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## A PICTURE STUDY OF AN AMERICAN WHALING OPERATION

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The whaling industry, long a romantic tradition in America, still exists in this country. This paper presents a pictorial study of modern inshore whaling operations.

For some years, there was an American whaling station at Fields Landing near Eureka in Northern California. The station closed down, however, as the result of

a fire in 1951. Since that time it has not been used for processing whales (fig. 1). At the time this article was written (September 1956), the only active whaling operation in the United States was centered at Point San Pablo in Richmond, Calif., on San Francisco Bay. The reduction plants at Point San Pablo form an isolated community that long has been devoted to the

reduction of fish (fig. 2). The processing methods are, in general, similar to those presented in Fishery Leaflet 126 (Butler 1949).



Fig. 1 - Site of whaling station at Fields Landing. This plant burned down twice, the last time in 1951. The building that was destroyed now has been replaced by one of metal construction, as is shown on the right. The plant is operated by the Hunter and Foland Company for the reduction of crab shells into meal and is not used presently for the reduction of whale.

The present whaling operation at Point San Pablo involves four separate organizations: the first catches and lands the whales; the second processes the whales into meat; the third distributes the meat to animal feeders; and the fourth renders into oil and meal the parts of the whale not used for animal food.



Fig. 2 - Point San Pablo at Richmond, Calif. View showing some of the plants, where large quantities of sardines formerly were processed. Owing to the decline in the sardine fishery, a number of the companies at Point San Pablo are no longer in operation. The machinery, for example, in the Red Rock Fisheries building shown in the foreground, is being removed, and the building is being converted into a warehouse. The whale processing plants are located at the far end of the road.

The whales caught for this operation are mostly humpback (*Megaptera longimana* or *nodosa*), with only a small number of sperm whales (*Physeter catadon*) being taken (5 percent).

The humpback whale grows to a length of about 50 feet. Those used in the operation at Point San Pablo

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Fig. 3 - Truck with cut-up baleen.

Sperm whales feed in deeper water and on larger animal life than the humpback whales. The main food of the sperm whale is large squid. In contrast to the humpback whale, the sperm whale has teeth (fig. 5). The male sperm whale attains a length of about 60 feet and the female attains a length of about 38 feet. Only male sperm whales are found in this region.

The whales, at present, are taken by two catcher boats, the Donna Mae and the Dennis Gayle (figs. 6 to 9). Each boat has

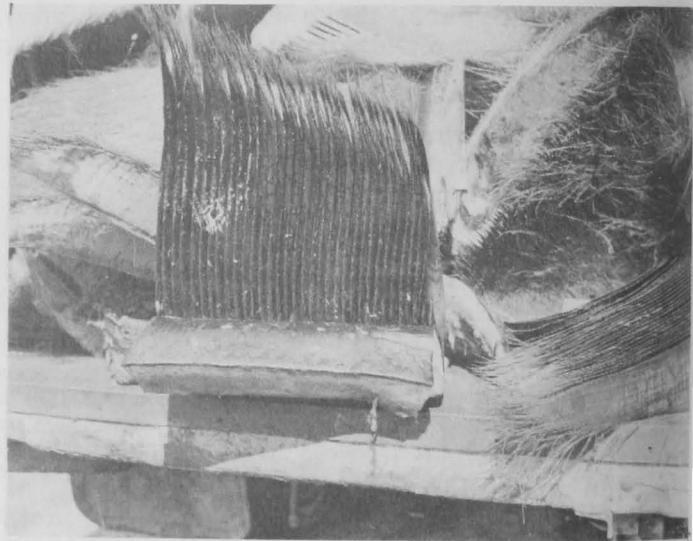


Fig. 4 - Close up view of baleen.

