Occurrence, Distribution, Nesting Incidence, Habitat Connectivity, and Fishery Interaction of Marine Turtles in the Philippines Based on Tagging and Field Report Data from 1986 to 2015

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Abstract

This analysis of marine turtle tagging data and field reports collected over 30 years by the Department of Environment and Natural Resources (DENR), shows the occurrence, distribution, nesting incidence, habitat connectivity, and fishery interaction incidents of the green turtle (*Chelonia mydas*), hawksbill turtle (*Eretmochelys imbricata*), olive ridley turtle (*Lepidochelys olivacea*), leatherback turtle (*Dermochelys coriacea*), and loggerhead turtle (*Caretta caretta*) in the Philippines. While the Turtle Islands Wildlife Sanctuary (TIWS) is considered the top nesting ground for green turtles in the country, 17 other sites were identified as priority nesting areas based on the number of nesting incidents and years with incidents. Relatively high concentrations of nestings for hawksbill turtles were identified in seven sites while two sites were identified as nesting sites for olive ridley turtles. All five species of marine turtles had records of fishery interaction, with green turtles being the most frequently caught, followed by hawksbill turtles. Among the gears reported, most turtles were caught with fishing nets. Majority of green turtles were caught in the waters of Palawan province, while hawksbill and olive ridley turtles were most frequently caught in Bataan and Batangas province, respectively. A dispersal pattern suggests movement of the different species within the Philippines based on tag recoveries. Model residual values for non-nesting encounters on a gridded map potentially show important aggregation sites for tagged green turtles in other parts of the Philippines after nesting in the TIWS. Recommendations on research and management to better understand and conserve the marine turtle resources in the Philippine are provided.

1. Introduction

The Philippines is an archipelago with 7,641 islands. Its irregular coastline totals 36,289 km in length and the sea area is at 2,330,000 km^2, including the country's newest territory, the Philippine Rise. The Philippines is divided into six marine biogeographical regions based on the biophysical attributes of its coral reefs and coral communities (Rees, 2016). Aside from reefs and coral communities, coastal areas are also lined with sandy or rocky beaches, mangrove forests, seagrass beds, tidal flats, estuaries, and wetlands.

The diversity of coastal and marine habitats in the Philippines provides a variety of habitats for marine life. The Philippines, being part of the Coral Triangle together with five other countries, is known to harbor the highest diversity in marine organisms in the world (Rees, 2016). However, it is also a hotspot, where threats, mostly from human activities, are causing declines to marine life populations.

One of the groups of marine wildlife that has received major conservation concern are marine turtles. Of the seven species of marine turtles found in the oceans worldwide, five of these have been recorded in multiple sites in the Philippines, namely: green turtle (*Chelonia mydas*), hawksbill turtle (*Eretmochelys imbricata*), olive ridley turtle (*Lepidochelys olivacea*), loggerhead turtle (*Caretta caretta*), and leatherback turtle (*Dermochelys coriacea*). They have been a subject of protection and conservation in the Philippine since the 1940s.

The islands of the Philippine archipelago, are ideal for the nesting habitats of marine turtles that require sandy beaches in warm climates (Márquez M., 1990). Nesting is performed on sandy beaches above the high tide mark in isolated islands as well as in the mainland of the Philippines (Cruz R. , 2002). Since all five species are circumtropical in distribution, many of them are closely associated with habitats that are found in the Philippines, such as coral reef habitats (Dam & Diez, 1996; Quimpo, 2013) and seagrass beds (Taguet, et al., 2006; Quimpo, 2013), especially for green and hawksbill turtles. The Philippine waters also serve as migratory routes for the more pelagic leatherback and olive ridley turtles (NOAA, 2014; NOAA, 2016; NOAA, 2017).

Based on Department of Environment and Natural Resources (DENR) Administrative Order (DAO) No. 15 of 2004, four of the marine turtle species found are classified in the country as Endangered, with the hawksbill turtle classified as Critically Endangered. The Turtle Islands Wildlife Sanctuary (TIWS) in Tawi-Tawi has been recognized to have the largest and most important green turtle rookery in the country (Trono, 1991). It was declared a Protected Area under the National Integrated Protected Area System (NIPAS) in 1999 through Presidential Proclamation No. 171.

International and national laws such as the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and the Wildlife Resources Conservation and Protection Act of 2001 (R.A. 9147) have prohibited trade, directed catch, and consumption of marine turtles, but poaching remains a major threat as there is still demand for turtle meat

and eggs, some for local consumption but most for cross-border trading. Additionally, the carapaces and whole animals are illegally exported.

Another threat to marine turtles is habitat degradation. Nesting beaches throughout the country are declining due to increasing disturbances from human activities such as coastal development, both industrial and recreational, which have increased over the last two decades. Disturbances such as light and noise pollution, unregulated marine turtle tourism interaction, boat traffic and improper nesting beach and hatchery management are not sufficiently addressed. Moreover, other coastal habitats such as seagrass and coral communities, important for feeding and development, are degraded due to unsustainable and destructive fishing methods, sedimentation, and run-off. Marine debris, consisting mainly of plastic trash and discarded fishing nets, has been pointed out as a cause to entanglement, strandings, and deaths. The effects of chemical pollutants on marine turtles in the Philippines have not been assessed.

Negative impacts of climate change, such as sea level rise and erosion due to monsoons and typhoons, will most likely become a much larger threat in the near future. As sea levels rise, nesting beaches are threatened by inundation. Warming climates are also found to influence the sex ratio of the hatchlings as higher temperatures result in more female hatchlings or even in the death of unhatched turtles due to the increased sand temperatures (Ackerman, 1997).

To address these threats, information on marine turtles are necessary to develop and implement scientifically-based conservation programs. However, literature review shows that there is a lack of information and publications available on marine turtles in the Philippines. There are some publications and research papers on green, hawksbill, and leatherback turtles but none that focus solely on olive ridley turtles and loggerhead turtles.

Since 1983, the DENR has been collecting records of marine turtles in the Turtle Islands and subsequently to the rest of the country. This included tag data, fishery interactions, and stranding reports, among others.

The DENR's major research on marine turtles is focused on tagging nesters. Tagging is a research method where prescribed metal tags are attached on the flippers of marine turtles as a means of identifying individuals. Information on the population size, reproductive biology, movements, stranding, and growth rates are some of the parameters that could be derived from tagging based on tag recoveries or re-encounters. Inconel tags inscribed with numbers/and or letters (e.g., PH0663E) are used and sourced only from DENR offices.

However, due to various reasons, such as limited personnel and funding, long-term and consistent monitoring of marine turtle nestings, the tagging program was not implemented optimally. Specific problems included inconsistent data collection and management, lack of a point person to analyze these data, changes in leadership, and implementation without a defined research question. So far, the data collected for more than 30 years have not been completely analyzed and therefore, a comprehensive report is not yet available.

The main objective of this report is to identify trends that will improve the understanding of marine turtles and advance their conservation and protection in the country through the analysis of the marine turtle data from the tagging research and field office monitoring programs of the DENR from 1986 to 2015. It was intended to produce a Philippine marine turtle status report, but the data input was unable to provide this because of limitations which are further explained in the next chapter.

Nevertheless, the report provides, for the first time, valuable insights into the occurrence, distribution, nesting incidence, habitat connectivity, and fishery interaction of Philippine marine turtles. It also shows past research initiatives and the potential of acquiring a more comprehensive dataset and information on marine turtles in future research for the improvement of their conservation in the Philippines.

2. Methods

2.1. Data Sources

The data used for this study was derived from a tagging research program of the DENR, which started in 1983, and initially was concentrated in the Turtle Islands. This activity was then expanded to the different administrative regions of the Philippines in 1989. This enabled DENR to properly document marine turtle incidents throughout the country. The documentation and reporting were done by wardens in protected areas as well as field action officers from the regions.

Data used for this study were limited to the time periods of 1986-2015 for the TIWS (30 years) and of 1996-2015 (20 years) for the rest of the country. This is due to the large information and monitoring gaps before 1986 for the TIWS and the gaps before 1996 for the rest of the country. The cut-off period of the analysis was the end of 2015; until then the DENR had accumulated 51,001 useable data entries for marine turtles. Data for 2016 and onwards were not used as the data from the field were incomplete as most entries have not reached the central office, yet, where the data are consolidated and saved.

Based on the data available, it appeared that a coherent and efficient filing protocol was missing. There were also several changes in research strategies, data forms, and report validation methods. Moreover, there were different field personnel, as well as encoders who handled the data throughout the years. This caused some data loss, incoherence, and duplication among the electronic files managed by DENR.

The data used for this study consisted of multiple Microsoft Excel sheets with data entries from tagging records that were manually encoded by DENR from paper records. The data were encoded over a period of 33 years (1983 to 2016), which, in combination with ambiguities in the encoding protocol, resulted in multiple Microsoft Excel sheets with different formats, column headings, terminologies, and codes. These files were

consolidated and transformed for use in the Python Programming Language in order to create a proper database for analysis.

The TIWS data were analyzed separately from the rest of the country as the number of records totaling to 39,474 represents 79% of the reports, which would skew the results.

2.2. Data Limitations

The quality of the results in this report is highly dependent on the quality of the data used. It should be noted that only valid data in sufficient quantity which can be analyzed statistically was used for this report. It therefore looks into the larger trends over the years, rather than specific cases. During the course of the analysis, a number of problems were encountered such as:

Data sources. The data originates primarily from the tagging data and Field Action Office Reports submitted to the DENR-Biodiversity Management Bureau (BMB) central office. This report does not include data from some DENR Regional Offices, other agencies such as academic, non-governmental organizations (NGOs), and research institutions that were not submitted officially to the DENR-BMB. This report does also not include an analysis of data from hatchery management programs, including egg production, as well as reports of marine turtles with Philippine tags that were recaptured outside of the country.

