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Progress of marine species stranding rescue project at Phuket Marine Biological Center

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ABSTRACT

Establishment of the marine species stranding rescue project was one of the strategies of the Marine Endangered Species Unit, Phuket Marine Biological Center to conserve these threatened species. It is an annual project and was launched in January, 2005 and continued until the present time (November, 2006). The project rescued and rehabilitated 54 stranded animals, 40 animals were successfully rehabilitated and were released back to the area where they were found, while 12 animals died during rehabilitation. There were 2 animals that could not be released due to swimming disorders resulting from injuries. Also, there were 76 dead strandings that occurred during the period. Post mortem examinations of these cases were a good resource for much valuable information about their biology. This project is considered to be a successful operation and will likely be continued as a long term project.

KEYWORDS: stranding rescue, Phuket Marine Biological Center

INTRODUCTION

A significant animal welfare problem is generated every year in Thailand, when up to total 40 animals – sea turtles, cetaceans and dugong – are stranded alive around the shores. Historically, some individuals and organizations have responded to stranded cetaceans, often independently and with little advice or help. Inappropriate action, despite the good intentions, can exacerbate the animal welfare problem generated by these strandings, and prolong the animals' suffering. (Barnett 2002, Geraci et al. 1993). Determining the appropriate course of action in the emotionally charged atmosphere surrounding a helpless, beached animal in the spotlight of the public and media can place those attending to it under great pressure. (Dierauf 2001)

As a result, in January 2005, the marine species stranding rescue project was established at Phuket Marine Biological Center (PMBC), whose aim was to improve the management of live marine animal strandings. Staff in this project included 1 veterinarian, 3 biologists and 4 fisheries workers. It is an annual project and has been continued until the present time (November 2006).

Objectives

- To create an organized systematic response procedure for stranding phenomenon.
- To create a facility for medical treatment and rehabilitation of marine animals, especially sea turtles, cetaceans and dugong, which are injured and stranded in Phuket or nearby provinces.

-To collect information and samples from stranded animals to enable long-term scientific studies which will provide information to improve their conservation, management and biological knowledge.

-To cooperate, both domestically and internationally, in conserving marine endangered species for successful and long lasting conservation outcomes.

RESULTS

Number of cases

From January 2005 to November 2006, the project rescued and rehabilitated 54 stranded animals, 40 animals were successfully rehabilitated with 2 animals unable to be released due to swimming disorder resulting from injuries. 12 animals died during rehabilitation. Also, there were 76 dead stranding occurrences during the project's period. These included 28 sea turtles, 32 cetaceans and 16 dugongs. The number of animals in each stranding species, details of rescue results and cause of stranding are shown in tables 1, 2 and 3 respectively.

Stranding Location

From 49 cases of sea turtle stranding rescue, the majority of cases occurred in Phuket and Phang-nga with the numbers of 27 and 21 cases respectively. There was another 1 case from Surat Thani in the Gulf of Thailand.

From 5 cases of cetaceans stranding rescue, there were 2 cases from Phang-nga, 1 case from Phuket, 1 case from Surat Thani and 1 case from Chonburi.

Rehabilitation Period

From 49 cases of sea turtles, the rehabilitation period ranged from 7 days to almost 13 months, with an average period about 6 months. While the rehabilitation period for 5 cases of cetaceans was much shorter, the average period was 32.4 days with a minimum and maximum period of 1 day and 140 days respectively.

Expenditures

Since the starting date of the project, the total expenditure is 371,043 Baht. These amounts accounted for the medicines, surgery, food supplies, traveling, transportation, overtime payment, office equipments and facilities maintenance cost. The average cost per case was about 7,000 Baht.

DISCUSSION

In many cases, the causes of stranding were unknown or could not be confirmed. This is because theories of why marine animals strand are many and varied.

(Barnett et al. 1998, Duncan et al. 1994, Eckert et al. 1999). It may take a few weeks or months for sick or injured animals from the middle of the ocean to reach dry land so we were not able to investigate the abnormality in the beginning stage, but rather at a later stage with complications of condition and sometimes heavily decomposed. (Duncan et al. 1994, Work 2000)

Most stranded cases were from Phuket and Phang-nga. This may be due to the location of PMBC which is in Phuket, where local people knew how to contact the center when a stranding occurred. In Phang-nga there is a well known Royal Thai Navy base as a place to refer cases to PMBC. That said, there may be many more stranded cases from other nearby provinces, but they may not have been reported due to lack of public relations about this project. This is an issue that needs to be taken care of to maximize the effectiveness of this project.

