RESCUE OF A STRANDED WHALE IN THE PALK STRAIT, TAMIL NADU

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Introduction

Whales are aquatic mammals and many of them are in danger of extinction and hence they have been declared as endangered or protected species worldwide and a number of conservation measures are being implemented. For example in South African marine environment it is against the law to approach within 300 m of Whales and Dolphins in boats or aircraft without a permit. The Wildlife Protection Act 1972 of India also lists Whales as Schedule I species along with Dolphins and Sea cows (Cetaceans). One individual of such an important mammalian species was stranded along the coast of Palk Strait in Tamil Nadu in October 2000. The Forest Department of Tamil Nadu successfully rescued and released the Whale into deep water with the support provided by district administration and other local groups. It is to be mentioned here that this is the first time that a stranded whale was rescued and released alive along the coastal regions of the Asian countries. The present paper describes how the species was identified and how rescue operation was planned and implemented using only locally available materials and expertise. The method described could be useful in future if any such whale stranding is reported.

Whales

Whales are huge and magnificent aquatic mammals belonging to the Order Cetaceae. They are structurally as well as physiologically specialized to lead their entire life in the water. The head and body of the Whale forms a single streamlined unit with no visible neck and thus it is fish-shaped. The body is hairless except some bristles in the chin and snout, the fore limbs are modified as paddles called flippers and hind limbs are absent. A pair of horizontal flukes is present at the end of the tail for propulsion. Whales swim fast in the water by moving the tail up and down, whereas fish swim by moving their tails left and right. Like all mammals Whales breath air into lungs and the nostrils open as a blowhole on the top of the head and exhaled breath forms a "blow" or "fountain" whose shape can help to identify species. The Whales have mammary glands with which they nourish their young. The size of the Whales is huge, length varying from 15 m to 30 m (Blue Whale) and the height from 2 m to 5 m.

They are also fast swimmers some of them swim at the speed of 30 miles per hour. Most of the Whales live in deep water region, far from the coasts but due to some reasons, for example when feed occur in plentiful they migrate up to the coastal areas (Zeitzschel, 1973).

Stranding of Whale in the Palk Strait

It is well known that coastal

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topography is highly variable even in short distance and tidal amplitude and time vary from place to place. Sometimes, because of these changing environmental conditions, some of the Whales that move very close to the shoreline following schools of fish or any other food get stranded. One such incident occurred in the Palk Strait, 15 km East of the famous Point Calimere Wildlife Sanctuary. The Palk Strait is a part of the Bay of Bengal, located along the South-East coast of Tamil Nadu from Point Calimere in the North to Rameswaram in the South. It is very shallow, water is muddy and unconsolidated mud is found deposited along and about 2 km from the shoreline. The depth of the water in these areas is only about 2 m during the high tide and less than 1 m during the low tide. The depth of the unconsolidated mud varies from 0.5 m to more than 1 m, particularly in the northern part of the Palk Strait where the well-known Muthupet Mangrove wetland is located. During the North-East monsoon season, the fishery production along the Palk Strait is very high and fish like sardines, anchovies and sea bass are abundant along the coastline (Selvam, 1998). It was observed by the local fishermen that a Whale which moved very close to the shore in pursuit of a large school of sardines got trapped in the muddy shore in the second week of October. The Wildlife Warden Incharge, Nagapattinam and scientist from the Centre of Advance Study in Marine Biology, Annamalai University visited the spot immediately and assessed the situation and also identified the species which is one of the essential steps in developing a rescue operation plan. They found out that a Whale of about 10.9 m length and 1.65 m height was lying in about 60 cm of water and stuck to 1.5 to 2 m depth of unconsolidated mud. The head was towards the shoreline. They also found that the Whale was alive and fairly healthy and it tried to move but could not to do so since it was trapped in deep mud.

