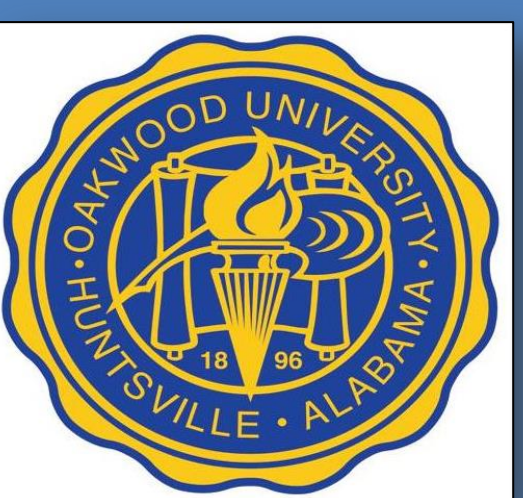




# SIGHTING RECORDS OF HAWKSBILL IN A MARINE PROTECTED AREA OF HONDURAS



Marsha Wright <sup>1,4</sup>, Linda Baeza <sup>1,2</sup>, Christian Hayes <sup>1,3</sup>, Lidia Salinas <sup>1,5</sup>, Stephen G. Dunbar <sup>1,3,5</sup>



<sup>1</sup>Protective Turtle Ecology Center for Training, Outreach, and Research, Inc. (ProTECTOR). Colton, CA 92324, <sup>2</sup>Department of Biological Sciences, Moorpark College, Moorpark, CA 93021, <sup>3</sup>Marine Research Group, Department of Earth and Biological Sciences, Loma Linda University, Loma Linda, CA 92350, <sup>4</sup>Department of Biological Science, Oakwood University, Huntsville, AL 35896, <sup>5</sup>Protective Turtle Ecology Center For Training, Outreach, and Research, Inc., Honduras (ProTECTOR-H) Tegucigalpa, Honduras



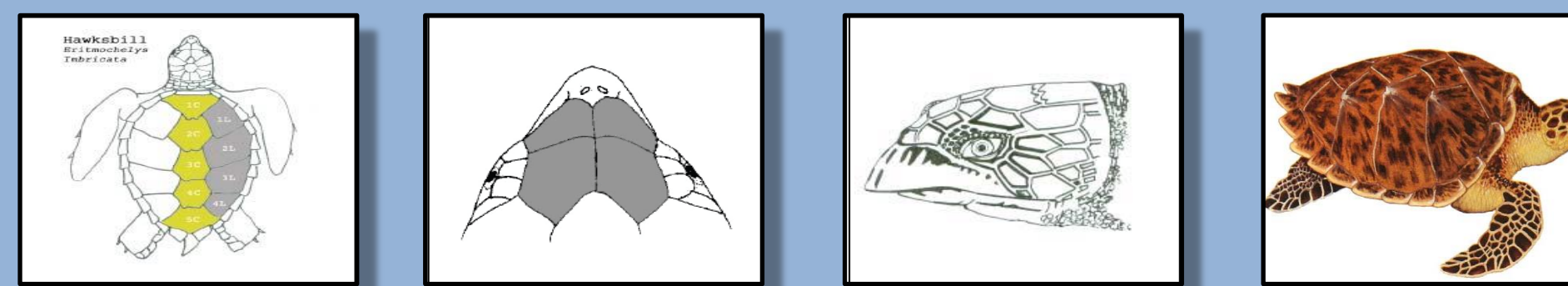
## Background

The Protective Turtle Ecology Center for Training, Outreach, and Research, Inc. (ProTECTOR) works to increase the conservation of, and research on, sea turtles in the country of Honduras. Roatán, one of the Bay Islands of Honduras, is the location of the Roatán Marine Park, which also strives to protect the island's natural resources and its marine habitats. Efforts were made to record the sightings of sea turtles in Roatán, specifically in the area of West End and West Bay within the boundaries of the Roatán Marine Park (RMP) (Fig. 1). Working in tandem with dive shops in West End (Table 1), we collected and recorded sightings data of Hawksbill, Green, and Loggerhead sea turtles in the area.

