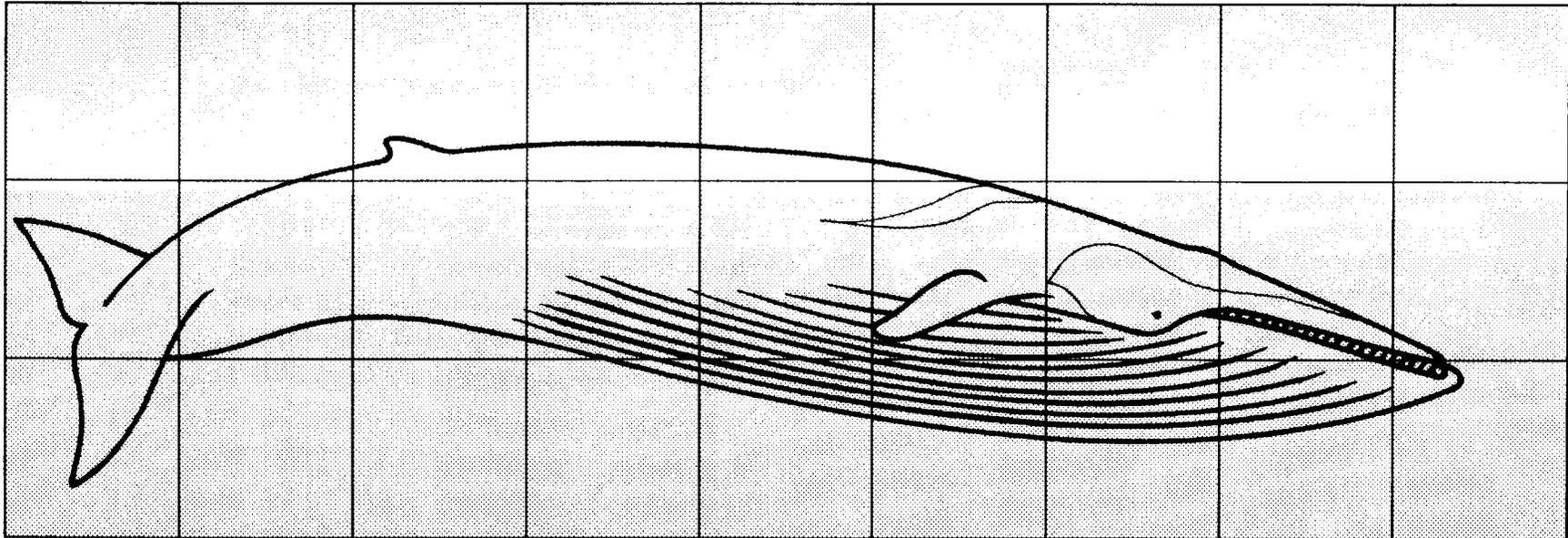


Baleen Whale – Size: 1 inch = 10 feet

Bowhead Whale (*Balaena mysticetus*)

Length: 57 to 65 feet. **Weight:** 60 to 80 tons. **Baleen:** 230 to 360 plates each side up to 14 feet long. **Color:** all black, spotted white chin patch. **Body:** thickset, huge head 1/3 of length, no dorsal fin, spatulate flippers, indent behind blowhole. **Range and Habitat:** Arctic pack ice. around Alaska. **Calves:** 13 to 15 feet.

Comments: Longest baleen of all the whales, travels alone or in small groups of 2 or 3, makes distinctive repetitive calls, endangered-about 3,000 remain.

