

Dive Against Debris Survey

PROJECTS ABROAD THAILAND

By: Diego Fernandez Raboso. Field Coordinator



1. Introduction

2. Study area

3. Methodology

4. Results

5. Conclusions

1. Introduction

The aims of the "Dive Against Debris" survey are:

- Collect marine debris around the coral reef areas surrounding Ao Nang and Phi Phi National Park.
- Record and categorized the types of debris found.
- Determine the abundance by weight and number of debris type.
- Contribute to the Dive Against Debris survey and data collection through a global network which allow recreational divers to help clean up reefs and report items and volumes of marine debris found.
- Generate debris data that is useful for local government and global scientist.
- Generate partnership with Phuket Marine Biological Center (PMBC), Ocean Conservancy, Projects Aware, Sea Watchers and Projects-Abroad.

Below is a brief description of the Dive Against Debris partners:

Project AWARE Foundation is a growing movement of scuba divers protecting the ocean planet –one dive at a time. Project AWARE supports an unprecedented global movement of divers acting in their own communities to protect oceans and implement lasting change. Marine Debris is one of many issues Project Aware is currently working on.

Ocean Conservancy is an organization created in 1972 that educates and empowers citizens to take action on behalf of the ocean. From the Arctic to the Gulf of Mexico to the halls of Congress, Ocean Conservancy brings people together to find solutions for our water planet. Informed by science, our work guides policy and engages people in protecting the ocean and its wildlife for future generations.

Sea Watchers are a group of scientist and citizens who runs projects that involves the community and make observations of nature!

2. Study Area

The collection areas were located in the Lower Andaman Sea in two different locations, local islands near Ao Nang and Phi Phi National Park, Krabi Thailand.

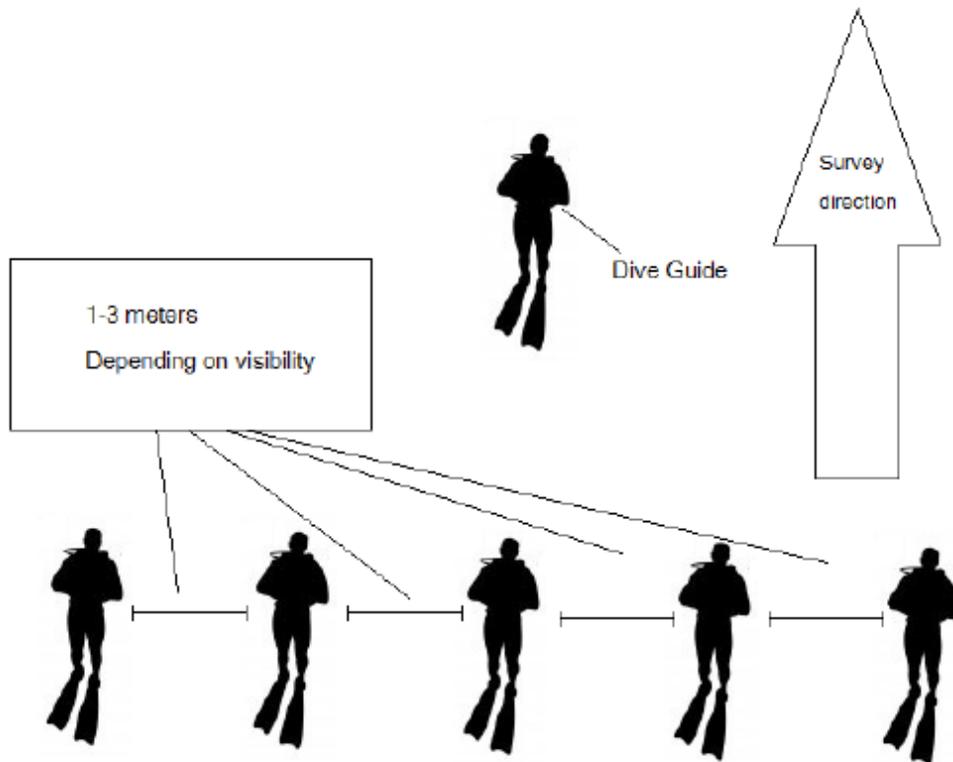
Figure 1: Below is the map or the Krabi region, the highlighted region circled in red is the two research sites, Ao Nang local islands, and Phi Phi National Park.



