



Manta Research Expedition June - October 2010

The Project.

Manta Rays are one of our ocean's most charismatic residents. Their huge, easily recognisable shape inspires awe in divers and other water users, and no diver can ever forget the first time they saw a manta underwater. They appear as mysterious to divers as they do to science. Little is known about their lives, and their ghostly, enormous yet silent appearance along the world's tropical and temperate reef systems have inspired generations of people. Project ElasmO was developed to find out more about the migratory population of *Manta birostris* that visits the coast of Ecuador each summer.

Initially locals believed that this population was only 20 or so rays but recent efforts in identifying individuals by Project ElasmO has revealed that this population to be at least 140 individuals and could be much larger. The project aims in 2010 include continued efforts to ID more individuals and also to spend large amounts of time in the water with the mantas to make behavioural observations. Project ElasmO identified new reef systems close to the study area and the 2010 season will include considerable amounts of time on these new sites to find out if there are any behavioural indicators as to why they visit the area. During the 2010 period we will also undertake and in-depth current study and also a plankton study to try to find out whether food levels might influence the manta's visits to the area.

Project ElasmO is hosting collaborative visits from some of the world's most influential manta researchers and it is hoped that volunteers will be able to partake in the research expeditions by these visiting researchers.



Ecuador is one of the most bio-diverse countries in the world. Due to its large altitudinal range and location on the Equator, there is a subsequently large range of bio habitats. The coastal plain rises up into the Andes region and down the other side into the Amazon basin. Additionally the warm Humboldt current from the south and the warm El Nino current from the north not only provide a variety of weather patterns throughout the year, but they also bring a convergence of warm and cold water fish species to the Ecuadorean coastline. There are said to be 1600 bird species, 368 mammal species, 350 of reptiles and 400 amphibian species in the country as well as 25 000 species of plants. Oh...did we mention that the Galapagos Islands are owned by Ecuador also?

Isla de la Plata is an island about 40 kms offshore from our home town of Puerto Lopez. The island sits in Machalilla National Park which covers about 14 000 hectares of ocean and a similarly large land area. The Isla de la Plata is home to literally thousands of frigate birds and blue footed boobies and the occasional red billed tropic bird or waved albatross. It is also home to legend, as Sir Frances Drake is said to have stored some of his silver there, hence the name (Plata = silver), and subsequently lost it so the area is also visited occasionally by modern treasure hunters (no luck so far!).

Our study period is between June to October and coincides with a major humpback whale migration. Around 800 individuals visit the waters along the coast to mate and give birth. There are also many dolphins in the area and we occasionally sight orca.



Climate, Society and Politics.

Ecuador has a mostly zone specific climate, with a cooler, drier and sunnier way of life in the Andes, and seasonal tropical weather along the coast and in the Amazon. During our study period the weather is dry and warm with air temperatures around 25 degrees C. The sky is usually overcast with low cloud caused by the ocean current system at that time of year. This makes for pleasant working conditions and keeps us sheltered from the intense Equatorial sunshine that is usually present from November to May along this part of the coast. The water temperatures are usually 22 to 24 degrees in the surface column and 11 to 14 degrees in the thermocline column which can vary in depth from day to day. Please bear this in mind as continual diving in these temperate waters day after day with no direct sunshine during surface intervals can create a build up of cold in your body and become uncomfortable after a few days. Bring a suitable exposure suit for these conditions.

Ecuador has suffered intense political instability in the past. Prior to 2006 the country had seven presidents in about five years but then Rafael Correa gained power and has enjoyed over three years in office. He has brought about many sweeping changes, and is implementing a socialist policy akin to Venezuela's Chavez. He is hated by half of his people and adored by the other half.

Puerto Lopez is predominantly a fishing port but due to the success of the whale watching industry in recent years, there is a growing tourism sector and some fishing families are making a change to this income stream. The town is well serviced with restaurants and internet services and the surrounding national park has interesting areas suitable for day visits.