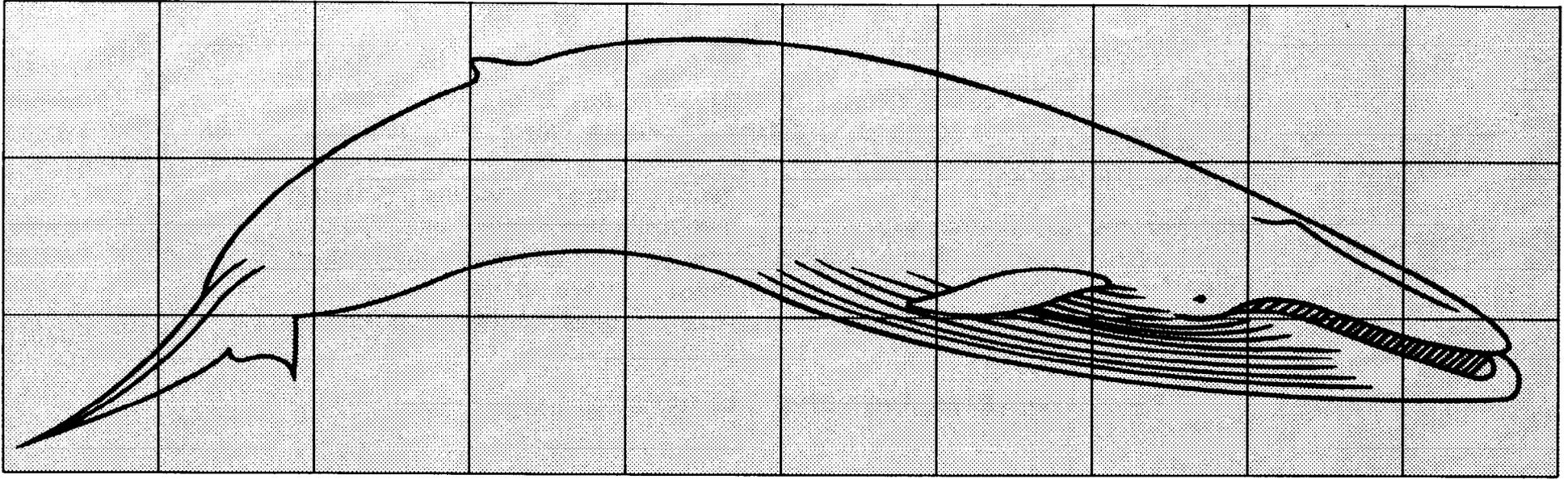


Baleen Whale -- Size: 1 inch = 10 feet

Fin Whale (*Balaenoptera physalus*)

Length: 60 to 66 feet. Weight: up to 50 tons. Baleen: 260 to 460 per side, 2 feet long. Color: dark dorsal side, white ventral side, asymmetrical coloring-more white on right side around head. Body: slender, elongated, dorsal fin 24 inches curved, head--narrow and V-shaped. Range and Habitat: world oceans, deep water. Calves: 20 to 21 feet, 2 tons.

Comments: very fast swimmer, travels in pods of 6 or 7, produces low frequency sounds at the lower limit of human hearing, population about 200,000.

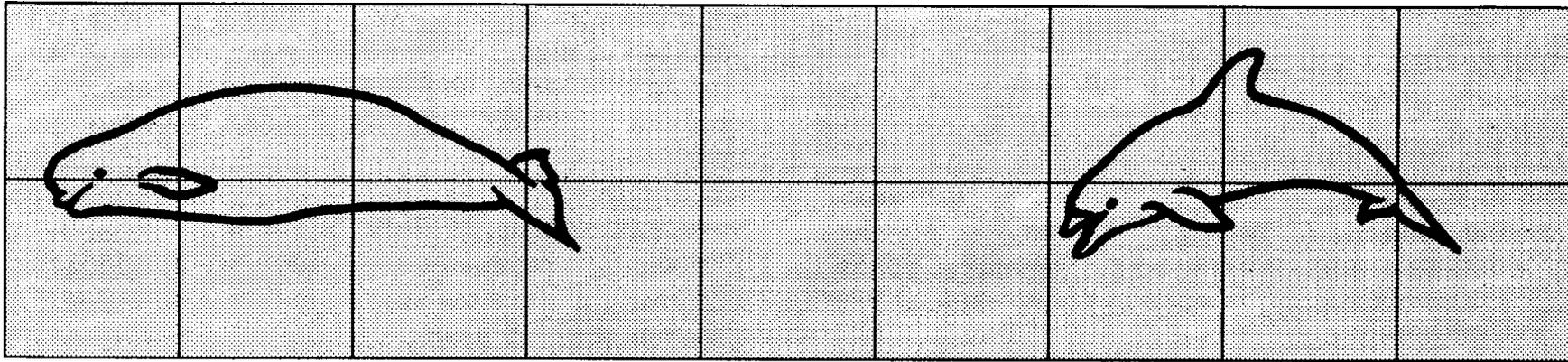


Baleen Whale -- Size: 1 inch = 10 feet

Blue Whale (*Balaenoptera musculus*)

Length: 70 to 100 feet. Weight: 90 to 150 tons. Baleen: 270 to 395 black plates on each side, up to 3 feet long. Color: mottled bluish gray. Body: long, streamlined, small 12-inch dorsal fin set far back, long pointed flippers, broad straight-edged flukes, two blowholes protected by fleshy flaps. Range and Habitat: world oceans, offshore and pelagic, migratory. Calves: 23 feet, 5,500 pounds at birth.

Comments: largest animal ever to have lived, expands to six times size when feeding, pouch or “cavum ventrale” may hold 1,000 tons of water and food, solitary animals, endangered-about 11,200 remain.