Inconsistent sampling effort and biases. The data in this report is entirely based on tagged turtles, which means that trends may differ when the whole population is considered. This is an attempt to put the collected data to good use and provide, nevertheless, valuable insights. The nation-wide tagging of marine turtles was rather opportunistic than a regular or fixed sampling effort (temporal and spatial). Therefore, some Regional Offices of the DENR appear to have been more consistent in reporting than others. There were also some years where only a limited number of turtles were tagged due to a lack of personnel to go to the field or the unavailability of tags. This means that the number of records cannot be used to reflect the abundance of marine turtles in the country. In addition, this study relied heavily on tagged turtles that are mostly nesters (65.7% of the data). The remaining tagged turtles were either caught during fishing activities, other non-nesting activities, and unknowns.

Non-standardized data collection. There were several changes in the data sheets over three decades, which resulted in varying information gathered. Also, a lot of the data were cleaned up (see Chapter 2.3) due to the different terms and measures used in the data sheets. Moreover, some information was not specific enough and have been reported in only a consolidated form. An example is that the fishery interaction reports were not specific enough as to the fishing gear involved. Also, there are inaccuracies in the location of the marine turtle incidents because most turtles that were caught during fishing were transferred to a different location for documentation before their

release. This resulted in a lack of a direct link between the species and the exact location of their habitats. The research methods were sometimes flawed, an example of which was using Malaysian tags in the country when Philippine tags were unavailable or certain private institutions using their own tags instead of official ones from the government.

Recording mistakes. This is probably the most avoidable and frequent mistake. The errors showed the need to improve on the system of collecting, reporting, and storing of data and require better training in e.g. species identification and activity of the individual when it was observed as there were numerous mistakes. It was also difficult to verify these records especially when there were no photographs and when the records were decades-old. It is also possible that these mistakes were made during encoding. The complex reporting system within the DENR added to either the loss or alteration of data.

Voluminous data. The difficulty in analyzing voluminous data spanning several decades was addressed by focusing on trends and patterns derived from a database system developed for this report. It is impossible to ensure that all the errors present in the database have been filtered out. Individual turtles were largely not emphasized, as the results were only relevant when several of the records showed a trend or pattern, which helped in rendering the errors more insignificant.

2.3. Data Cleanup

Data duplication occurred during encoding because several encoders worked on the same files from multiple sources, which were all merged into one file. Therefore, the resulting dataset needed cleaning up before analysis was done.

A manual process of data cleanup, using Microsoft Excel formula and search-and-replace operations, was done to standardize the names, categories, and codes in those columns and provide the appropriate location entries. Multiple feedback sessions were organized with DENR-BMB to validate this process.

After the manual cleanup, an automated cleanup process was applied using the following steps:

1. invalidating records with badly formatted values,
2. invalidating records with unrealistic values,
3. geolocating record entries,
4. de-duplicating the data, and
5. identifying individual marine turtles from their tag information.

These were done using the *Python Programming Language*, the *Python Data Analysis Library (pandas)*, the *Jupyter Notebook Framework*, and PostgreSQL Relational Database Management System with the PostGIS extension.

When needed, only the individual values in the data entry were invalidated by eliminating a specific value for the specific records, thus no full record entry was completely eliminated. For the analyses, only the invalidated values for the record were disregarded. For example, data concerning time series did not use records with invalid dates. But if that same data contained a valid species and sex, the record was still included in species/sex analyses but did not take the date into account.

2.3.1. Invalidating Records with Badly Formatted Values

Invalid records are those that did not adhere to formatting in any "normal" system. Examples include date values that could not be interpreted by the *pandas* to date time function (because of extra text, missing years or months, etc.), numeric values with text in them, time values that contained text or missing hours or minutes, and tag numbers that did not contain a valid combination of prefix, number, and suffix.

2.3.2. Invalidating Records with Unrealistic Values

Records that contained a value that was correctly formatted but nonetheless had an unrealistic/invalid value were also invalidated. This included unrealistic sizes, like Curved Carapace Length (CCL) and Curved Carapace Width (CCW) <5 cm and >250 cm (juveniles less than 40 cm were supposedly not tagged), tag numbers where the prefix code was either absent, or if present, did not correspond to a code that was known to be used by DENR or surrounding countries (P, A, C, F, I, E, F, H, D, B, G, J, ARMM, PARMM, JPN, MYS, MY, MLYS, PH, RP, FA, AO) and coordinates that were well outside of Southeast Asia.

2.3.3. Geolocating Records

About 80% of the records contained valid latitude/longitude values for the encounter. For the remaining 20%, the latitude/longitude values were derived from the barangay, municipality, and province fields in the dataset. Using the *Python Fuzzywuzzy Library*, these names were matched against a database with geometry information of barangays and municipalities in the Philippines (PhilGIS, 2011). As the point location for these encounters, the midpoint of the coastline of the respective barangay or municipality was chosen. If the barangay could not be located, which was usually due to spelling differences, but a municipality was, then the municipality was used as the location.

2.3.4. De-Duplicating of the Data

In total, 94,892 records were provided in multiple Microsoft Excel sheets. Visual inspection already revealed a large number of duplicate records. Later, when additional data was provided to fill in some temporal gaps in the data, large amounts of additional duplicates were noticed in the dataset.

De-duplication was done by determining which data sets had identical column entries. When all values in these columns were identical, the two or more

records were deemed the same. A number of records that were eliminated as duplicates were selected and visually inspected if they were indeed duplicates. A new column was added to each record which specified all records that were deemed to be duplicates. This allowed eliminated duplicates to be traced back to the row they were a duplicate of. The first entry of all duplicates was used for analysis. Using this method, the following list for columns was used for de-duplication: 'Barangay', 'Municipality', 'Date Encountered', 'Time', 'Species', 'Sex', 'CCL cm', 'CCW cm', 'Right Tag #', 'Left Tag #','Left Tag #.1', 'Right Tag #.1','Left Tag #.2', and 'Right Tag #.2'. This led to the elimination of 43,891 duplicate rows leaving 51,001 rows usable for analysis.

2.3.5. Individual Marine Turtle Identification

After invalidating incorrect tags, unique individual marine turtles were identified in the dataset using the tag numbers. This method was used to compensate for tag-losses and badly encoded tag codes such as left and right tags that had been swapped or only one tag was recorded, among others. Marine turtles were assumed to be the same individual if they shared at least one tag in the records, without taking into account whether the tag was fitted on the right or left flipper. Also, the species and sex of the marine turtle were not taken into account because there were clear examples of misidentified species and sex in the dataset, e.g. nesting turtle identified as male.

This was done in a recursive manner, so even marine turtles that were first encountered with Tags A and B, then with B and C, and a third time with C and D were still deemed to be the same marine turtle, even if the last and first encounter did not share any common tags anymore. Out of the total of 51,001 data entries, 38,767 had a valid left and/or right tag, with 70,350 tags encountered in total combining the left and right flippers (Table 1).

Table 1. Summary of tagging data for all species of marine turtle from 1986 to 2015.

Description	Number of Incidents
Total tagging records	38,767
Total tagging records from the Turtle Islands Wildlife Sanctuary	29,896
Total tagging records outside of the Turtle Islands Wildlife Sanctuary	8,268
Total tagging records originating from “nesting” turtles	26,704
Total tagging records originating from “non-nesting” individuals, including unknown individuals	12,063

2.4. Initial Data Exploration

The dataset that was collected from the DENR-BMB, although comprehensive, was lacking consistency. Thus, an initial data exploration had to be conducted to determine

what data can be used to analyze the distribution of the encounters per species, sex, encounter type, activity, and location through a time series. To be able to interpret the results better, the records over time were visualized, and a unit of measure was made up for the sampling effort by determining the number of days that encounters were reported per year. For encounters of type "Fishery Interaction", the fishing gear in use at the specific encounter from the "Activity" column and the condition in which the marine turtle was encountered were identified.

The analysis focused on nesting and fishery interaction records because other parameters did not provide any significant trends.

2.5. Nesting Site Identification and Fishery Interaction Assessment

To determine nesting sites and fishery interaction sites for the different marine turtle species, the records that were used had to have a valid location (point geometry), date and species, with the type of activity, "Nesting" and “Fishery Interaction” recorded in the "Encounter" field. Using this point data, Kernel Density Estimation (KDE) (Sheather & Jones, 1991) was used to identify areas with high incidence of nesting encounters within a time frame of ten years, starting from the year 1986 to 2105 for the TIWS and 1996 to 2015 for non-TIWS. The KDE was done with the Grass GIS using the v.kernel function. A kernel radius of 0.2° (~22 km) was used (0.1° and ~11 km for fishery assessment) for the whole country, excluding the TIWS, where the spatial accuracy of the data was much higher. The KDE results in a raster image with a resolution of each cell of 0.001° x 0.001° (~0.12 km x 0.12 km) for the whole country.

In the TIWS, a radius of 0.09° (~12 km) was used. The KDE results in a raster image with a resolution of each cell of 0.0001° x 0.0001° (~0.01 km x 0.01 km).

Using the r.mapcalc function, cells containing zero nesting encounters were eliminated. Subsequently, the cells were divided into six groups and categorized according to the resulting KDE numbers using histogram equalization of the r.colors function of Grass GIS. The categories were chosen so they represented six quantiles with equal numbers of cells per category based on the KDE of the nesting encounters. The grid cells that were in the one of the largest three categories were determined to be important nesting sites and using the Grass GIS r.to.vect function were turned into polygons for these nesting sites per species for two decades.

2.6. Nesting Site Prioritization

To highlight the important sites with high nesting incidence, the nesting sites were categorized into *Low*, *Medium,* and *High* priority categories based on two criteria: the number of years with nesting incidents and the number of nesting incidents over a period.