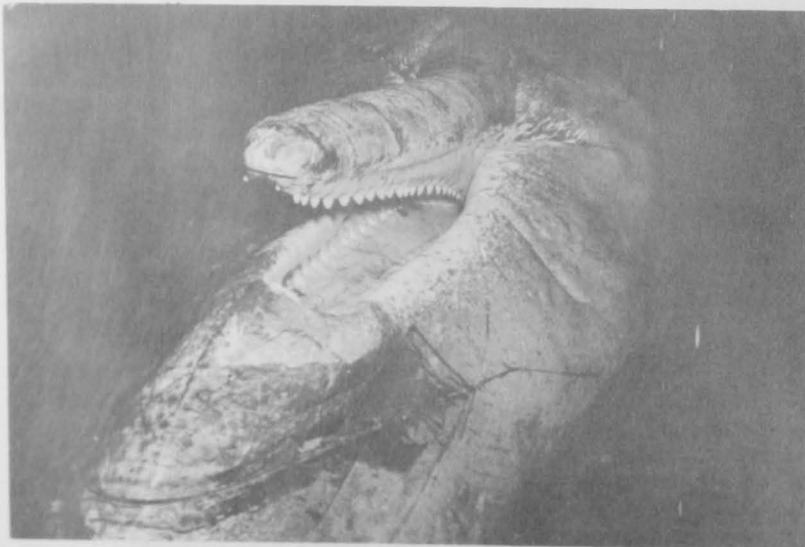


Fig. 5 - Mouth of a sperm whale. Note the teeth in contrast to the baleen in figures 3 and 4. Note also that there are teeth on the lower jaw only. The indentations in the upper jaw are tooth sockets into which fit the teeth on the lower jaw.

mounted on the bow a gun that shoots a heavy harpoon (figs. 10 to 14). The tip of the harpoon is armed with an explosive bomb which usually kills the whale immediately (figs. 15 to 17).



Fig. 6 - Stern of the Dennis Gayle. Note that this vessel is also fitted for trawling.



Fig. 7 - Mounting of the harpoon gun on the Allen Cody.



Fig. 8 - Bow of the Dennis Gayle, showing the harpoon. This vessel, like the Donna Mae, is seldom in port, being at sea most of the time in search for whales.



Fig. 9 - The Allen Cody at Fields Landing. This catcher boat recently has been brought from Peru. It is not used presently in the Point San Pablo whaling operation, but may be used in the operation next year.



Fig. 10 - Mounting of the harpoon gun on the Dennis Gayle.



Fig. 11 - Views showing the bow of the Allen Cody. In the background is the Hunter and Folland Plant at Fields Landing, where bottom fish, crab, and shrimp are processed.



Fig. 12 - Gunner of the Dennis Gayle demonstrates the use of the harpoon gun. Note the sight bar.



Fig. 13 - Side view of the harpoon gun. Most whales are shot within 80 feet of the vessel. The whale gun is a muzzle loader having a charge of about  $\frac{1}{2}$  pound of black powder.

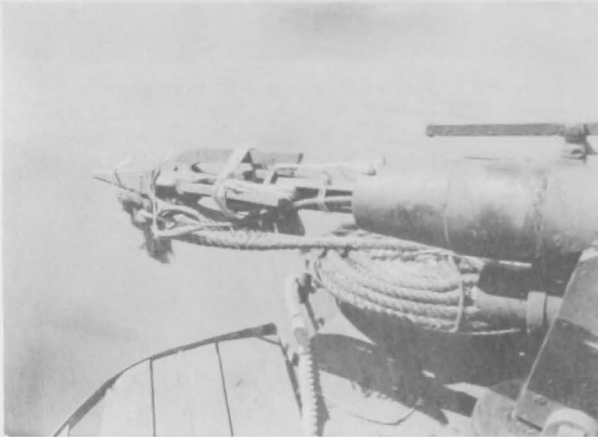


Fig. 14 - Harpoon in gun. When the harpoon enters the whale, the rope lashing is shoved off the claws, which open and securely fasten the harpoon. When the gun is fired, the light line that secures the foregoer and cable is broken. Occasionally, even the cable breaks under the tremendous force with which the harpoon is propelled.



Fig. 15 - Engineer of the Dennis Gayle demonstrates how the bomb is screwed onto the harpoon. The harpoon in the center shows what is left after the bomb explodes in the whale.



Fig. 16 - Bomb. Note the threads and the empty shell, which, when ready for use, is filled with 1 to  $\frac{1}{2}$  pounds of black powder.



Fig. 17 - Parts of the fuse. The fuse has a plunger, which is the small part at the center of the engineer's hand. When the gun goes off, the jar knocks the plunger against a cap at the bottom of the cylinder (by the engineer's thumb of his right hand), which ignites the powder in the plunger and in the head of the fuse. This powder requires about 5 to 10 seconds to burn. It then ignites the powder in the bomb head, which explodes and kills the whale. Note the method of inserting the fuse on the harpoon in front of the engineer.



The dead whale is drawn by cable and winch to the vessel, where the body cavities are pumped with air to keep the whale afloat. It then is secured to the bow of the vessel by a chain around the flukes and is towed to the whaling station (figs. 18 and 19). Here it is drawn into the station tail first (figs. 18 to 21).