Toothed Whales -- Size: 1 inch = 5 feet

Beluga (*Delphinapterus leucas*)

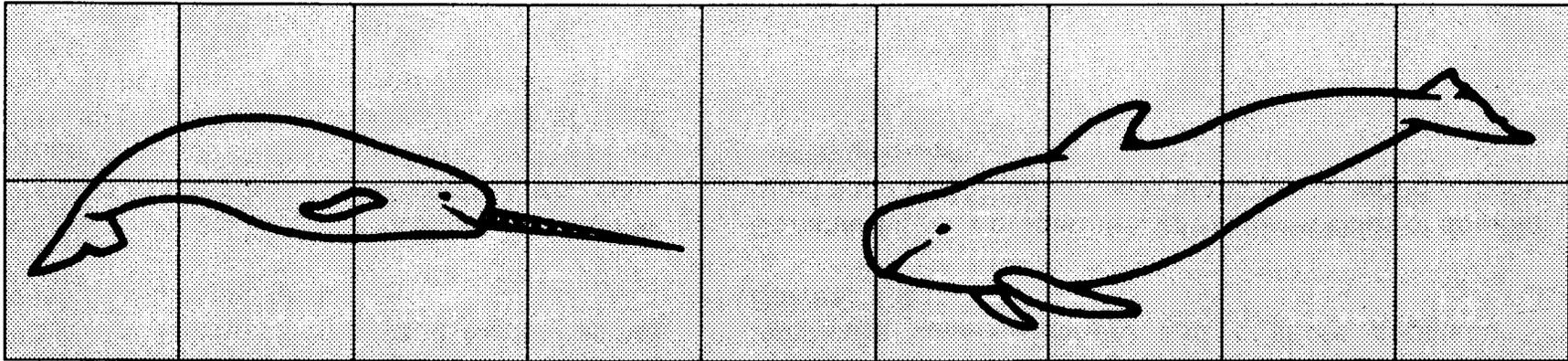
Length: 10 to 16 feet. Weight: 1,100 to 3,300 pounds. Teeth: up to 11 conical teeth in each side of upper and lower jaw. Color: white. Body: chubby, clearly defined neck, no dorsal fin, flippers broad and short. Range and Habitat: Arctic, shallow waters, rivers, estuaries, small group in St. Lawrence River and North Pacific. Calves: 5 feet, bluish gray.

Comments: travel in small groups, in summer form herds of hundreds or thousands, called "sea canaries" because of their vocalizing, unlike other whales can turn head sideways almost at right angles, population is estimated between 62,000 and 88,000.

Bottlenose Dolphin (*Tursiops truncatus*)

Length: 11 to 13 feet. Weight: 330 to 440 pounds. Teeth: 20-26 each side upper jaw, 18 to 24 each side lower jaw. Color: dark gray on dorsal surface, light gray on flanks becoming white or pink on ventral surface. Body: stout sleek body, sickle-shaped dorsal fin, robust head with distinct short beak. Range and Habitat: world oceans, temperate waters, inshore and offshore populations. Calves: 4 feet.

Comments: very gregarious, this is the species of dolphin often seen performing in zoos and aquaria, world population is unknown.



Toothed Whales -- Size: 1 inch = 5 feet

Narwhal (*Monodon monoceros*)

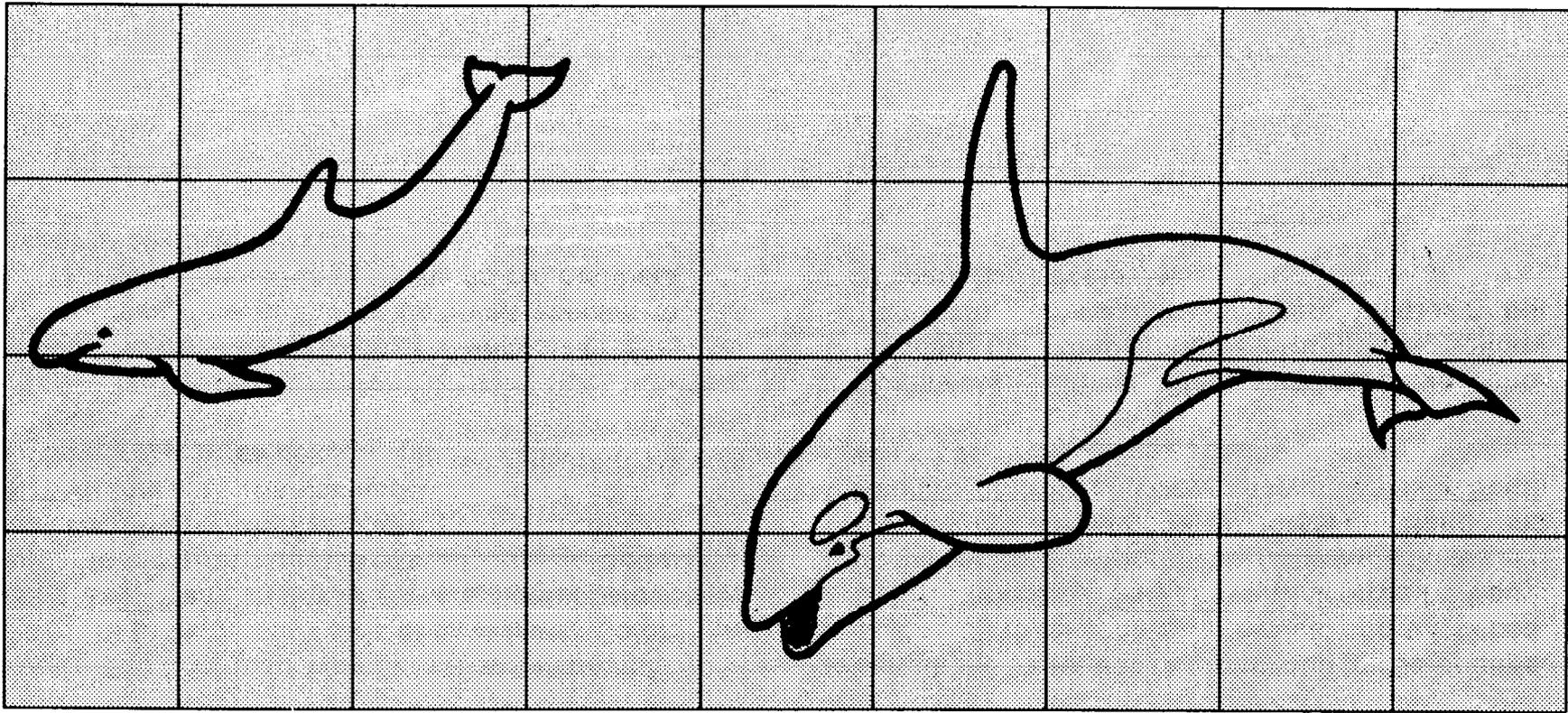
Length: 13 to 16-1/2 feet. **Weight:** 1,790 to 3,520 pounds. **Teeth:** none in the mouth, two imbedded in the upper jaw, in the male (rarely in the female) the left tooth grows to form a 5 to 10 foot tusk. **Color:** mottled gray-green, cream and black, whitening with age. **Body:** cylindrical, no dorsal fin, small up-curved flippers, flukes develop rounded trailing edge in older males--as a result flukes can appear to be attached backwards. **Range and Habitat:** high Arctic, deep water, amongst pack ice. **Calves:** 5 feet.