PostgreSQL with the PostGIS extension was used using the SQL query language. All previously established nesting sites were combined with the point data for marine turtle nesting incidents. For each nesting site, period, and species, the natural

logarithm of the years with incidents and the number of incidents were used to normalize the dataset. Subsequently, all sites were divided into the three categories with equal intervals between the minimum and maximum number of incidents and years with incidents. This resulted in all nesting sites being classified into a *Low*, *Medium* or *High* priority category for number of nesting incidents (Table 2) and *Sporadic*, *Occasional*, and *Frequent* for years with nesting incidents (Table 3). As with the nesting site identification, data from the TIWS was not taken into account in the category "Calculation" to prevent it from skewing the results. The tables below summarize the range of number of nesting incidents and years with incidents for green turtles, olive ridley turtles, and hawksbill turtles.

Table 2. Range of number of nesting incidents per category for green, hawksbill, and olive ridley turtles outside of the Turtle Islands Wildlife Sanctuary (1996 – 2015).

Category	Green turtle incidents	Hawksbill turtle incidents	Olive ridley turtle incidents
Low	1-7	1-2	1-7
Moderate	8-56	3-8	8-55
High	More than 56	More than 8	More than 55

Table 3. Range of years with nesting incidents per category for the green, hawksbill, and olive ridley turtles outside of the Turtle Islands Wildlife Sanctuary (1996 – 2015).

Category	Number of years with green turtle nesting incidents	Number years with hawksbill turtle nesting incidents	Number of years with olive ridley turtle nesting incidents
Sporadic	1.00 - 2.14	1.00 - 2.3	1.00
Occasional	2.15 – 3.00	2.40 – 5.00	2.00 – 3.00
Frequent	4.00 or more	6.00 or more	4.00 or more

Therefore, a site is an aggregation of points with multiple nesting incidents, encompassing one or several municipalities depending on the distribution of nestings along a stretch of coastline, be it contiguous or not.

Nesting sites that were classified as *High* in either the number of incidents or the years with incidents of nesting were identified as high priority nesting sites for that species.

Provinces with high priority nesting sites were determined similarly. However, before any calculations were made, sites that spanned multiple provinces were split up per province using an intersection algorithm. Subsequently, all sites derived this way were grouped by province before determining the number of incidents and years with incidents values. All subsequent calculations and classifications were identical to the nesting site prioritization.

2.7. Size Distribution

For the size distribution maps, the same methodology was used as for the nesting site identification: KDE with the same parameters (radius), divided into six quantiles (categories), selected the top three categories, and turned that into a polygon (site). Sites are separately created for adults and sub-adults/juveniles using a general size

range for each of the different species (Table 4). The juveniles and sub-adults size classes were grouped together as the size range used in the analysis for each species overlapped. This was then plotted into a map. Colors are made to "blend" together if juveniles/sub-adult and adult sites overlap so that each site is basically a concentration of "a lot of" sub-adult or adult encounters for that species.

Table 4. Size ranges of different age groups among different species.

Age Group	Size Ranges for Green Turtle	Size Ranges for Hawksbill Turtle	Size Ranges for Olive Ridley Turtle
Juvenile/Sub-adult	40 – 80 cm	35 – 70 cm	30 – 60 cm
Adult	More than 80 cm	More than 70 cm	More than 60 cm

2.8. Habitat Connectivity

To determine connectivity between the nesting habitat and other habitats (feeding, breeding or migration corridor), for each species and time period, identified nesting sites were connected to non-nesting sites based on the number of identified unique marine turtles that were reported in two separate sites which are at least 100 km apart. The non-nesting sites were identified in the same manner as the nesting sites, using KDE, but by selecting all records where the "Encounter" field did not have the value "Nesting". A connection was made in a map between sites where at least one marine turtle was encountered in both sites. These connections were displayed on a map, and the lines were assigned colors based on the number of marine turtles that were encountered in both sites.

Quadrat analysis was used to test the dispersion of green turtles nesting in the TIWS. Non-nesting encounters of marine turtles at least 100 km away from where they were previously tagged in the TIWS and identified as “nesting” were analyzed. If spatial patterns can be observed, this would suggest movement of these marine turtles, and thus habitat connectivity.

Initially, a quadrat analysis was done where the Philippines was divided into a regular grid of 0.1° (~11 km) but only including the grid cells that covered the coastlines. In these grid cells, the number of non-nesting encounters with marine turtles identified to have nested in the TIWS was counted. The variance/mean ratio (VMR) of these grid cells was calculated. A VMR<1 suggests that the encounters are evenly distributed across the coastlines of the Philippines. A VMR ~1 suggests the encounters are randomly distributed and a VMR>1 suggests there is a level of clustering of the encounters (Rogerson, 2001).

To do the quadrat analysis, a regular grid was prepared in Grass GIS for the Philippines with a cell size of 0.1°. By making use of the OpenStreetMap coastline data, only grid cells were included that covered Philippine coastline, since all “non-nesting” encounters were recorded along the coast. The “non-nesting” encounters were

selected by querying the database from PostgreSQL /PostGIS. In Grass GIS, the point data were aggregated into the prepared grid cells from which the number of encounters was counted.

This grid data was then loaded into R using the *rgrass7 package*, where the VMR was calculated. Subsequently the χ^2 statistic was used to test if the VMR significantly deviated from VMR=1 (random distribution of the points).

Linear regression was used in R to analyze the relationship between the distance of the nesting ground and the "non-nesting" encounter site.

3. Results

3.1. Data Summary

A total of 51,001 records were used in the analysis which can be broken down into the following types of encounters (Table 5).

Table 5. List of types of encounters of marine turtles in the dataset.

Encounter Type	Number of incidents	Percentage
Fishery interaction	2,893	5.7%
Rodeo capture for tagging	72	0.1%
Non-fishery/non-nesting	4	0.0%
Stranding	50	0.1%
Nesting (TIWS)	31,688	62.13%
Nesting (Non-TIWS)	1,822	3.57%
Captive	217	0.4%
Boat strike	1	0.0%
Hatchlings	63	0.1%
In-water (live sighting at sea)	1,350	2.6%
Unknown	12,841	25.2%
Total	**51,001**	**100.00%**

The total numbers of nesting incidents for each marine turtle species outside the TIWS are as follows: green turtles at 1,018, hawksbill turtles at 219, olive ridley turtles at 579, leatherback turtles at two, and loggerhead turtles at 12, with 154 unknowns. A full list of provinces and municipalities where marine turtles were recorded to have nested in the Philippines is presented in Appendix 1: List of Municipalities and Provinces with Marine Turtle Nesting Incidents.

3.2. Number of Nesting Incidents and Years with Incidents

Marine turtles lay their eggs on beaches, one of the few times in their life cycle they do not spend in the water, making nesting beaches significant habitats for reproductive marine turtles. Exhibiting high site fidelity, marine turtles return to their nesting

beaches upon sexual maturity and have been recorded to return regularly to the same nesting area (Garduño-Andrade, 1999; Dobbs, J.D., Limpus, & Landry, 1999).

Three species of marine turtles were tagged and reported to nest in 239 sites, covering 60 provinces in the Philippines. Each site may be a single municipality with a long coast with numerous nesting incidents or a group of small municipalities whose nestings occur in close proximity which was aggregated into one site. Of the total of 1,984 nesting incidents, green turtle nesting encounters comprised 51.3%, olive ridley turtle 29.2%, hawksbill turtle 11%, loggerhead turtle 0.6%, leatherback turtle 0.1%, and unknown 7.8% (Figure 1). The loggerhead and leatherback turtles nesting records are questionable and cannot be validated.

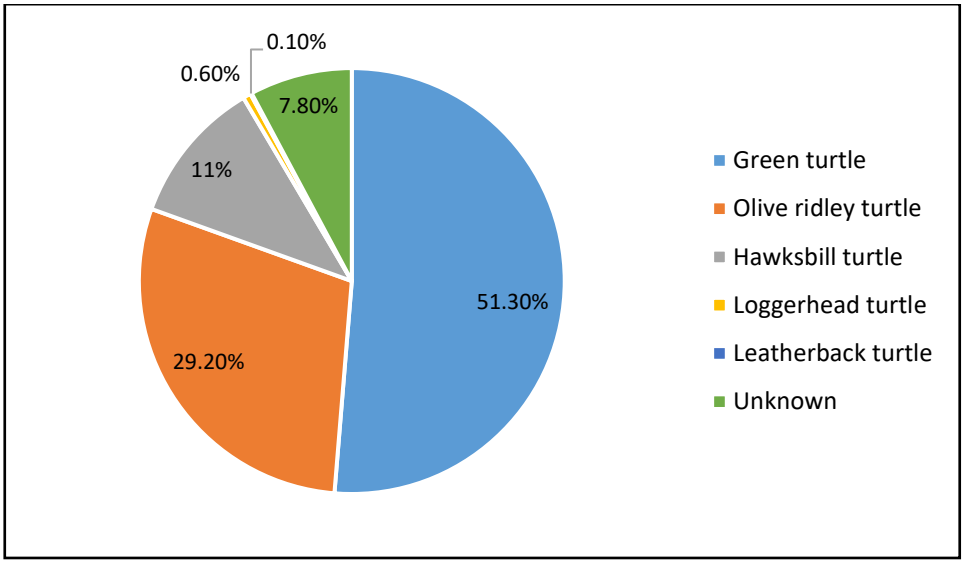

Figure 1. Tagged marine turtle nesting incidents in the Philippines outside the Turtle Islands Wildlife Sanctuary from 1996-2015.

3.2.1. Green Turtle Nesting Incidents

Green turtle nesting incidents were reported in 136 sites, covering 428 municipalities in 60 provinces, excluding the TIWS. The highest nesting incidence was in Bongao-Languyan-Panglima Sugala-Sapa-sapa-Tandubas site of Tawi-Tawi (421 nesting incidents), Dimataling-Vincenzo Sagun site of Zamboanga del Sur (105 nesting incidents), and Abucay-Subic of Bataan/Zambales province (77 nesting incidents). In terms of nesting incidence, only seven sites were classified as High, 20 Moderate, and 114 sites Low (Table 6).