Fig. 18 - Del Monte Fishing Company, showing the Dennis Gayle with the sperm whale that it just has brought to port.



Fig. 19 - Sperm whale. Only a few sperm whales are processed here; most of the whales are of the hump-back variety.



Fig. 20 - Making ready to pull the whale into the station. Note the cable in the foreground. The small rowboat is named the Moby Dick, Jr.

The whale is cut up as follows:

1. Strip off the blubber from both sides of the whale with the aid of a winch (figs. 22 to 26).

2. Remove the jaw bone.

3. Remove, from one side, the long loin that runs from the shoulder to the tail and then turn the whale over so that it lies on its back.

4. Strip off the belly blubber.

5. Remove the head (fig. 27).

6. Remove the other long loin.

7. Remove a shoulder, exposing the belly cavity.



Fig. 21 - Tail of the sperm whale after a part has been removed. Note the incisions on the body of the whale. These incisions are for the removal of the blubber, as will be shown in later photographs.



Fig. 22 - Making incision in the sperm whale preparatory to removing the blubber.



Fig. 23 - Cable-block. At the end of the cable in the worker's hand and hidden by the jaw of the whale is a block of wood. In removing a strip of the blubber, the worker chops a small hole in the end of the strip, which has been peeled from the whale for a short distance. The cable shown in the worker's hand is passed through this hole, and the block of wood at the end keeps the cable from going on through. The cable then is attached to a winch.

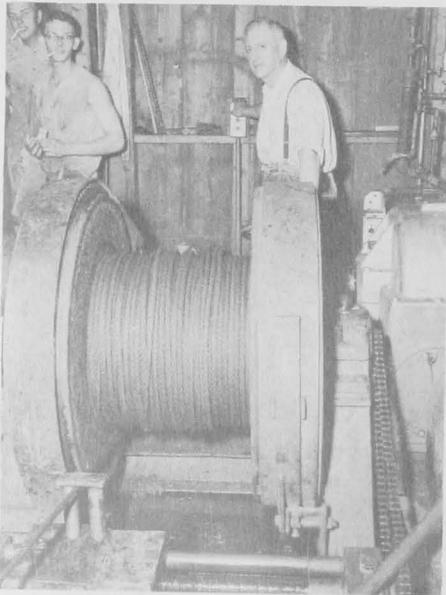


Fig. 24 - One of the winches employed in handling the whale. By use of this winch, the blubber is peeled from the whale like the skin from a banana.



Fig. 25 - Removing blubber from the head end of the whale.

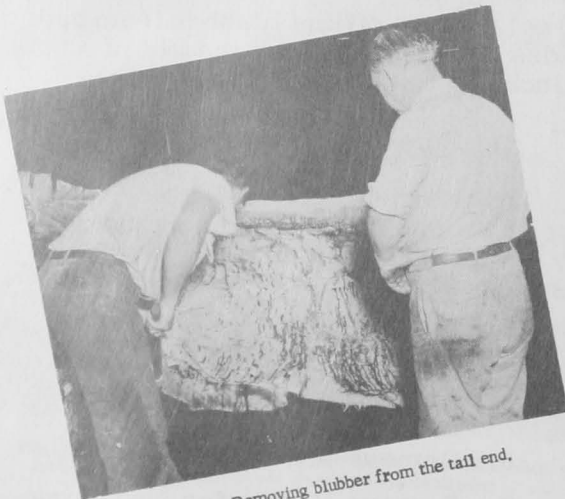


Fig. 26 - Removing blubber from the tail end.

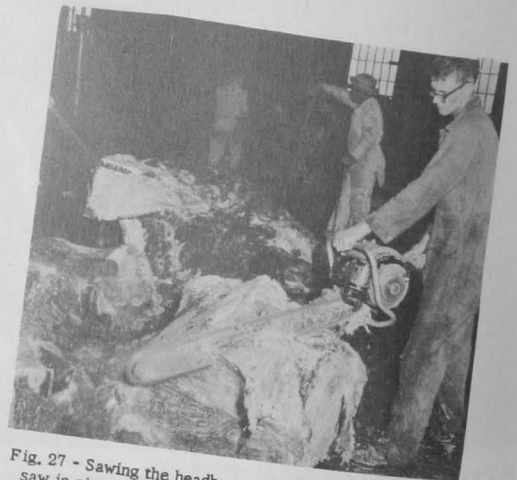


Fig. 27 - Sawing the headbone of a humpback whale. The saw is similar to one employed with timber. A clipper chain is being used.