## Methods

From June to October, 2014, data collection sheets were provided to each dive shop detailing the identifying characteristics of the turtles, specifically the hawksbill sea turtle (Fig. 2). These sheets also prompted recorders to identify the location and depth of each turtle sighting, along with the specific species sighted, and whether the turtle was a juvenile or adult, male or female (Fig. 3).

## Hawksbill Species Identification



- Overlapping plates on the shell
- Four scales on the sides of the shells
- Saw-toothed shell plate edges
- Four scales in front of the central head scale
- Sharp, down-turned "beak."
- Moderately sized adults
- 5 central Scutes
- 4 lateral Scutes
- Scutes are overlapping
- 4 Scales before the eyes
- Mouth as a beak shape

Figure 2

## Sightings Data Sheets

DATE	DIVE SITE	DEPTH OF SIGHTING	DIVER LOGGING	HAWKSBILL	GREENS	LEATHERBACKS	LOGGERHEADS	OTHER/ NOT IDENTIFIED

Figure 3

## Results



Figure 6. The top ten dive sites for total turtle sightings were graphed from the 2014 data (A). The number of Hawksbill sightings were also graphed from the same ten dive sites from the 2014 data (B). The total number of turtle sightings were graphed for the same top ten dive sites from the 2013 data (C) as well as the total number of hawksbills sightings from the 2013 data (D).