Table 6. List of sites with high and medium number of nesting incidents for tagged green turtles outside the Turtle Islands Wildlife Sanctuary.

Provinces	Municipalities	Number of Nesting Incidents	Category
Tawi-Tawi	Bongao, Languyan, Panglima Sugala, Sapa-Sapa, Tandubas	421	High

Zamboanga del Sur	Dimataling, Pitogo, Vincenzo A. Sagun	105	High
Bataan	Bagac, Mariveles, Morong	77	High
Albay Sorsogon Camarines Sur	Bacacay, Tabaco City, Legazpi City, Rapu-Rapu, Malinao, Manito, Pio Duran, Tiwi, Casiguran, Castilla, Sorsogon City, Donsol, Gubat, Pilar, Prieto Diaz, Sagnay	74	High
Misamis Oriental Agusan del Norte Camiguin	Alubijid, Cagayan de Oro City, El Salvador City, Gingoog City, Jasaan, Lagonglong, Magsaysay, Medina, Opol, Salay, Tagoloan, Talisayan, Villanueva Buenavista, Butuan City, Cabadbaran City, Nasipit, Guinsiliban, Mahinog, Mambajao	69	High
Palawan	Balabac	65	High
Palawan	Narra, Quezon, Sofronio Espanola	57	High
Occidental Mindoro	Calintaan	43	Moderate
NCR	Manila, Navotas, Malabon	28	Moderate
Maguindanao	Parang	25	Moderate
Occidental Mindoro	Sablayan	22	Moderate
Oriental Mindoro	Bansud, Gloria, Pola	22	Moderate
Palawan	Kalayaan	21	Moderate
Marinduque	Boac, Buenavista, Gasan	20	Moderate

One hundred eleven (111) of the sites had sporadic nesting incidents, with only a single nesting over the last two decades. Seventeen (17) sites had occasional nestings, where nestings occurred over a two to three-year period from 1996 to 2015, while 15 sites had frequent nesting, as nesting occurred consistently for more than four years (Table 7).

Table 7. List of sites with frequent and occasional years with nesting incidents for tagged green turtles outside the Turtle Islands Wildlife Sanctuary.

Provinces	Municipalities	Number of years with nesting incidents	Category
Occidental Mindoro	Calintaan, Rizal, Sablayan	17	Frequent
Agusan del Norte Camiguin Misamis Oriental	Alubijid, Balingasag, Balingoan, Baungon, Binuangan, Buenavista, Butuan City, Cabadbaran City, Cagayan de Oro City, Carmen, Catarman, El Salvador City, Gingoog City, Guinsiliban, Jasaan, Kinoguitan, Lagonglong, Laguindingan, Libona, Magallanes, Magsaysay, Mahinog, Malitbog, Mambajao, Manolo Fortich, Medina, Nasipit, Opol, Sagay, Salay,	9	Frequent

Provinces	Municipalities	Number of years with nesting incidents	Category
	Sugbongcogon, Tagoloan, Talisayan, Villanueva		
Palawan	Aboralan, Puerto Princesa	9	Frequent
Bataan Zambales	Abucay, Bagac, Balanga City, Hermosa, Limay, Mariveles, Morong, Olongapo City, Orani, Orion, Pilar, Samal, San Antonio, Subic	8	Frequent
Bulacan Cavite Metropolitan Manila	Bulacan, Cainta, Cavite City, Las Piñas, Manila, Navotas, Obando, Parañaque, Pasay City, Valenzuela	8	Frequent
Catanduanes	Baras, Bato, San Andres, San Miguel, Virac	8	Frequent
Romblon	Alcantara, Ferrol, Looc, Odiongan, San Agustin, San Andres, Sta Fe, Sta Maria	8	Frequent
Negros Occidental	Cauayan, Hinoba-an, Sipalay City	8	Frequent
Albay Camarines Sur Sorsogon	Bacacay, Barcelona, Buhi, Buhi Lake, Casiguran, Castilla, Donsol, Goa, Gubat, Juban, Legazpi City, Malilipot, Malinao, Manito, Pilar, Pio Duran, Prieto Diaz, Rapu-Rapu, Sagnay, San Jose, Santo Domingo, Sorsogon City, Tabaco City, Tigaon, Tiwi	7	Frequent
La Union	Aringay, Bacnotan, Bauang, Caba, Naguilian, San Fernado City, San Gabriel, San Juan	7	Frequent
Tawi-Tawi	Bongao, Languyan, Panlima-sugala, Sap-sapa, Tandubas	6	Frequent
Palawan	Aborlan, Narra, Quezon, Sofrono Espanola	6	Frequent
Marinduque	Boac, Buenavista, Gasan, Mogpog	5	Frequent
Oriental Mindoro	Baco, Calapan City	5	Frequent
Zamboanga del Sur	Dimataling, Dinas, Margosatubig, Pitogo, Tabina, Vicenzo A. Sagun	4	Occasional

Figure 2 and Figure 3 show the location of green turtle nesting sites across the Philippines outside of the TIWS.

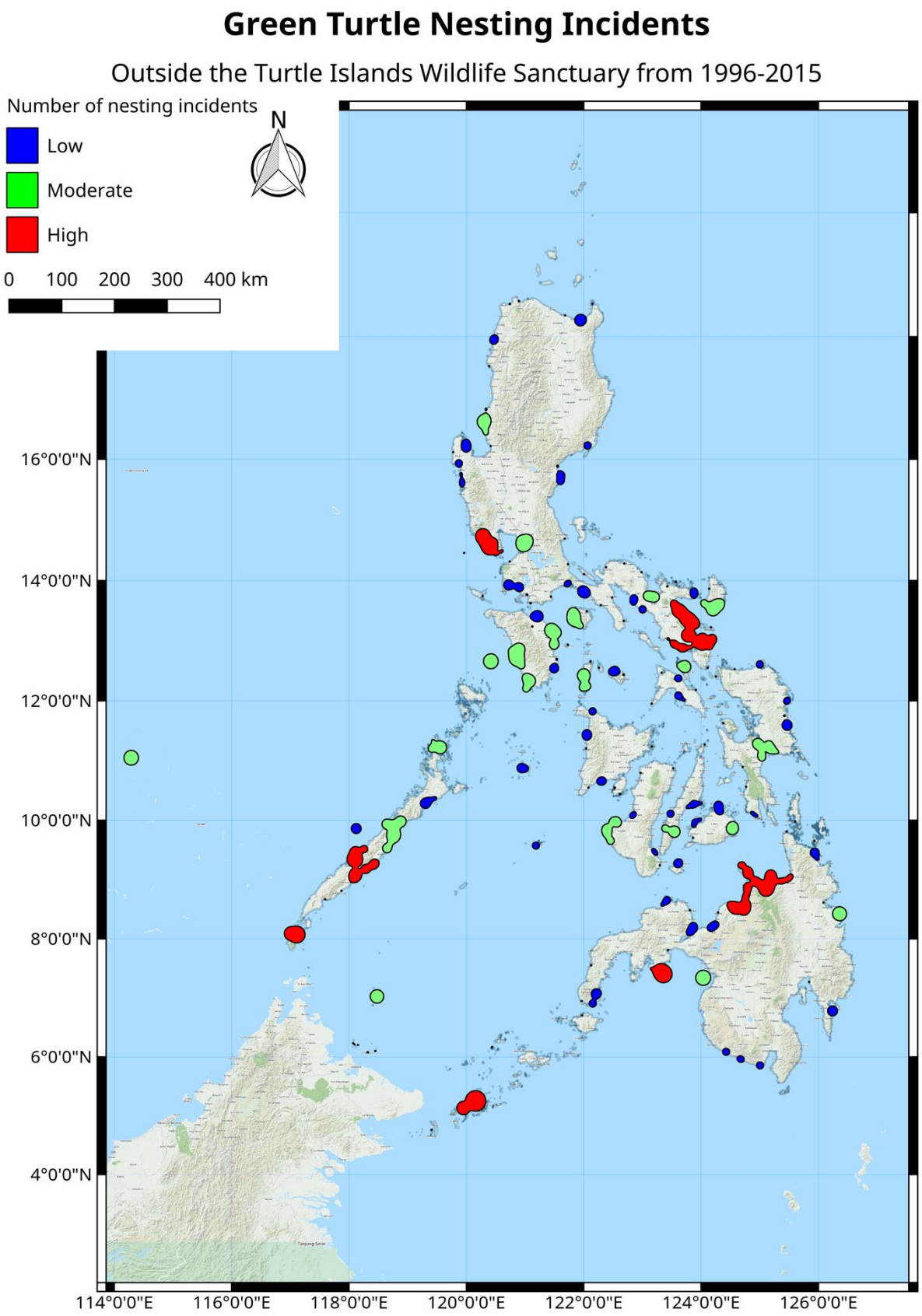

Figure 2. Individual nesting incidents of tagged green turtles in the Philippines outside the Turtle Islands Wildlife Sanctuary.