Identification of species

The Wildlife Warden Incharge and scientist identified the Whale with the help of the characters and Whale signs published in Simther's *Mammals of South Africa*. Whales, Dolphins and Porpoises belong to the order Cetaceae of the Phylum Mammalia. It has two sub-orders namely, Odontoceti and Mysticeti, the former is commonly called 'Toothed Whales' and latter as 'Baleen Whales'. The Toothed Whales are predators that use their per-like teeth to catch fish, squid and marine mammals, swallowing them whole. Baleen Whales are also predators but they sieve the water and trap tiny crustaceans, small fish and other tiny pelagic organisms as food. For the purpose of sieving the water the Baleen Whales have comb-like structure in the mouth called 'baleen' and this baleen has taken the position of upper teeth in other mammals. In the Toothed Whales, the two nostrils are fused into single blowhole and situated far back on the upper surface of the head whereas in Baleen Whales the nostrils are not fused and hence, two blowholes are present in the head. The Wildlife Warden and scientists closely examined the stranded Whale and identified it as a Baleen Whale due to the presence of the two blowholes. There are only 12 species of Baleen Whales, grouped among six genera in three families. They are also grouped as Right Whales (family Balenidae), Grey Whales (family Eschrichtriidae) and Humpback Whale and Rorqual (family Balaenoptera). Observing some of the Whale signs can easily identify these groups. Thus, after identifying it as

Baleen Whale the Wildlife Warden and scientist observed visible Whale signs such as the color of the Whale, position of dorsal fin, is there any lobtailing (some Whales stick their tail out of the water into the air, swing it around and then slap it on the water's surface; this is called lobtailing; it makes a very loud sound), flipper movement and height and shape of the blow and ridges in the head to identify the genus and species (de Foutanbert *et al.*, 1996).

The observation indicated that there was no lobtailing by the stranded Whale (lobtailing is common in other Whales), a small sickle-shaped dorsal fin is located about two thirds of the way back along the body (dorsal fin is absent in Right Whale), no protruding of flippers out of water and the exhaled blow was single with a height of about 3 to 4 m and narrow. All these characters indicated that the Whale would be Bryde's Whale which was confirmed by the presence of a series of three ridges running backwards on top of the head from the mouth to the blowhole which is the characteristic feature of the Bryde's Whale. The scientific name of the Bryde's Whale is *Balaenoptera edeni* and it belongs to the family Balaenopteridae. It commonly lives in warmer inshore water less than 200 m deep. It grows to a total length of 13.5 to 14.5 m with weight of 16 to 25 tonnes. It feeds on pelagic fish such as mass bankers, pilchards and anchovies (Donovan, 1991).

Rescue operation

Mobilizing infrastructure and manpower : After identifying the species, the Wildlife Warden Incharge approached the District Collector, Nagapattinam District who directed the officials of the Fisheries, Revenue and Police Departments to provide all the help needed to rescue the stranded Whale. A preliminary meeting was conducted with the officials of these departments in which Assistant Commandants of Indian Navy and Coast Guard also attended. During the meeting the Wildlife Warden gave an orientation about the Whales and their behaviour. He also informed them that the stranded Whale was *Balaenoptera edeni*, which is toothless and harmless to human beings. Before this there was an apprehension that the Whale would swallow human being with ease and hence it should not be approached ! On the basis of the further discussion held, the following materials were gathered for the operation :

01. Two trawler boats
02. 12 mechanised fibre glass boats
03. 2000 m Nylon rope of 32 mm size
04. 800 m Nylon rope of 4 to 12 mm
05. Four Power driven saw
06. 2 Generators
07. 2 high power search lamps
08. 20 Nos. inflated tubes
09. 2 Soft wood planks size of 2 m x 0.30 x 0.08 m
10. First Aid kits with Medical team
11. Other sundry items such as food, water etc.

A group of six fishermen divers who had expertise of operating in highly deep muddy areas were also drawn from the local village. The same evening another discussion was held on how to approach the stranded Whale and the method to be followed to rescue it, roles and responsibilities of different participants and it was decided that as a first step of rescuing the Whale, the head, which lies towards the shore, would be turned towards sea and then the Whale would be dragged

to the deep water by providing adequate padding around the body.