3. Methodology

The method used is known as “roving survey diving”, all the research divers in a line following the dive guide and keeping a distance between 1 and 3 meters between the research divers depending on the visibility conditions (see image below). Each individual diver were given scissors and mash bag to collect debris.

Figure 2: The illustration below demonstrates the roving technique used using the Dive Against Debris surveys.



Data collected from Dive Against Debris surveys were analyzed and each item were separated into the following categories: plastic, glass and ceramic, metal, rubber, wood, cloth, paper and cardboard, and mixed materials. Location, depth range, survey duration, area surveyed, weight of materials collected, number of participants, weather condition from previous week and entangled animals were also recorded.

4. Results

From September 2013 to September 2014, an area of 216399.1 meter squared was surveyed by 532 projects-abroad staffs and volunteer research divers. In 4433 total survey time, we managed to collect 456.1 kg. of marine debris which were found from different depths.

Figure 3: The pie chart below classifies the debris collected in eight different categories which includes Plastic, Glass and Ceramic, Metal, Rubber, Wood, Cloths, Paper and Mixed materials.

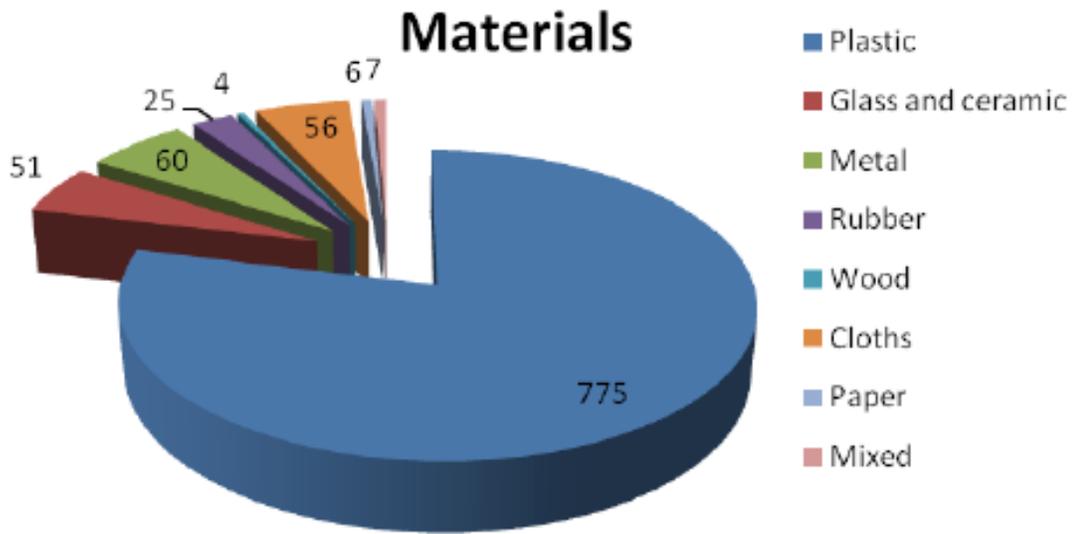