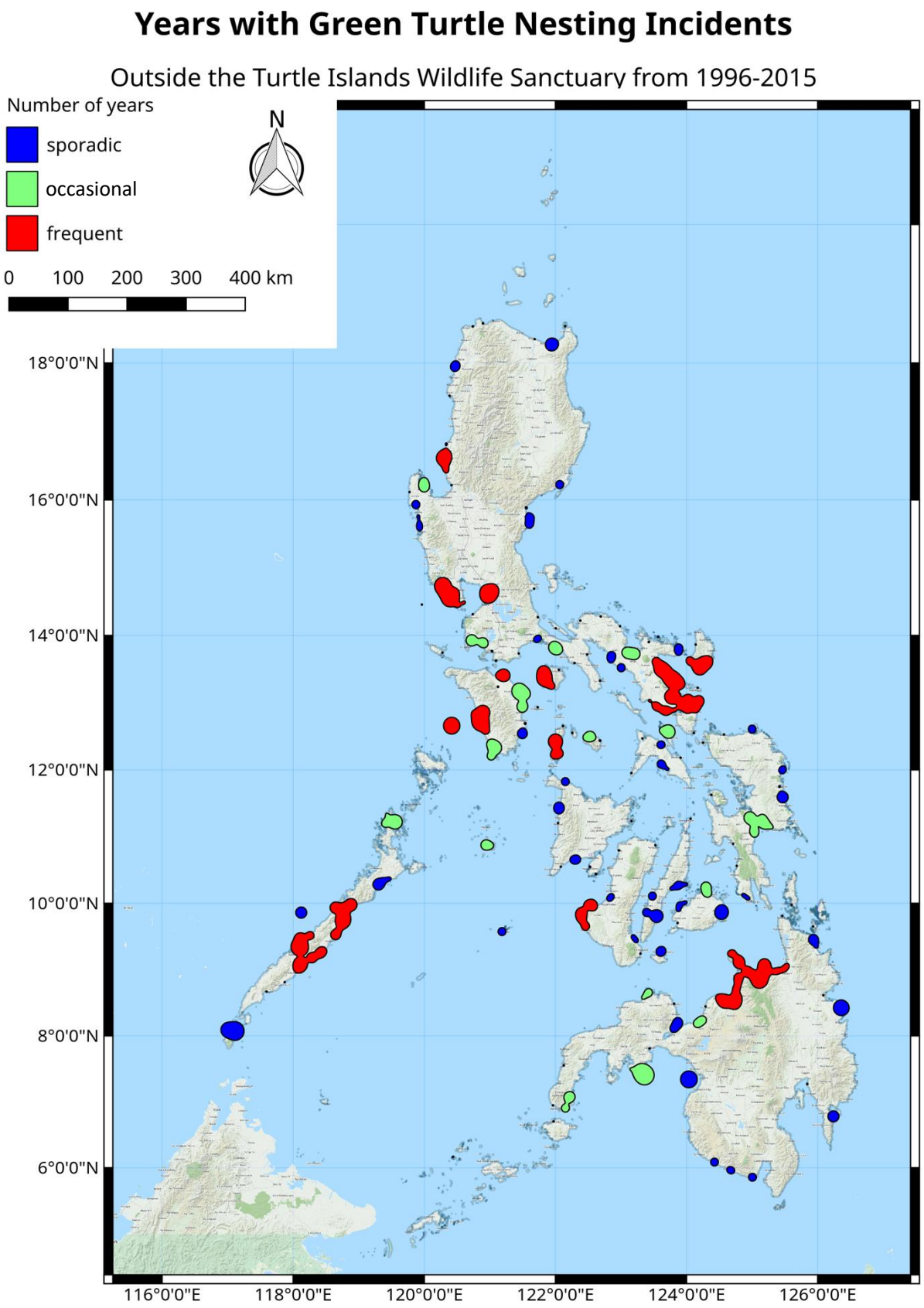

Figure 3. Years with tagged green turtle nesting incidents in the Philippines outside the Turtle Islands Wildlife Sanctuary.

3.2.2. Hawksbill Turtle Nesting Incidents

Hawksbill turtle nesting incidents were reported in 71 sites covering 175 municipalities from 32 provinces, excluding the TIWS. The highest aggregation is located in the combined municipalities from Binuangan-Magsaysay of Misamis Oriental, Carmen-Buenavista of Agusan del Norte, and (25 nestings), followed by the sites in Boac-Buenavista-Gasan-Mogpog of Marinduque Province (16 nestings), and Balabac, Palawan (11 nestings). In terms of nesting incidence, five sites were classified as High, 14 as Moderate, and 52 as Low (Table 8).

Table 8. List of sites with high and medium number of nesting incidents for tagged hawksbill turtles outside the Turtle Islands Wildlife Sanctuary.

Provinces	Municipalities	Number of Nesting Incidence	Category
Agusan del Norte Misamis Oriental Camiguin	Buenavista, Carmen Gingoog City, Magsaysay, Medina, Sugbongcogon, Talisayan Salay, Guinsiliban, Mahinog, Mambajao, Sagay	25	High
Marinduque	Boac, Gasan	16	High
Palawan	Balabac	11	High
Surigao del Sur	Hinatuan	11	High
Oriental Mindoro	Pola	9	High
Albay	Bacacay, Malinao, Tabaco City	7	Moderate
Metro Manila	Manila	7	Moderate
Sorsogon	Prieto Diaz, Sorsogon City	7	Moderate
Misamis Oriental	Balingasag, Cagayan de Oro City, El Salvador City, Jasaan, Tagoloan, Villanueva	6	Moderate
Occidental Mindoro	Sablayan	6	Moderate
Negros Occidental	Cauayan, Sipalay City	5	Moderate
Davao del Sur Davao del Norte	Davao City Samal City	5	Moderate
Siquijor	Enrique Villanueva, Larena, San Juan	5	Moderate
Bataan	Bagac	5	Moderate
Palawan	Cuyo	4	Moderate
Palawan	Roxas	4	Moderate

Palawan	Puerto Princesa City	3	Moderate
Palawan	Quezon	3	Moderate
Masbate	Mobo-Uson	3	Moderate

Two sites had frequent nesting, eight sites occasional nesting, and 61 sites sporadic nesting (Table 9). The provinces of Misamis Oriental, Agusan Del Norte, and Camiguin have the highest combined year occurrence of nesting for hawksbill turtles.

Figure 4 and Figure 5 show the location of hawskbill turtle nesting sites across the Philippines outside of the TIWS.

Table 9. List of sites with frequent and occasional years with nesting incidents for tagged hawksbill turtles outside the Turtle Islands Wildlife Sanctuary.

Provinces	Municipalities	Number of years with nesting incidents	Category
Agusan del Norte Camiguin Misamis Oriental	Balingoan, Binuangan, Buenavista, Carmen, Catarman, Gingoog City, Guinsiliban, Kinoguitan, Lagonglong, Magsaysay, Mahinog, Mambajao, Medina, Nasipit, Sagay, Salay, Sugbongcogon, Talisayan	13	Frequent
Misamis Oriental	Balingasag, Cagayan de Oro City, Claveria, El Salvador City, Jasaan, Opol, Tagoloan, Villanueva	6	Frequent
Marinduque	Boac, Buenavista, Gasan, Mogpog	4	Occasional
Oriental Mindoro	Pinamalayan, Pola	3	Occasional
Bulacan Metro Manila	Las Piñas, Manila, Navotas, Obando, Parañaque, Pasay City	5	Occasional
Marinduque	Boac, Buenavista, Gasan, Mogpog	4	Occasional
Albay	Bacacay, Ligao City, Malilipot, Malinao, Rapu-Rapu, Santo Domingo, Tabaco City	4	Occasional
Bataan	Bagac, Mariveles, Morong	4	Occasional
Siquijor	Enrique Villanueva, Larena, Maria, San Juan, Siquijor	4	Occasional
Occidental Mindoro	Calintaan, Sablayan	3	Occasional

Davao del Norte Davao del Sur	Davao City, Samal City	3	Occasional

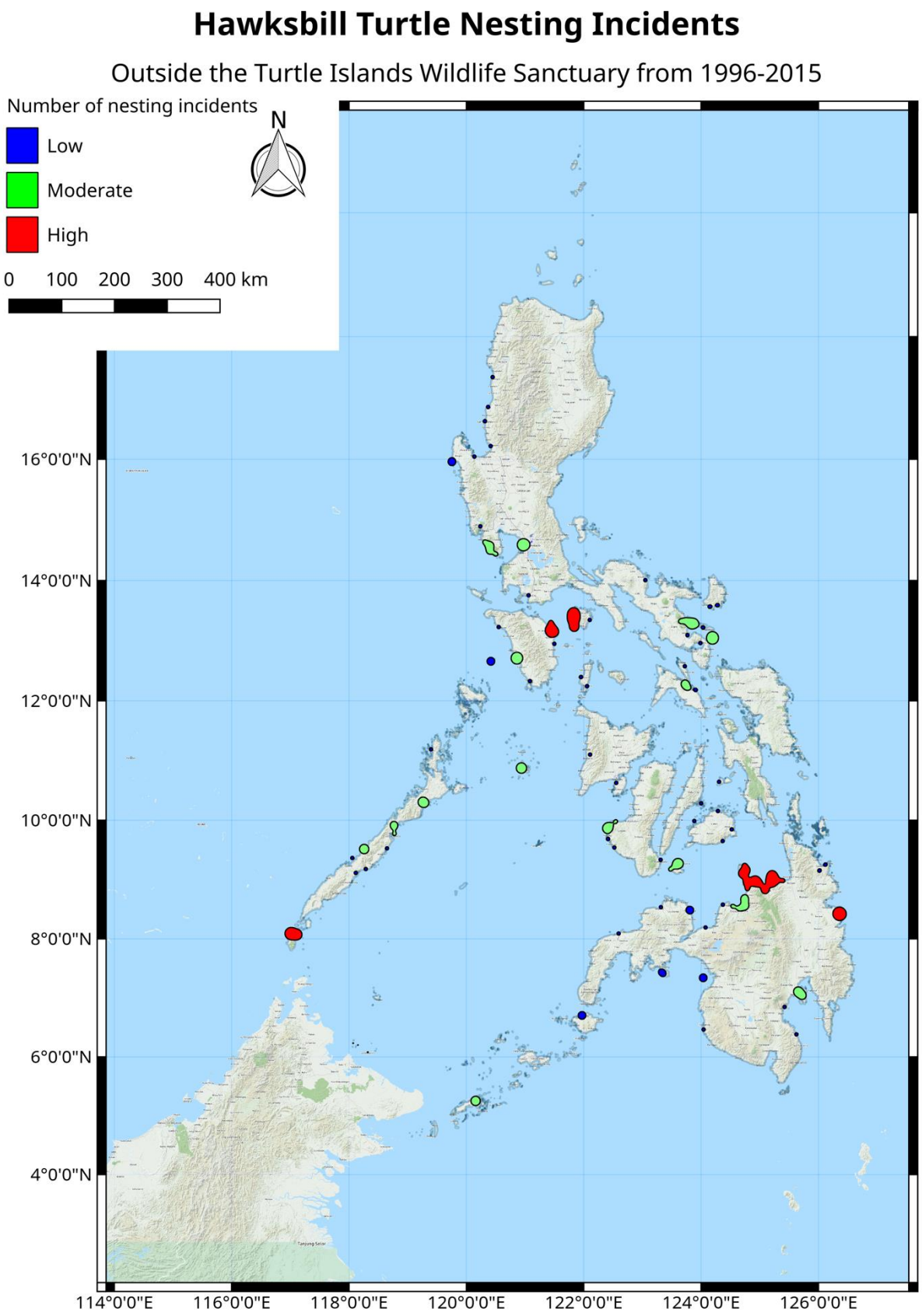

Figure 4. Individual nesting incidents of tagged hawksbill turtles in the Philippines outside the Turtle Islands Wildlife Sanctuary.