Comments: usually travel in groups of 20 individuals or less, groups may be segregated by sex, tusk may be used for jousting-similar to behavior of Bighorn sheep, but evidence is not clear, tusk is highly prized by hunters, population unknown but estimated near 10,000.

Pilot Whale (*Globicephala malaena*)

Length: 17 to 20 feet. **Weight:** 3,950 to 7,700 pounds. **Teeth:** 7 to 12 on each side of jaw. **Color:** black on back, anchor shaped patch on belly and chin area. **Body:** bulbous head, dorsal fin low and thick, slightly protruding upper lip. **Range and Habitat:** world oceans, cool temperate waters. **Calves:** 5-1/2 feet.

Comments: found in pods of hundreds and even thousands of animals, the pods are controlled by one or more leaders or "pilot," still heavily whaled, population unknown.



Toothed Whales -- Size: 1 inch = 5 feet

False Killer Whale (*Pseudorca crassidens*)

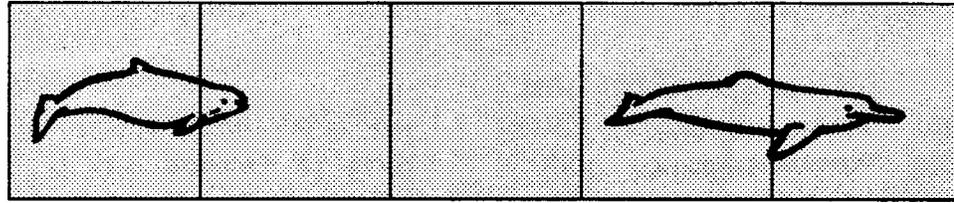
Length: 16 to 18 feet. Weight: 2,650 to 4,400 pounds. Teeth: 8 to 11 large teeth on each side of both jaws. Color: black, anchor-shaped mark on chest. Body: long, slim, gently tapering head. 16 Inch curved dorsal fin, flukes pointed at tips. Range and Habitat: world oceans, offshore, tropical. Calves: 5 to 6 feet.

Comments: also called Pseudorca, found in groups of 2 to 50, groups of 200 or more have been sighted, swims 14 to 16 m.p.h., like Orcas will feed on other whales, population unknown.

Orca (*Orcinus orca*)

Length: 20 to 23 feet. Weight: 5,500 to 9,920 pounds. Teeth: 10 to 13 conical teeth on each side. Color: black on back and sides, white oval patch above and behind eye, white flank and belly, gray saddle behind dorsal fin. Body: stout, torpedo-shaped, rounded paddle-shaped flippers, very tail dorsal fin. Range and Habitat: world oceans, cooler inshore waters. Calves: 7 feet, 450 pounds.

Comments: also called Killer Whale, travels in pods of 5 to 50, social structure is permanent close-knit "family," top speed of almost 30 m.p.h., eats other whales and seals as well as fish, a member of the dolphin family, world population is unknown.