Project Duties

We have no prerequisite to joining our project. There is no minimum time input for project attendance but we recommend a three week period. We open our project to all comers with the philosophy that people are the key to conservation. Once you get to know a manta ray underwater, you are likely to want to act to conserve it for generations to come. We believe in the adage that you change the world one person at a time, so let's start with you.

Your duties will depend on your experience and this could range from anything from in water observation, sample collecting, data collation, surface observation, or aerial observation (from the island).

Non divers will be expected to undertake diving courses to at least PADI advanced open water diver and will be strictly supervised before being allowed to be part of a buddy group on a research footing. Divers showing nervous or below par diving behaviour will be encouraged to progress to the PADI rescue diver course as this is recognised as having considerable benefits for diver comfort. Our logistical support is provided by the local dive school and we thoroughly recommend that you undertake any necessary dive training with them. As your diving experience grows you will be steadily integrated into underwater observation and photo ID work and you will hopefully leave the project having been involved with all aspects of it.

Already experienced divers will be involved with in-water work from day one, although you will be expected to share responsibility for other project objectives such as ID collation and analysis and sample processing as well as surface observation rotations.

We are to integrate an Ecuadorean marine biology university into your program and some of your volunteer fee will go towards funding the presence of one marine biology student into our team per three week period. Your duties will also include liaising with these students and helping them with their studies.

Dive Plans.

We aim to dive two dives per day and will make a dive plan before each immersion. Health and safety of our divers is of primary concern to us and we will not dive in a reckless or irresponsible manner. All dive plans must be adhered to for this reason. Some dives will be in open "blue" water, some will be in shallow reef and some will be on deep reef areas. Oxygen is always present on board and any hire dive equipment supplied is in good working order. In the event of a diving emergency, access to a hyperbaric chamber is possible under our emergency evacuation plan.

Manta Interaction. The project is developed in a completely hands off observational manner and touching mantas is not tolerated in any way. This is not negotiable and anyone not adhering to this rule will be asked to leave the project with no refund.

Full training on how to gain close proximity with a manta ray will be given in the field and anyone involved in photo ID collection will be expected to adhere to this methodology. Observation dives are expected to be carried out in a responsible and quiet manner with full concentration on the subject matter. Buoyancy control will be expected to be of a high standard to ensure the delicate reef system is not damaged.

Your daily schedule will depend on your activity during the day, but boat based days will be as follows.

8 am. - Breakfast.

9 am. – Board boat and depart.

9.45. – Arrive study area.

10 am. – 4 pm. Diving or surface observation

5 pm. – Arrive back at port.

5pm. – 7pm – Rest, Shower, Evening Meal.

8 pm. – Data insertion into databases for processing by land staff.

Note: It is hoped we can vary the times in water depending on tide times etc so this schedule could change regarding departure/arrival times.

Accommodation.

We stay in shared accommodation, with two to three volunteers to a room. The house we share is basic and the downstairs floor is divided in half, with one half as the hosting dive centre and the other half is a restaurant. Electricity is 110 volts and plugs are as used in the U.S.

We supply bedding but do not service the rooms. You are responsible for your own tidiness and cleanliness. There are a number of good laundrettes in town for washing, clothing and bedding.

Food.

There are a number of restaurants in the town with Italian, American and locally owned places to eat. Local food is mainly seafood based but chicken and meat meals are common. Unfortunately vegetarian options are so far very few and far between in Puerto Lopez.

What's included:

- Shared Accommodation (single rooms available at extra cost)
- Boat logistics
- Lunch on Board.
- Drinks on board.
- Tanks and Weights.
- Project Methodology Training and Support.

What's Not Included:

- Evening meals, Breakfast or Lunch when in port.
- Travel to and from Puerto Lopez.
- Internet Usage.
- Snacks.
- Dive Tuition and Training (Course Prices Available on application)
- Dive Equipment (Hire Equipment available for those not owning their own)

Price: £ 985 per person based on a three week study period. Different time period and price options available on request.