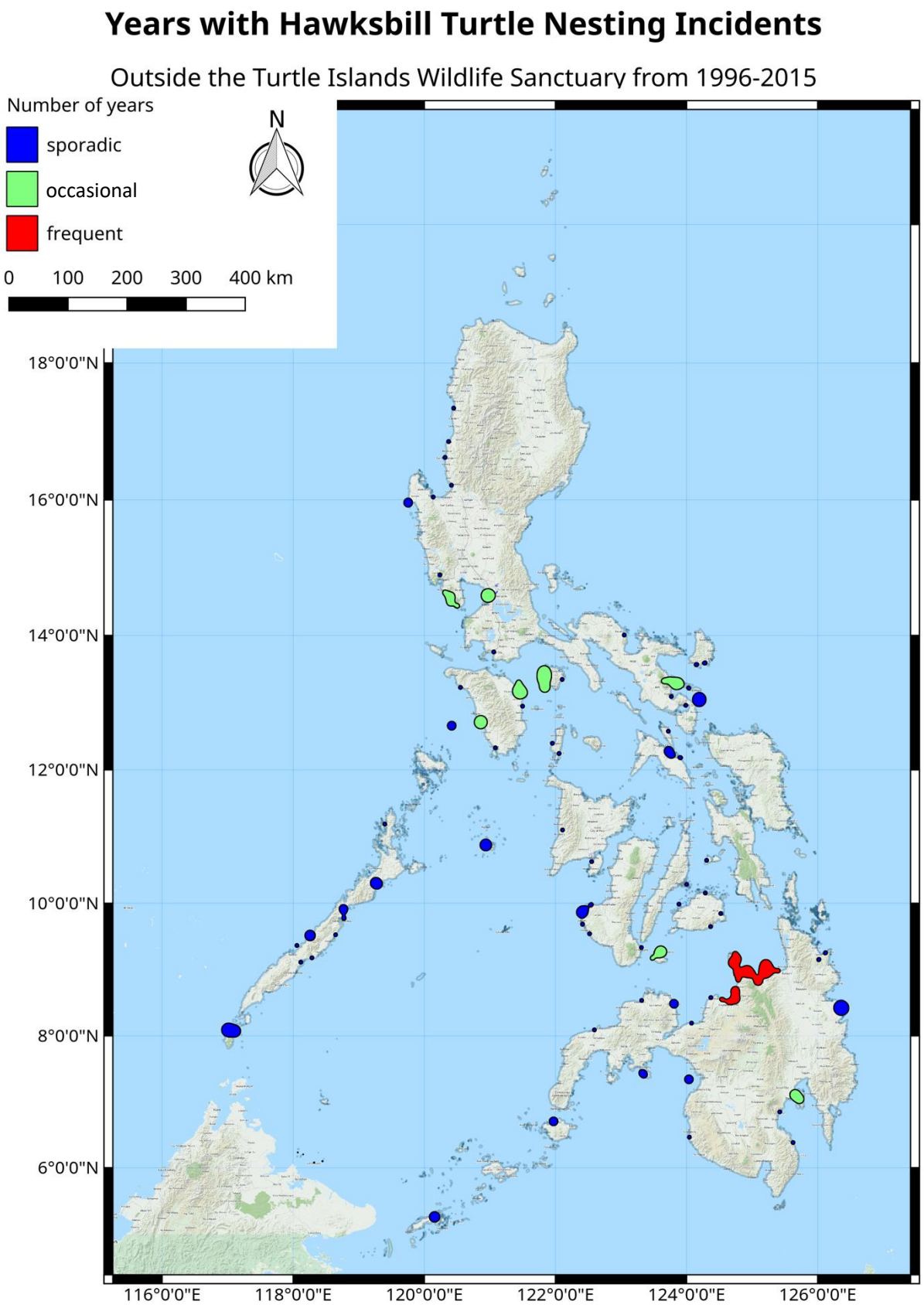

Figure 5. Years with tagged hawksbill turtles nesting incidents in the Philippines outside the Turtle Islands Wildlife Sanctuary.

3.2.3. Olive Ridley Turtle Nesting Incidents

Olive ridley turtle nesting incidences were reported in 49 sites, covering 147 municipalities in 33 provinces, not including those in the TIWS. The highest incidence was in the municipalities of Bagac and Morong, with a combined total of 410 incidences and the only site classified as High. Outside of Bataan, only two sites were classified as Moderate, and 46 sites as Low (Table 10).

Table 10. List of sites with high and moderate number of nesting incidences for tagged olive ridley turtles outside the Turtle Islands Wildlife Sanctuary.

Provinces	Municipalities	# of Nesting Incidence	Category
Bataan Zambales	Abucay, Bagac, Morong, Pilar Olongapo City, San Antonio	410	High
Metro Manila	Manila, Navotas	19	Moderate
Oriental Mindoro	Pinamalayan, Pola	12	Moderate

In terms of number of years with incidents, two sites had frequent nestings, seven sites occasional nesting, and 40 sites sporadic nesting (Table 11).

Table 11. List of sites with frequent and occasional years with nesting incidents for tagged olive ridley turtles outside the Turtle Islands Wildlife Sanctuary.

Provinces	Municipalities	Number of years with nesting incidents	Category
Bataan Zambales	Abucay, Bagac, Balanga City, Hermosa, Limay, Mariveles, Morong, Olongapo City, Orani, Orion, Pilar, Samal, San Antonio, Subic	15	Frequent
Bulacan Cavite Metro Manila	Bacoor, Bulacan, Cavite City, Imus, Kawit, Las Piñas, Manila, Navota, Noveleta, Obando, Parañaque Pasay City	8	Frequent
Oriental Mindoro	Bansud, Gloria, Pinamalayan, Pola	3	Occasional
Batangas	Balayan, Calaca, Calatagan, Lemery, Lian, Nasugbu	4	Occasional
Camarines Sur	Lupi, Ragay, Sipocot	3	Occasional

Sarangani	Kiamba, Maitum	5	Occasional
Zambales	Botolan, Iba, Palauig	3	Occasional
Marinduque	Boac, Gasan, Mogpog	3	Occasional
Davao del Norte Davao del Sur	Davao City, Samal City	3	Occasional

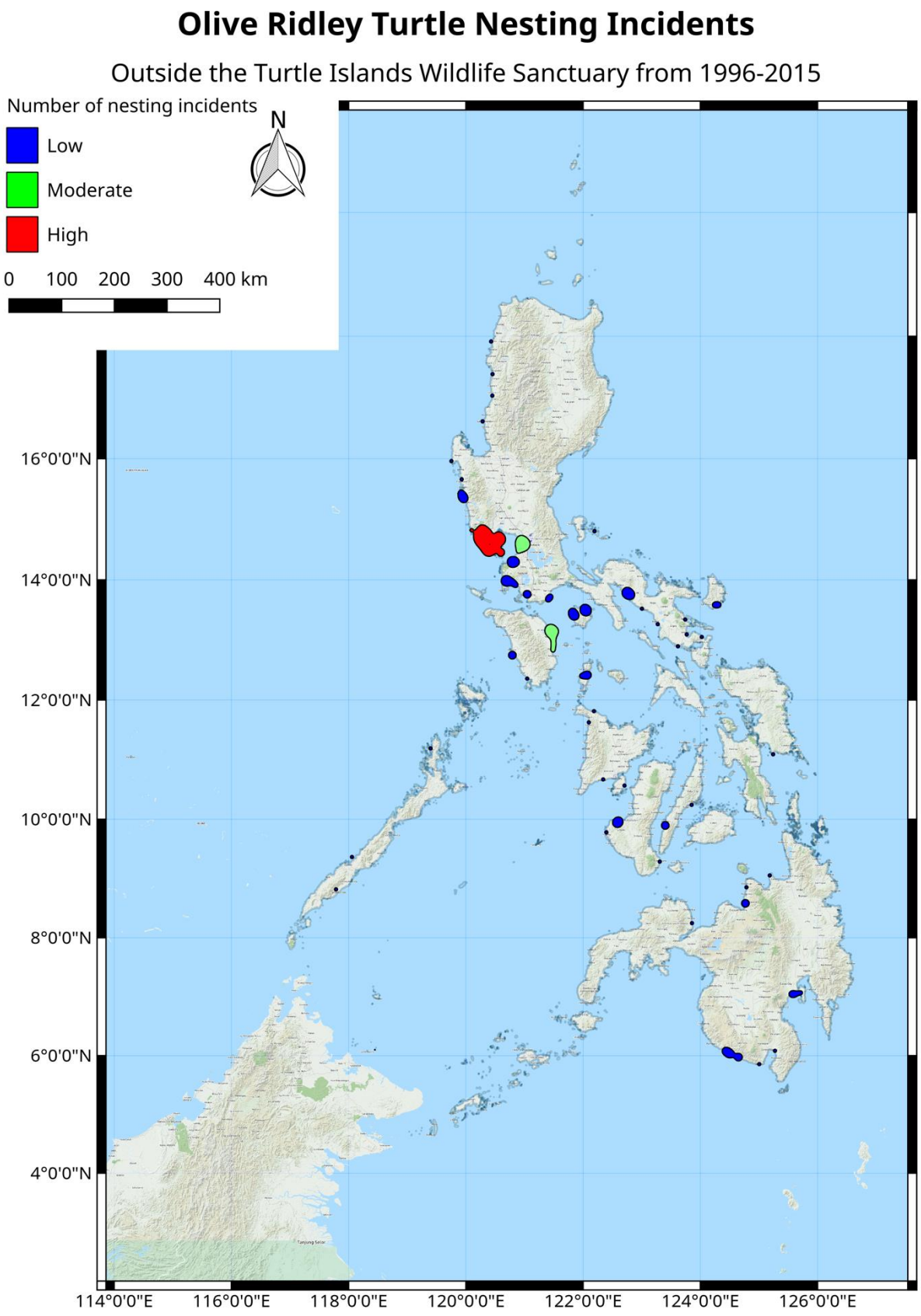

Figure 6. Individual nesting incidents of tagged olive ridley turtles in the Philippines outside the Turtle Islands Wildlife Sanctuary.