Table 1. Number of stranding cases in each species

Species	Live stranding	Dead stranding
<i>Chelonia mydas</i>	22	13
<i>Eretmochelys imbricata</i>	16	8
<i>Lepidochelys olivacea</i>	11	7
<i>Tursiops aduncus</i>	-	6
<i>Stenella coeruleoalba</i>	2	4
<i>Stenella longirostris</i>	1	2
<i>Sousa chinensis</i>	1	1
<i>Neophocaena phocaenoides</i>	1	4
<i>Orcaella brevirostris</i>	-	11
<i>Balenoptera edeni</i>	-	4
<i>Dugong dugon</i>	-	16
Total	54	76

Table 2. Number of live stranding cases divided into categories

	Recover — Releasable	Recover — Non-releasable	Died during rehabilitation	Total
Sea turtles	39	2	8	49
Cetaceans	1	-	4	5
Dugong	-	-	-	0
Total	40	2	12	54

Table 3. Causes of live stranding cases divided into categories

	Sea turtles		Cetaceans		Dugong	
	Live stranding	Dead stranding	Live stranding	Dead stranding	Live stranding	Dead stranding
Fishing equipments	18	3	1	4	-	7
Natural causes (i.e. diseases, parasites, old age etc.)	9	1	4	7	-	2
Unknown	22	24	-	21	-	7
Total	49	28	5	32	0	16

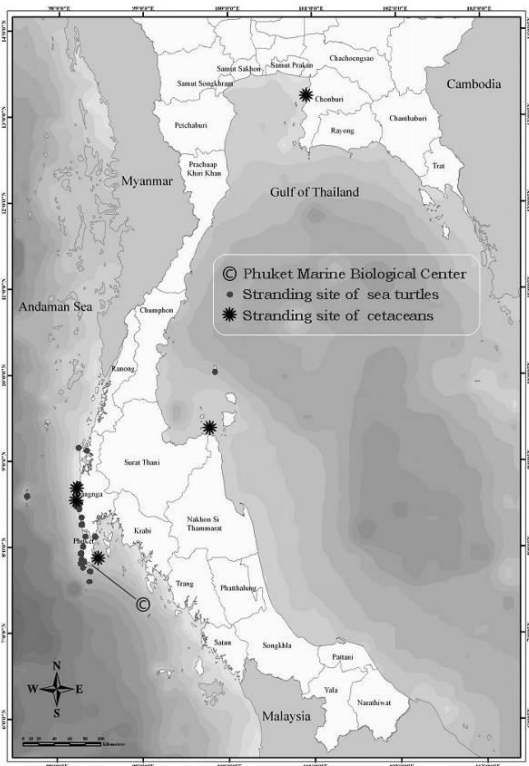


Fig. 1 Map showing stranding locations of rescued animals

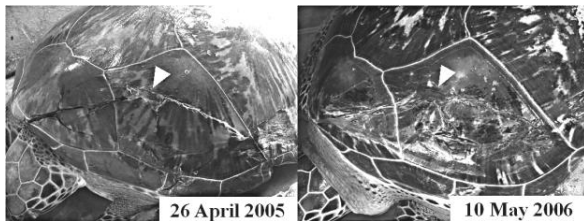


Fig 2. An example of recovered case; shell fractures in green turtle. It took 13 months in this case to be fully-recovered and be released back to the ocean



Fig 3. Surgical operations are necessary in some cases, despite the high expense

The successful rehabilitation rate in sea turtle cases was 85.7% (42 from 49 cases) which was considerably high. However we still had a difficulty in cetaceans' rehabilitation. The successful rehabilitation rate in cetacean cases was 20% (1 from 5 cases). This statistic information is similar to stranding rescue projects in other countries (Aubin 1996, Barnett et al. 1998, Barnett 2002, Eckert et al. 1999, RAC/SPA 2004).

Besides the fact that this project could save many invaluable lives, we gained a lot of useful information such as biology, toxicology, microbiology, parasitology, histopathology and even behavioral knowledge from the rehabilitated animals and from necropsy investigations on carcasses. Also, this project creates an opportunity for students and volunteers to take a role in conservation efforts and increases public awareness of stranding phenomenon.

This project is considered to be a successful operation and will likely be continued as a long term project.

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