Toothed Whales -- Size: 1 inch = 5 feet

Harbor Porpoise (*Phocoena phocoena*)

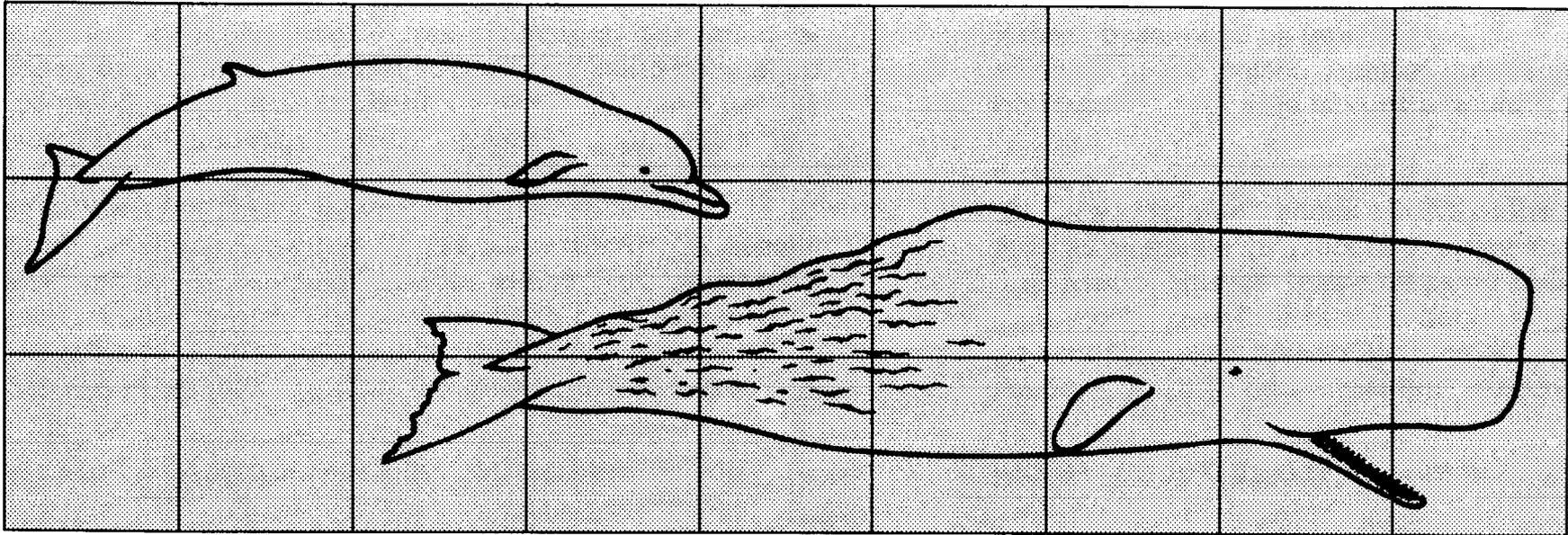
Length: 5 to 6-1/2 feet. **Weight:** 119 to 143 pounds. **Teeth:** 19 to 28 on each side of both jaws. **Color:** dark gray to black on dorsal surface, lighter below, dark gray line from mouth to base of flippers. **Body:** small and chunky, small flippers, triangular-shaped small dorsal fin. **Range and Habitat:** northern hemisphere, ice-free coastal waters. **Calves:** 2-1/2 to 3 feet.

Comments: travels in groups of 10 animals or less, highly active, one of the commonest species to strand, world population is unknown but numbers appear to be declining rapidly.

Amazon River Dolphin (*Inia geoffrensis*)

Length : 8 to 10 feet. **Weight:** 190 to 285 pounds. **Teeth:** 25 to 35 each side, conical and thickened. **Color:** dark bluish gray above, pink on belly. **Body:** heavy set, rounded forehead, large wide flukes and flippers, low dorsal ridge, no dorsal fin. **Range and Habitat:** Amazon and Orinoco river basins of South America.

Comments: almost blind, very sensitive echolocation, the most primitive of dolphins, solitary with little socialization, numbers unknown but appears fairly common.