Rescue operation

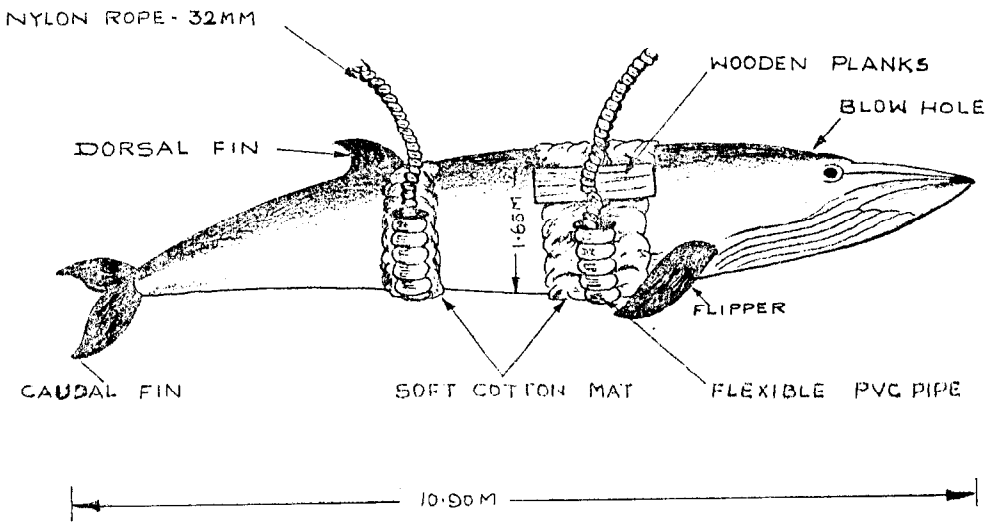
On 14th November 2000, a team under the leadership of the District Collector, Nagapattinam District with the Superintendent of Police, the Conservator of Forests, Wildlife Warden, one Commandant and three Assistant Commandants of the Indian Coast Guard, and Indian Navy team reached the area where the Whale was stranded, along with field staff and local fishermen. On reaching the site, the Wildlife Warden, six fishermen divers, two biologists from Annamalai University and three Coast Guard personnel entered the water with the help of inflated rubber tubes. Once again the Wildlife Warden and biologists examined the Whale and started the rescue operation which is given below in sequence.

(a) The Whale was padded around at two points, one near inner side of the flipper (fore limb) and other one near the dorsal fin to act as a cushion. Padding was done manually with the help of fishermen divers. Soft cotton mats were inserted underneath the Whale from forehead side and roped around the flippers, likewise near dorsal fin. This was very crucial step in the entire operation. Utmost care was taken not to cause any inconvenience to the Whale.

(b) Thick nylon ropes (32 mm), inserted through soft, flexible PVC hosepipe was roped all around the cotton mats with safety knots one at flipper and another at dorsal fins to drag the Whale as shown in Fig. 1.

(c) A soft and fine finished wooden planks were inserted between the cotton mat and the nylon rope on both the sides of the Whale to provide additional cushion and to avoid any injury while towing.

Fig. 1



Padded Whale before towing

(d) The nylon ropes were tied and knotted carefully for easy release of the Whale carried out by the Coast Guard Team. The knottings were done in such a way that the Whale could be released at any time if any emergency arose.

After this preparation, the end of the nylon rope tied around the flippers was given to the trawler operators, which were standing about 400 m inside the sea, and rope tied around dorsal fin was given to a team standing on the shore. After this, the trawlers were asked through walkie-talkie to move gently towards the sea. At the same time, the rope tied on the dorsal fin side was manoeuvered in such a way to turn the head of the whale towards sea. This operation alone took about three hours.

After the head of the Whale was turned towards the sea, final discussion was held to exactly pinpoint the direction in which the Whale should be dragged. The Navy Hydrographical chart was used for this purpose. Once the direction was decided to move the Whale southward, 90 degrees Southward towards Palk Strait, it was conveyed to the trawler operators (operated by the Navy). They moved the trawlers gently and after reaching about 500 m in 40 minutes the Whale started showing improved movements.