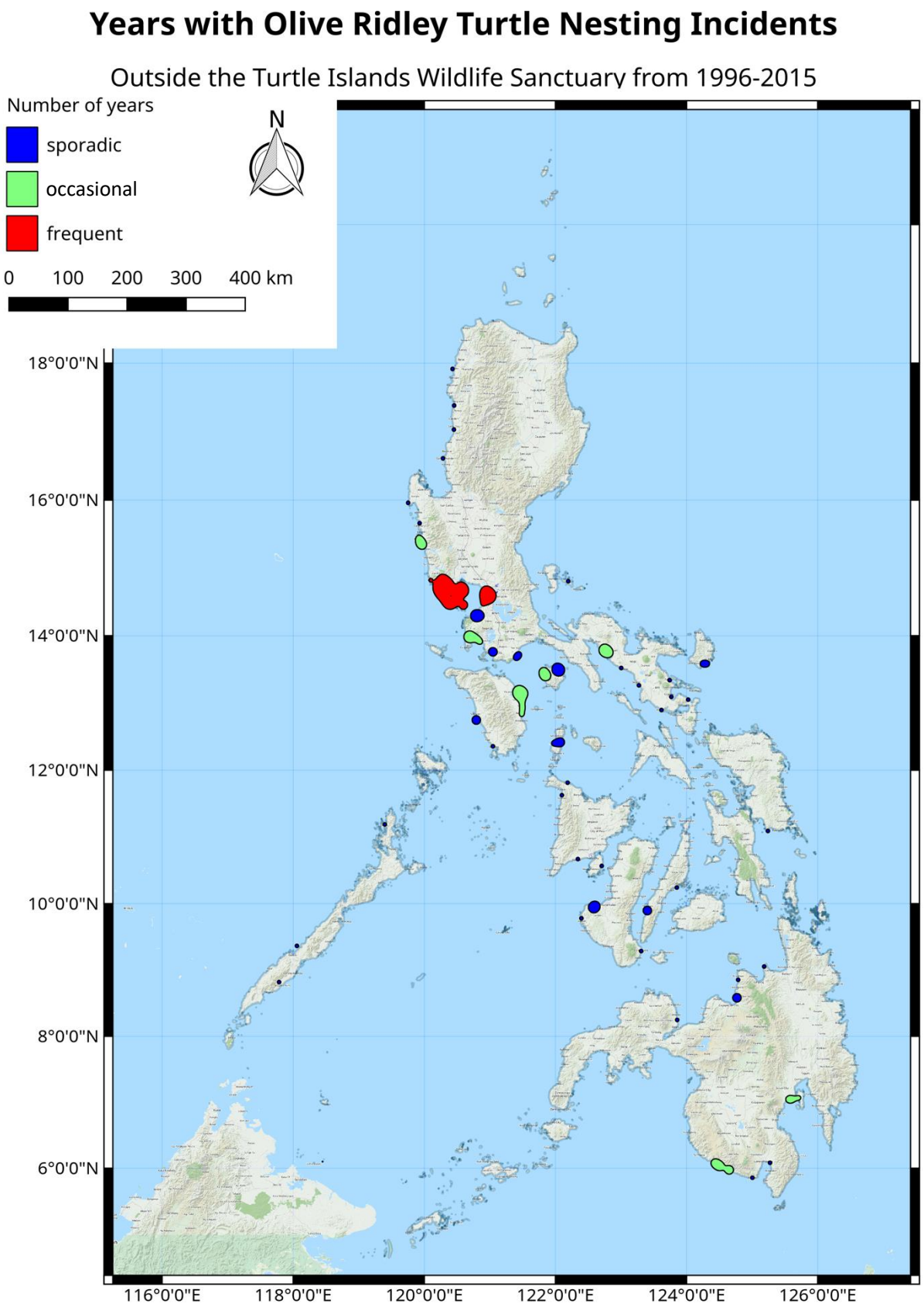

Figure 7. Years with tagged olive ridley turtle nesting incidents in the Philippines outside the Turtle Islands Wildlife Sanctuary.

3.3. Loggerhead and Leatherback Turtle Incidents

There is a total of 114 records for loggerhead turtles and leatherback turtles that are non-fishery related in 68 municipalities and 32 provinces (Appendix 1). The types of encounter recorded are as follows: Unknown (61.4%), leatherback turtle nesting (1.75%) and loggerhead turtle nesting (11.4%), captive loggerhead turtle (0.9%), and in-water activity of unspecified species (24.55%). However, the information on the nesting for both species is highly questionable and was not verified. Furthermore, there was not enough data to infer any trends.

3.4. Marine Turtle Size Distributions Outside the Turtle Islands Wildlife Sanctuary

Using the same tagging data but now analyzing the curved carapace length (CCL), the distribution of adults and juveniles/sub-adults for green, hawksbill, and olive ridley turtles was determined. The majority of the sites harbors both juveniles/sub-adults and adults. Both green and hawksbill turtles had higher peaks of the juvenile/sub-adult individuals, while the olive ridley turtle had a higher peak of the adults.

3.4.1. Green Turtle Size Distribution

The highest number of green turtles reported belonged to the juveniles within a 40-50cm CCL range, while adults were fewer and recorded a 95-105cm CCL range (Figure 8). Adult and juvenile/sub-adult green turtles were widely reported in the country (Figure 9). Basing the life stages on CCL size, there were more sites where only juveniles/sub-adults were reported as compared to sites with only adult green turtles outside of TIWS. Sites with only juvenile/sub-adult turtles were mostly in the Pacific side, including areas between Bohol and Cebu. Sites with mostly adult turtles were generally located in the Sulu-Sulawesi areas of Palawan, Cagayancillo, and Tawi-Tawi.

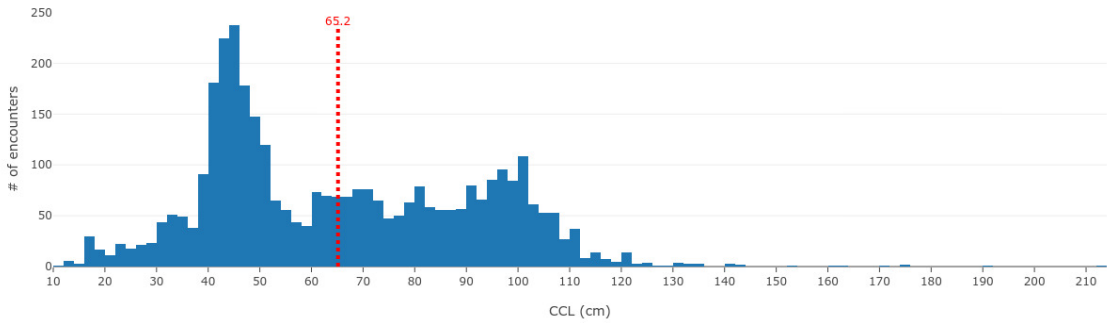

Figure 8. Size distribution of tagged green turtles outside the Turtle Islands Wildlife Sanctuary.