Toothed Whales -- Size: 1 inch = 10 feet

Baird's Beaked Whale (*Berardius bairdii*)

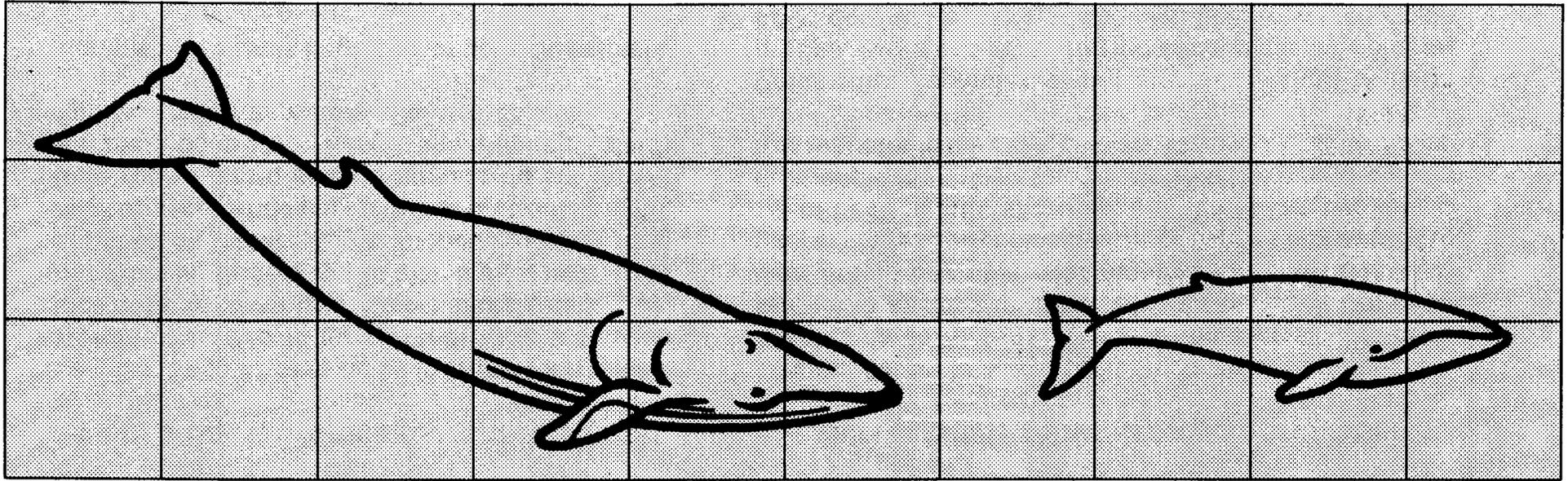
Length: 39 to 42 feet, females larger than males. **Weight:** 13-1/2 to 15 tons. **Teeth:** 1 or 2 on each side at tip of lower jaw. **Color:** bluish, dark gray, often brown tinged, ventral side lighter with white blotches on throat. **Body:** bulbous forehead, long beak appears white tipped due to protruding teeth, long round torso, small triangular dorsal fin set far back on body. **Range and Habitat:** North Pacific, temperate waters. **Calves:** 15 feet.

Comments: travels in groups of up to 30 animals.

Sperm Whale (*Physeter macrocephalus*)

Length: 35 to 63 feet, males much larger than females. **Weight:** 15 to 70 tons. **Teeth:** 25 on each side of lower jaw, tooth sockets in upper jaw. **Color:** dark brown to dark gray, belly area near mouth and head often light gray or white. **Body:** massive, large head comprises 1/4 to 1/3 of body length, short flippers, flukes like two joined right-angle triangles. **Range and Habitat:** world oceans from equator to ice caps, pelagic. **Calves:** 11-1/2 to 15 feet.

Comments: complex social structure, found in large groups, very deep diver staying underwater for up to an hour, deepest dives to 10,000 feet, head contains organ filled with a wax called spermaceti which is used for buoyancy control, world population estimated at 732,090.



Baleen Whales – Size: 1 inch = 5 feet

Minke Whale (*Balaenoptera acutorostrata*)

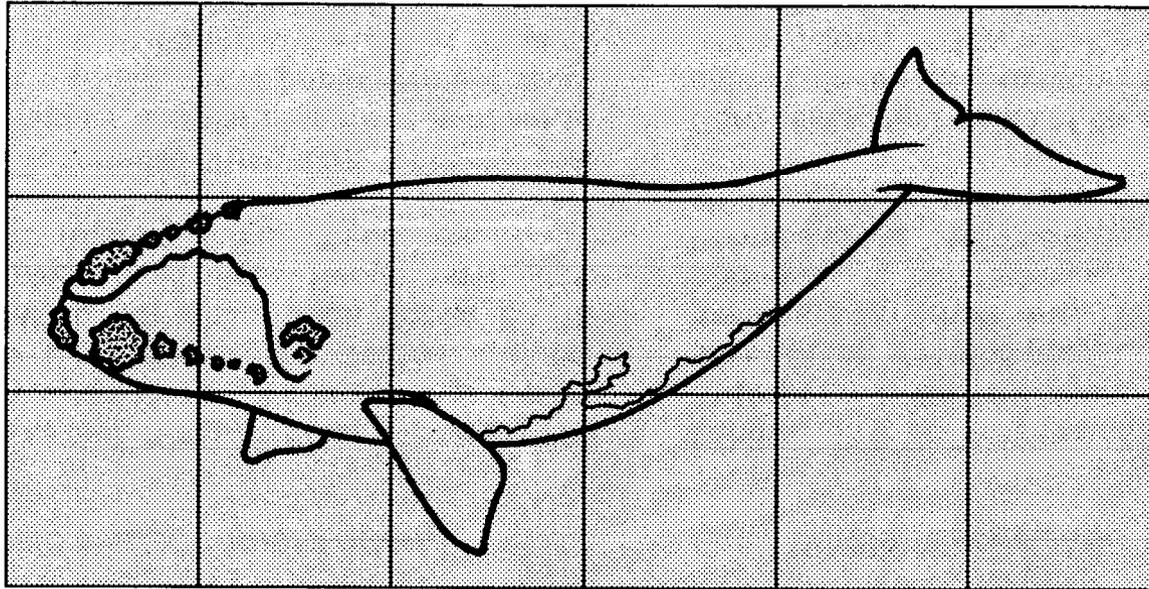
Length: 20 to 30 feet. Weight: 10 tons. Baleen: 230 to 380 yellowish plates, 11 to 21 inches long. Color: dorsal surface gray to black, ventral surface white, white band on dorsal side of flippers. Body: streamlined, narrow, single head ridge, high dorsal fin. Range and Habitat: world oceans to ice edge, usually in cooler waters. Calves: 8 to 9 feet.