At one point of time, the Whale showed rapid movement, faster than the speed of the trawlers. To avoid any mishap the Wildlife Warden instructed the Coast Guard team to release the knot. As soon as it was released the Whale moved at a higher speed with repeated blows through blowholes, and started moving haphazardly in different directions. Then the movement of the Whale was regulated with the help of two trawlers and thereby its movement towards the shore was prevented. After an hour of observations the Whale was again

Fig. 2

Padding the Bryde's Whale with soft cotton mat

Fig. 3

Roping the Bryde's Whale at dorsal fin for towing

roped near the dorsal fin and towed to the interior sea for almost 5 km. After reaching the deep sea at about 5 km from the shoreline, the knots were once again released, the Whale moved very fast with heavy and repeated blow and finally disappeared in calm blue sea.

The entire operation was witnessed by a host of print and electronic media of the country and a large number of representatives from NGOs were also present. The Chief Wildlife Warden, Tamil Nadu also witnessed the operation. After the rescue, the entire area was watched for a week by the field staff of the Forest Department and no signs of the Whale returning to the coast were observed.

Conclusion

The present achievement indicates that :

(a) Whale rescue, which is considered a highly skilled operation and a costly affair, is possible with indigenous skills and materials at cheaper cost.

(b) A contingency plan is needed for rescue operation of stranded Whales and Dolphins in all the Indian coastal areas.

(c) Forest Department personnel must be trained in this field with the help of international Whale and Dolphin rescue agencies to avoid any time lapse between stranding and rescue.

(d) Active participation of the various departments, scientists and NGOs and local fishermen and the single minded effort showed by them to rescue the Whale indicate that conservation of endangered animals and environment is possible if there is a non-sectoral and joint effort by all the concerned.

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SUMMARY

An individual of Bryde's Whale, *Balaenoptera edeni* which is a Schedule I species underthe Indian Wildlife Act, got stranded and struck in the deep mud along the coast of Palk Strait in Tamil Nadu. It was rescued alive and released into the deep sea by the Forest Department, Tamil Nadu with the support of various government agencies including District Administration, Fisheries and Police Department, Indian Navy and Coast Guard. This rescue operation was first of its kind in Coastal regions of Asian countries. The entire operation was successfully completed utilising only local materials and expertise. This operation indicated that Whale rescue is possible with indigenous technology at a cheaper cost and a non-sectoral and joint effort is needed for the conservation and management of endangered marine mammals.

पाक जल डमरूमध्य, तमिलनाडु में मार्ग भटकी व्हेल का उद्धार

ए० रामचन्द्रन्

साराशं

एक ब्राइड व्हेल, *बैलीनोप्टेरा ईडेनाई* जो भारतीय वन्यप्राणि अधिनियम की अनुसूची I में आती है मार्ग भटक कर तमिलनाडु के पाक जलडमरूमध्य तट पर आकर गहरे कीचड़ में फंस गई । तमिलनाडु के वन विभाग ने विभिन्न सरकारी अभिकरणों से, जिनमें जिला प्रशासन, मत्स्यपालन और पुलिस विभाग, भारतीय नौ सेना और तटरक्षक सम्मिलित हैं, की सहायता से इसे जिन्दा पकड़ कर पुनः गहरे सागर में छोड़ दिया । एशियाई देशों के सागरतटीय क्षेत्रों में किया जाने वाला यह बचाव कार्य अपनी किस्म का पहला कार्य है । समूचा कार्य केवल स्थानीय सामान और ज्ञानकौशल उपयोग करके सफलतापूर्वक पूरा किया गया । यह कार्य बताता है कि व्हेल को देशी प्रौद्योगिकी उपयोग में लाकर सस्ती लागत पर बचाया जा सकता है और इस संकटापन्न समुद्री स्तनि का संरक्षण और प्रबन्ध करने के लिए भिन्न-भिन्न सेक्टरों में बांटे बिना और संयुक्त प्रयास करने की आवश्यकता है ।

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