## West End, Roatán, Bay Islands, Honduras

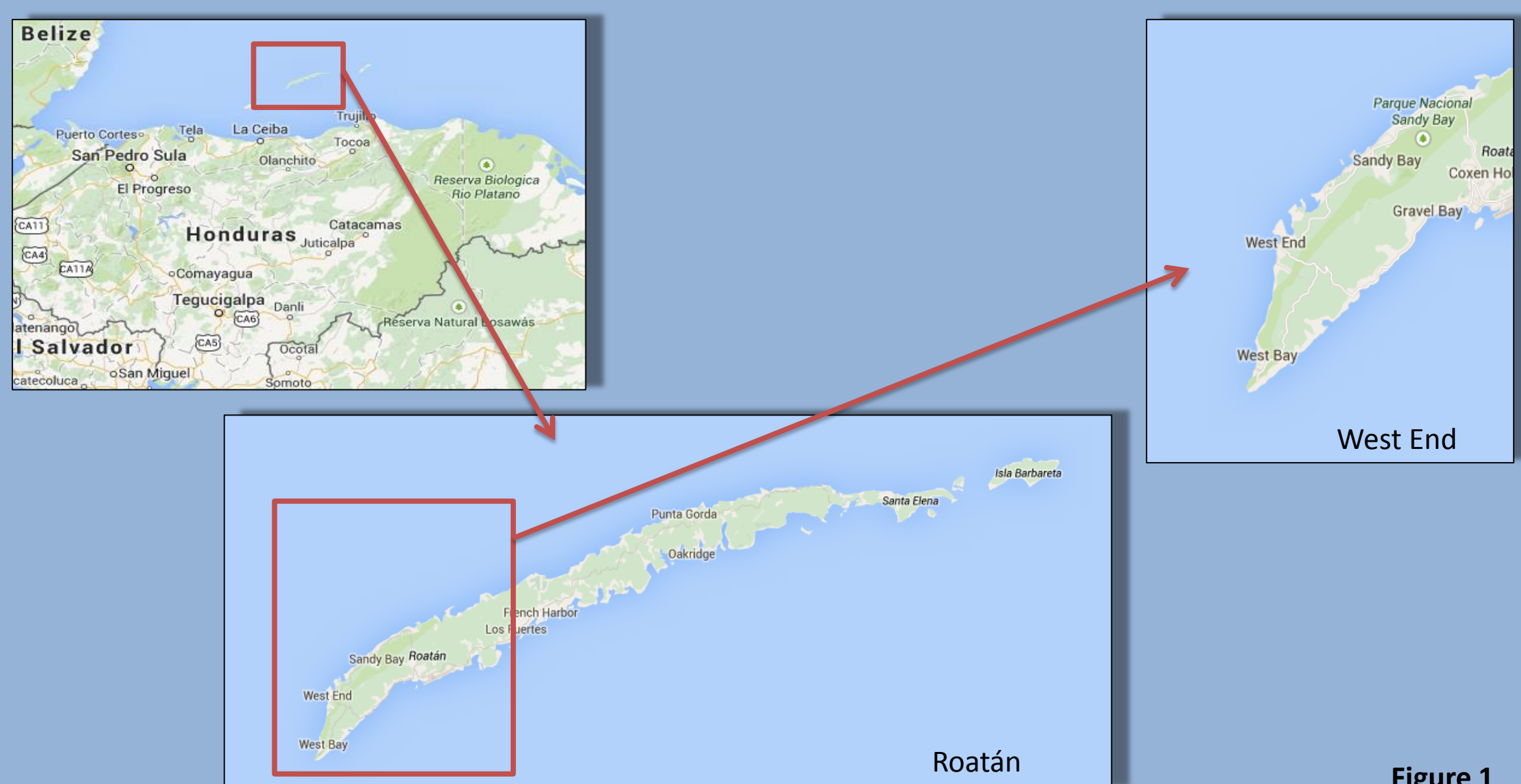
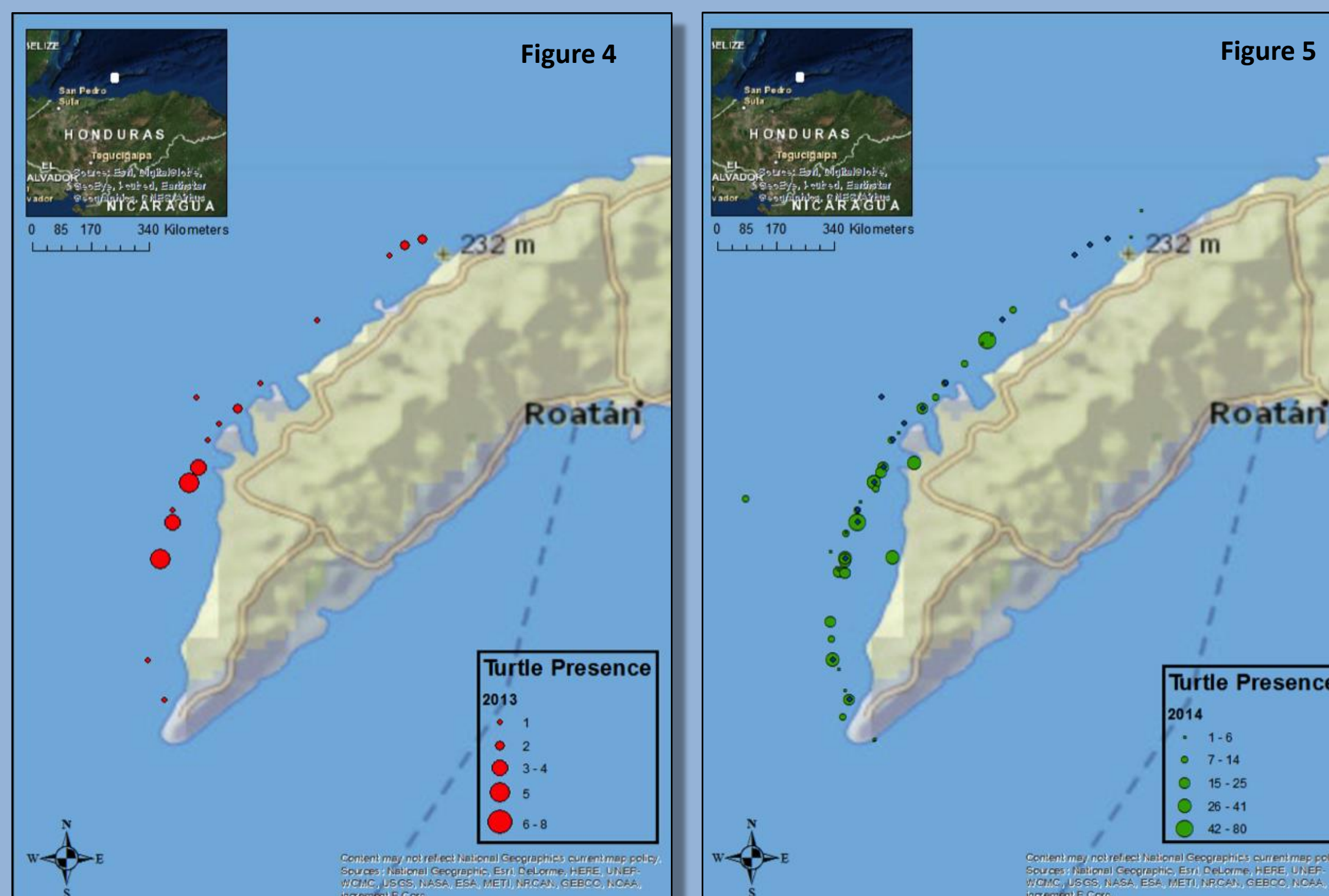