8. Remove the entrails (figs. 28 and 29).
9. Remove the two small loins that extend from the belly cavity to the tail (fig. 30).
10. Pull the vertebrae away from the other shoulder.
11. Remove the meat from the shoulders and the ribs (fig. 31).
12. Cut up the bones.



Fig. 29 - Cutting fat from the entrails.

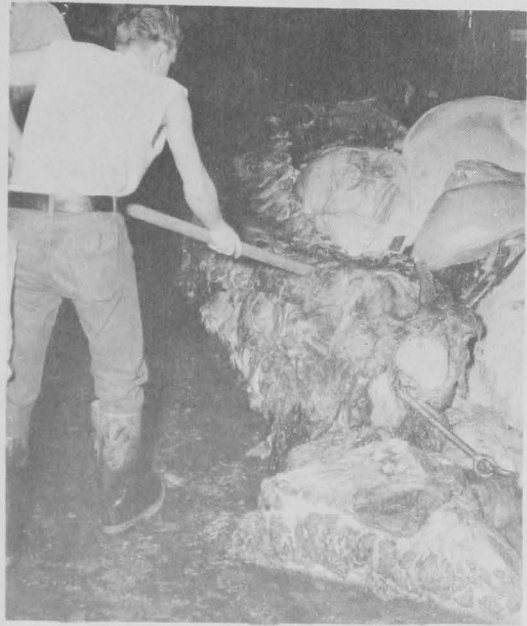


Fig. 28 - Taking meat from the vertebrae of a humpback whale preparatory to removing the entrails.



Fig. 30 - Cutting meat from the small loin.



Fig. 31 - Cutting meat from the shoulders and the ribs.

The meat is made into animal food by cooling, grinding (figs. 32 and 33), bagging, and freezing; and the resulting product is sold to animal feeders. Parts of the whale not made into animal food are rendered into oil and meal in a dry-rendering process (fig. 34).



Fig. 32 - Tractor for moving parts of the cut-up whale.

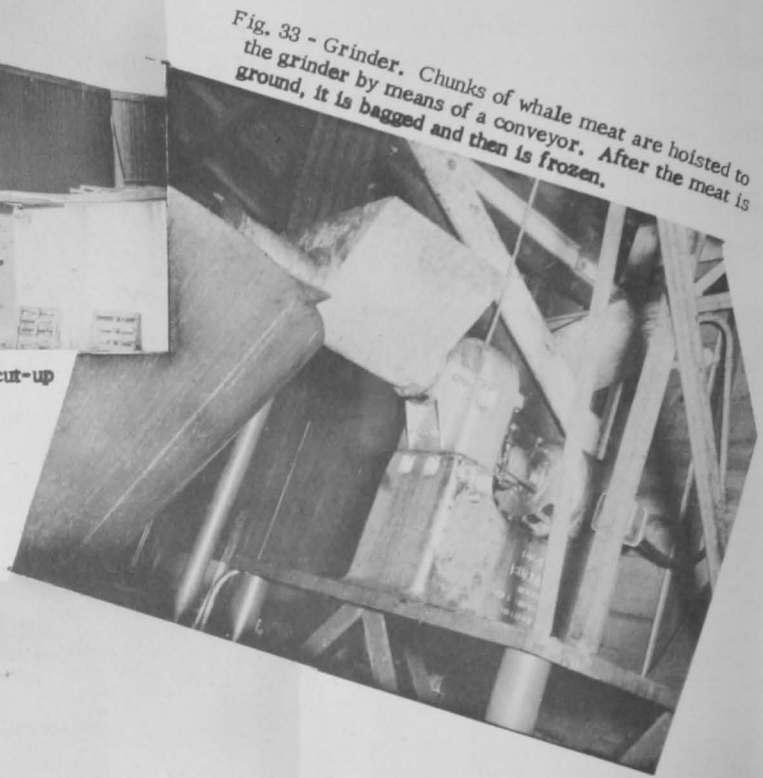


Fig. 33 - Grinder. Chunks of whale meat are hoisted to the grinder by means of a conveyor. After the meat is ground, it is bagged and then is frozen.



Fig. 34 - Rendering plant, where parts of the whale not made into animal food are converted into oil and meal.

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