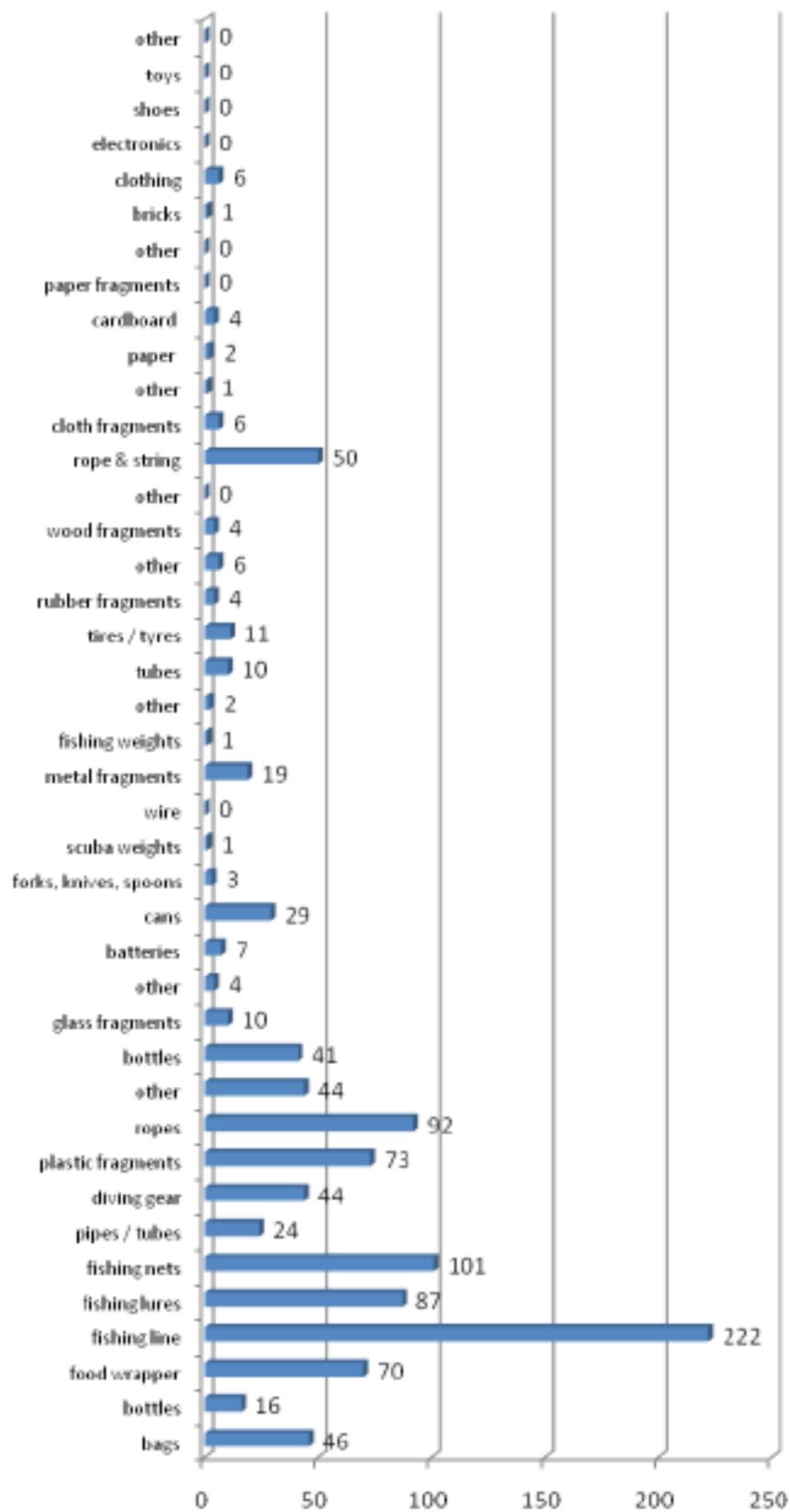


Figure 4: The chart below sub-categorized the debris collected in 41 different types.



5. Conclusions

Plastic materials were the most abundant type of debris found. Most of those plastic debris were mainly fishing related gears such as fishing line, nets, traps, and ropes. Various sea creatures such as fish and even sea turtles have been found within the discarded fishing materials.

Fishing related debris materials were also found in the Phi Phi National Park, which has specific fishing rules and regulations. These findings suggest that fishing enforcement is limiting, therefore illegal fishing occurs regularly. With illegal fishing and disposal of fishing gear on the reef within the Phi Phi National Park area also indicate lack of joint management. Rejuvenation of coral reefs and fish population along these protected areas may be difficult under the current usage and stress factors. A well defined management plan that states clear and concise enforcement laws should be announced to the all parties and agencies that has interests in using these National Park areas. Joint effort from local and national government, National Park sector, fisherman, tourists, tour operators, non-profit and for profit organizations, as well as local residents should gear towards a long-term solution, and common goals in protecting our coral reefs.