Figure 1

## Results

Approximately 720 turtle sightings were recorded ranging from a maximum of 80 turtle sightings at single site, to a minimum of 1 turtle sighting at a single site (Figures 4 and 5).



Figures 4 and 5 map the locations and numbers of sea turtle sightings at dive sites located in the West End and West Bay areas of the Roatán Marine Park in 2013 and 2014, respectively. The depth of sightings, gender, and age are not depicted.

## Conclusion and Further Studies

Initially, the data show an increase in turtle sightings in the off shore areas of West End and the Roatán Marine Park between the summer of 2013 and 2014. However, sighting records were taken from 135 dives in 2013 and 483 dives in 2014. The increase in the number of sightings may be due to an actual increase in the number of turtles present, yet is more likely due to increased involvement of dive operators in the project, as well as repeat sightings. Using the Interactive Individual Identification System (I<sup>3</sup>S), we continue to visually identify and determine replicate sightings, and thus, estimate population numbers. Clearly, hawksbills comprise the majority of turtles sighted. Using this information, we are able to make long-term contributions in sea turtle conservation by determining actual numbers of turtles in the area and expanding data on life-cycles, foraging habits, and migration activities.

## Acknowledgements

We extend our thanks to the Roatán Marine Park for collaborating with us on this project. We also thank Scuba Roatán, Sun Divers, Coconut Tree Divers, Enomis Divers, Roatán Divers, Reef Gliders, Native Sons, Seagrape Resort, Tyll's Dive, West End Divers, Quality Time Divers, Splash Inn, Ocean Connections, and Sueno Del Mar dive shops for providing their dive records of sightings and also for collecting dive sightings of turtles for this project. Several volunteers assisted with collecting data, to whom we are grateful. Thanks to Jimmy Miller for providing support and transportation. We are thankful to ProTECTOR Honduras Country Coordinator, Lidia Salinas, who secured all permit arrangements through SAG, DIGEPESCA, and ICF for the project to take place.

## Dive Shops

Table 1	
Coconut Tree Divers	Seagrape Resort
Enomis Divers	Splash Inn
Native Sons	Sueno Del Mar Resort
Reef Gliders	Sun Divers
Roatán Divers	Tyll's Dive
Scuba Roatán	West End Divers