Comments: pronounced “Mink-ee,” solitary animal, individuals can be identified by scarring patterns, currently being heavily whaled as other baleens become endangered, world population is unknown, southern hemisphere population estimated at 250,000, northern hemisphere population estimated at 130,000.

Pigmy Right Whale (*Caperea marginata*)

Length: 15 to 21 feet. Weight: 3 to 3-1/2 tons. Baleen: 230 yellow plates each side, up to 27 inches long. Color: dark gray or black dorsal surface, pale gray ventral surface, pale streaks on back. Body: slim, small dorsal fin, flippers rounded and narrow. Range and Habitat: cooler waters of the southern oceans.

Comments: very little is known about this whale, smallest of the baleen whales, population is unknown, believed to be rare.

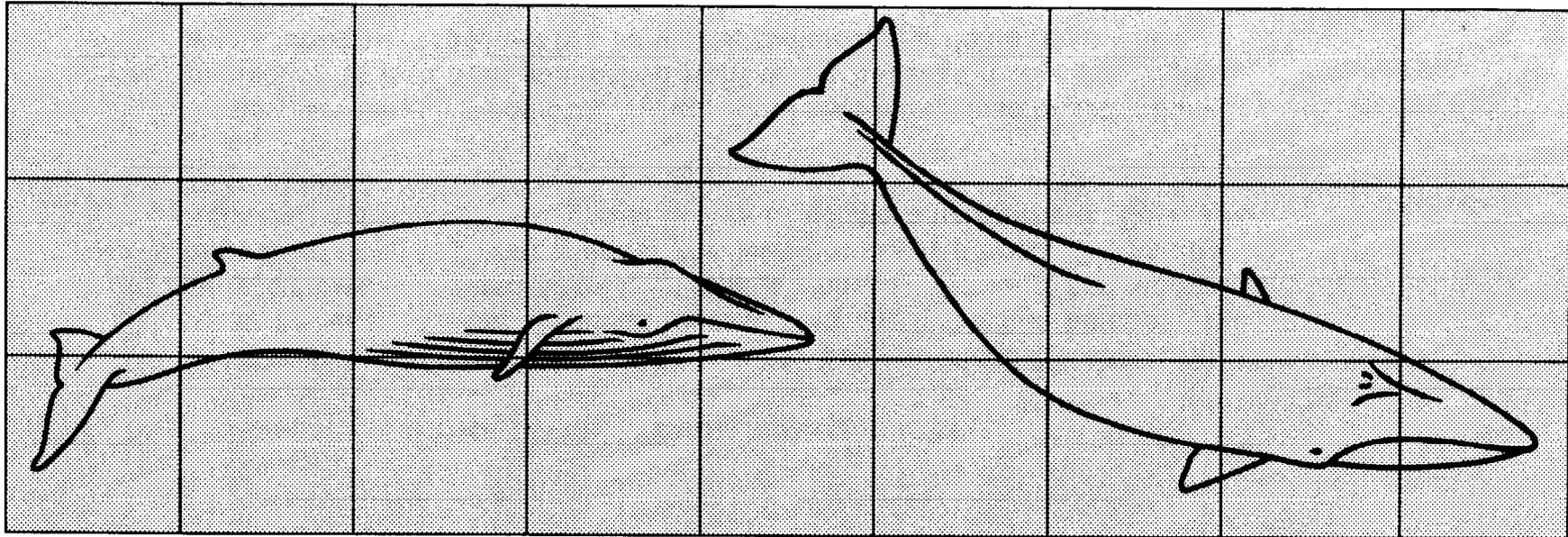


Baleen Whale -- Size: 1 inch = 10 feet

Right Whale (*Eubalaena glacialis*)

Length: 35 to 60 feet. Weight: up to 50 tons. Baleen: 206 to 268 each side, up to 8 feet long. Color: black, occasionally mottled white patches on belly, callosities on head range from pink to white. Body: large and stocky, huge head, long and narrow upper jaw, jaws are highly arched. Range and Habitat: near and offshore cooler waters of northern hemisphere. Calves: 15 to 20 feet.

Comments: can be recognized by individual markings, close to extinction-population is less than 500, called right whale because it was the "right" whale for whalers to kill - it is a very slow swimmer and floats when killed.



Baleen Whales – Size: 1 inch = 10 feet

Bryde's Whale (*Balaenoptera edeni*)

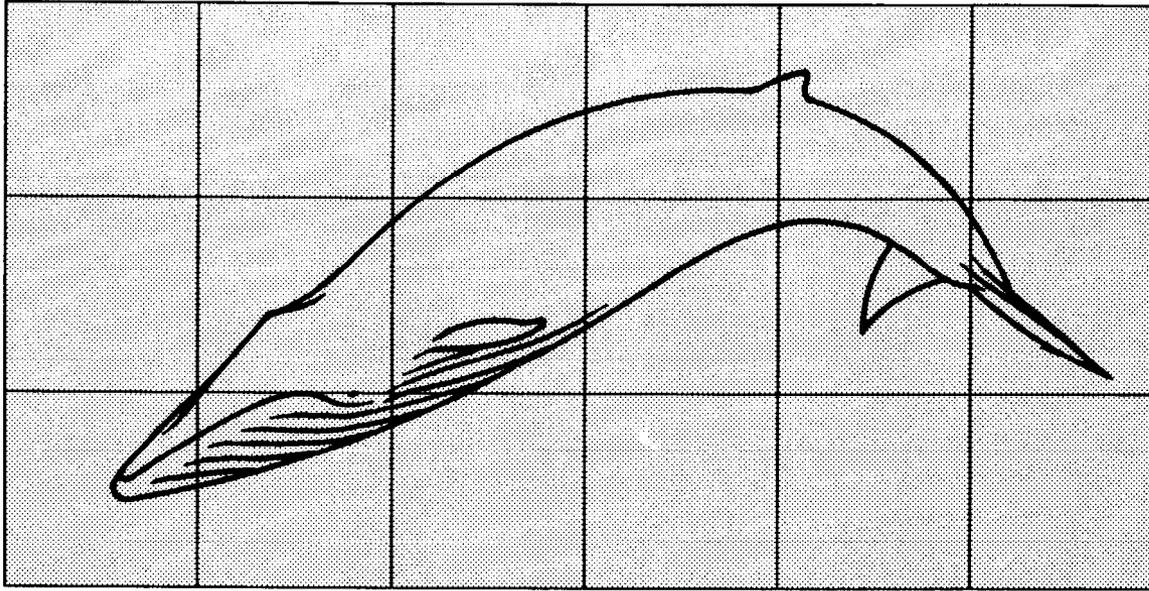
Length: 40 to 43 feet. **Weight:** 26 tons. **Baleen:** 308 per side, gray in color, 16-1/2 inches long. **Color:** light gray to black, lighter on ventral surface. **Body:** similar to Sei whale, high dorsal fin-18 inches, 3 prominent head ridges. **Range and Habitat:** tropical Pacific, Atlantic, and Indian oceans.

Comments: pronounced “Breedahs,” only rorqual that doesn't migrate to polar regions in summer to feed and suckle young, world population not accurately known due to confusion with Sei Whales, North Pacific population about 16,000.

Gray Whale (*Eschrichtius robustus*)

Length: 39 to 50 feet. **Weight:** male-16 tons, females--31 to 34 tons. **Baleen:** 130 to 180 yellowish plates each side. **Color:** mottled gray, barnacles, yellow or orange patches from whale lice. **Body:** tubular, tapering at both ends, small flippers with pointed tips, wide flukes. **Range and Habitat:** Pacific coast of North America, near shore. **Calves:** 12 to 15 feet, 1 to 1-1/2 tons.

Comments: first whale of the modern “whale watchers,” almost driven to extinction by whalers, strong bond between cows and calves, feeds by sucking up food near the bottom leaving trails of mud, endangered-population about 16,500.



Baleen Whale -- Size: 1 inch = 10 feet

Sei Whale (*Balaenoptera borealis*)

Length: 45 to 69 feet. **Weight:** 30 tons. **Baleen:** 219 to 402 each side, up to 2-1/2 feet long, fine textured, white plates near front of mouth. **Color:** dorsal surface-dark gray to black with blue on sides, ventral surface-lighter sometimes pinkish. **Body:** sleek, streamlined, P-foot dorsal fin, flippers shorter than fin or blue whales'. **Range and Habitat:** worldwide, temperate seas. **Calves:** 15 feet.

Comments: pronounced "say," very fast swimmer, little is known about them, population estimated at 210,000.