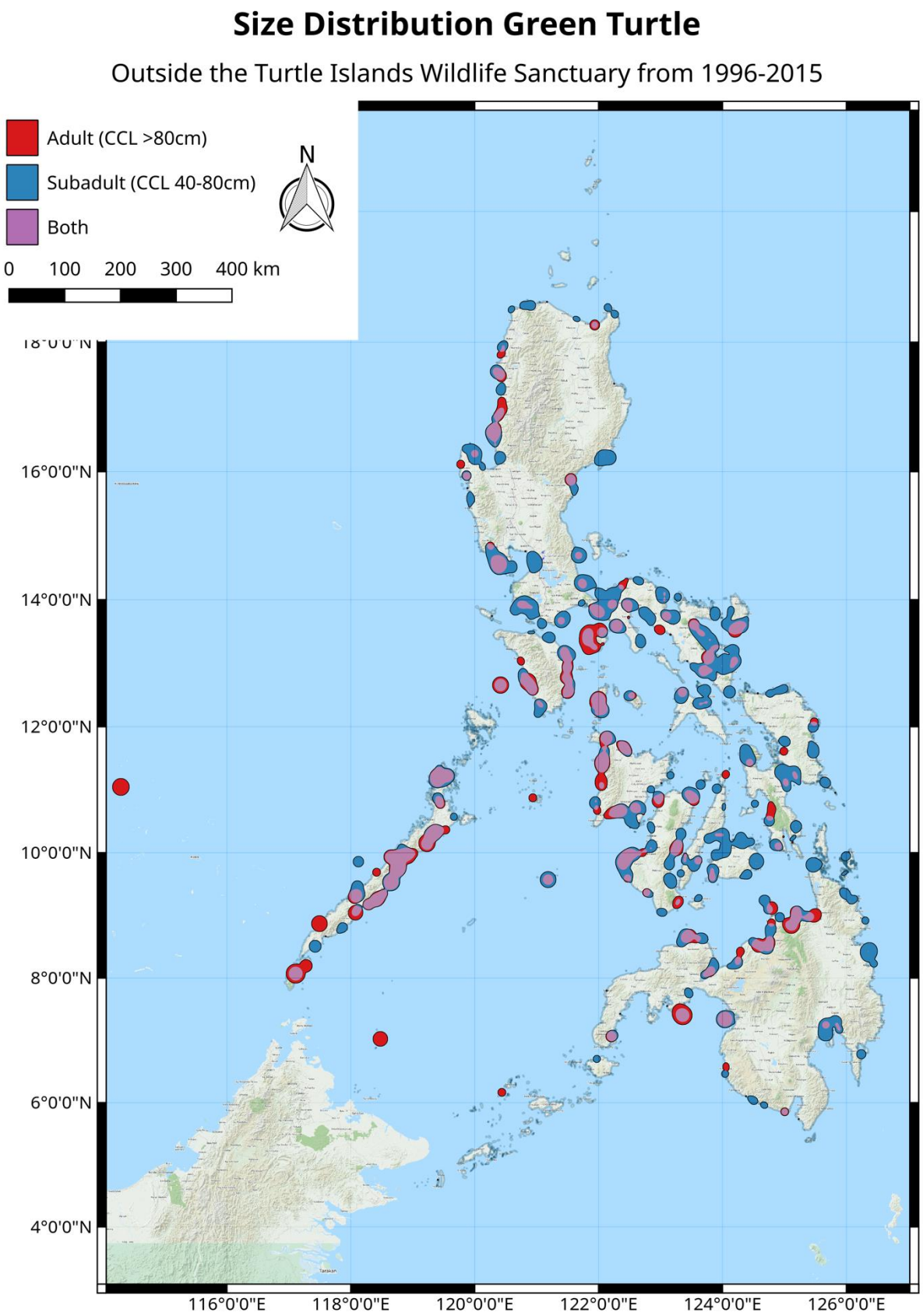

Figure 9. Distribution of tagged green turtles in different class sizes, outside the Turtle Islands Wildlife Sanctuary.

3.4.2. Hawksbill Turtle Size Distribution

Most of the hawksbill turtles recorded a CCL within the 35-45 cm range (Figure 10), which points to a majority of tagged juveniles. Reported to a lesser extent were adult hawksbill turtles within the 75-80 cm CCL range. The majority of the sites harbored both adult and juveniles (Figure 11). Sites where mostly adults were reported are in Palawan, Tubbataha Reefs, Tawi-Tawi, northern Mindanao, and Oriental Mindoro.

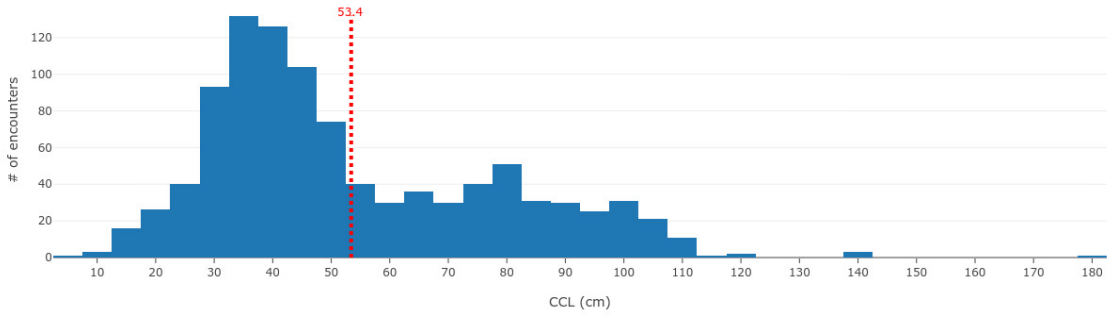

Figure 10. Size distribution of tagged hawksbill turtles outside the Turtle Islands Wildlife Sanctuary.

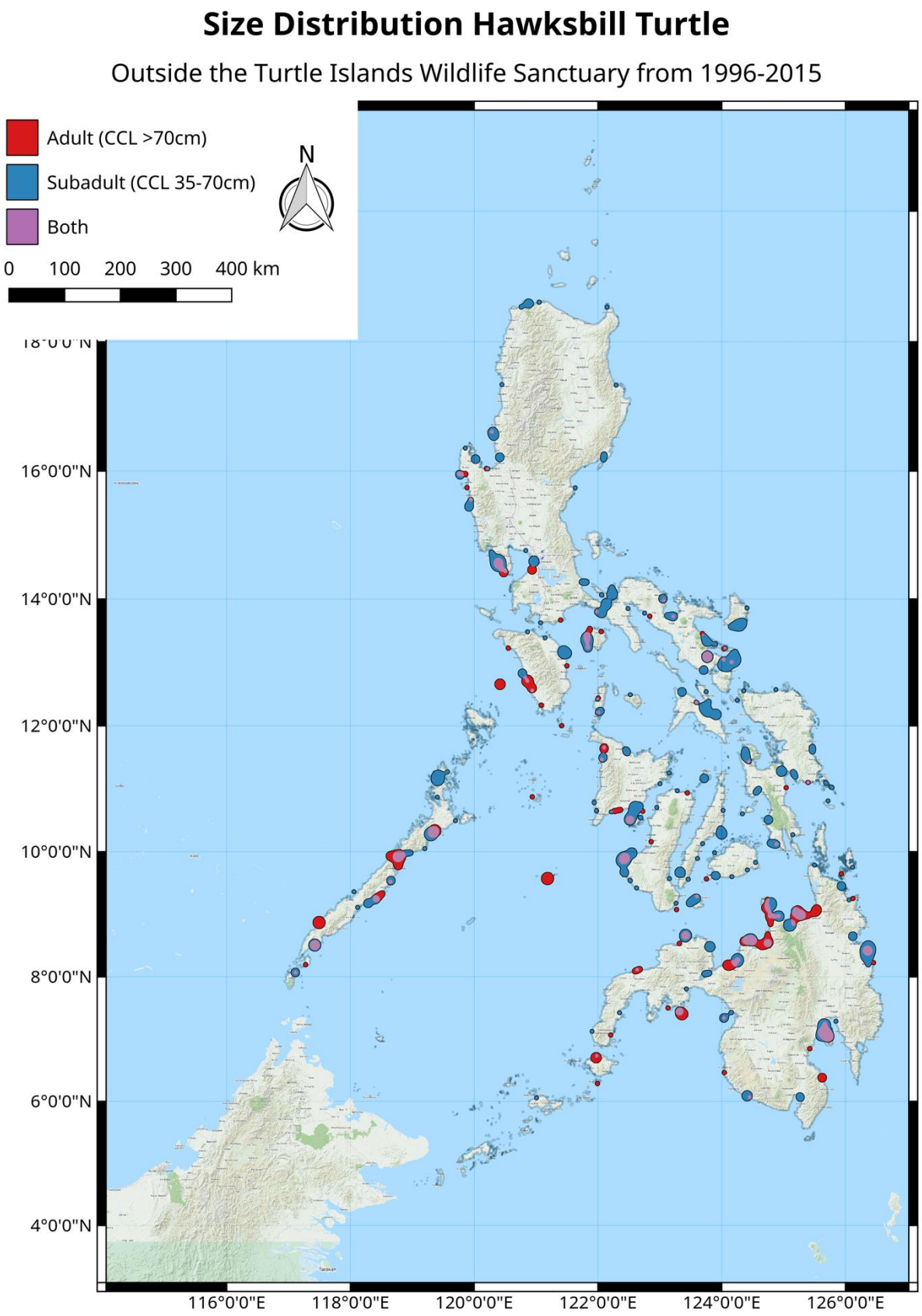

Figure 11. Distribution of tagged hawksbill turtles in different class sizes, outside the Turtle Islands Wildlife Sanctuary.

3.4.3. Olive Ridley Turtle Size Distribution

The majority of the olive ridley turtles recorded were adults with a size range between 68-78 cm CCL, while no distinct peak for juvenile/sub-adult turtles was seen (Figure 12). As for the other species, the majority of the sites harbored both the adult and juvenile/subadults (Figure 13).

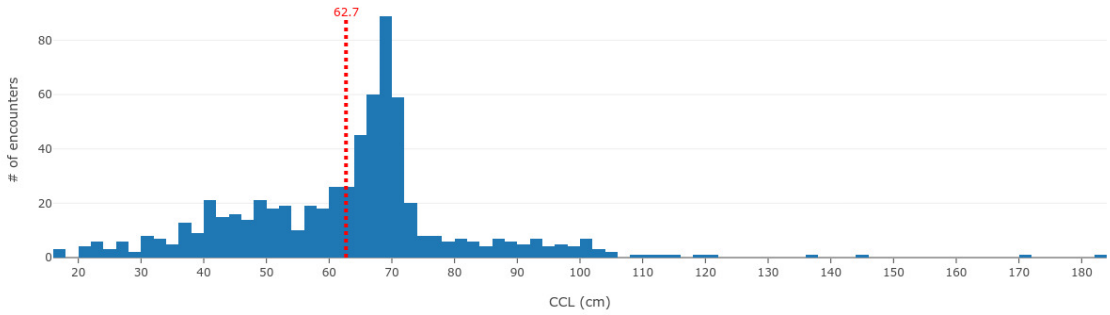

Figure 12. Size distribution of tagged olive ridley turtles outside the Turtle Islands Wildlife Sanctuary.

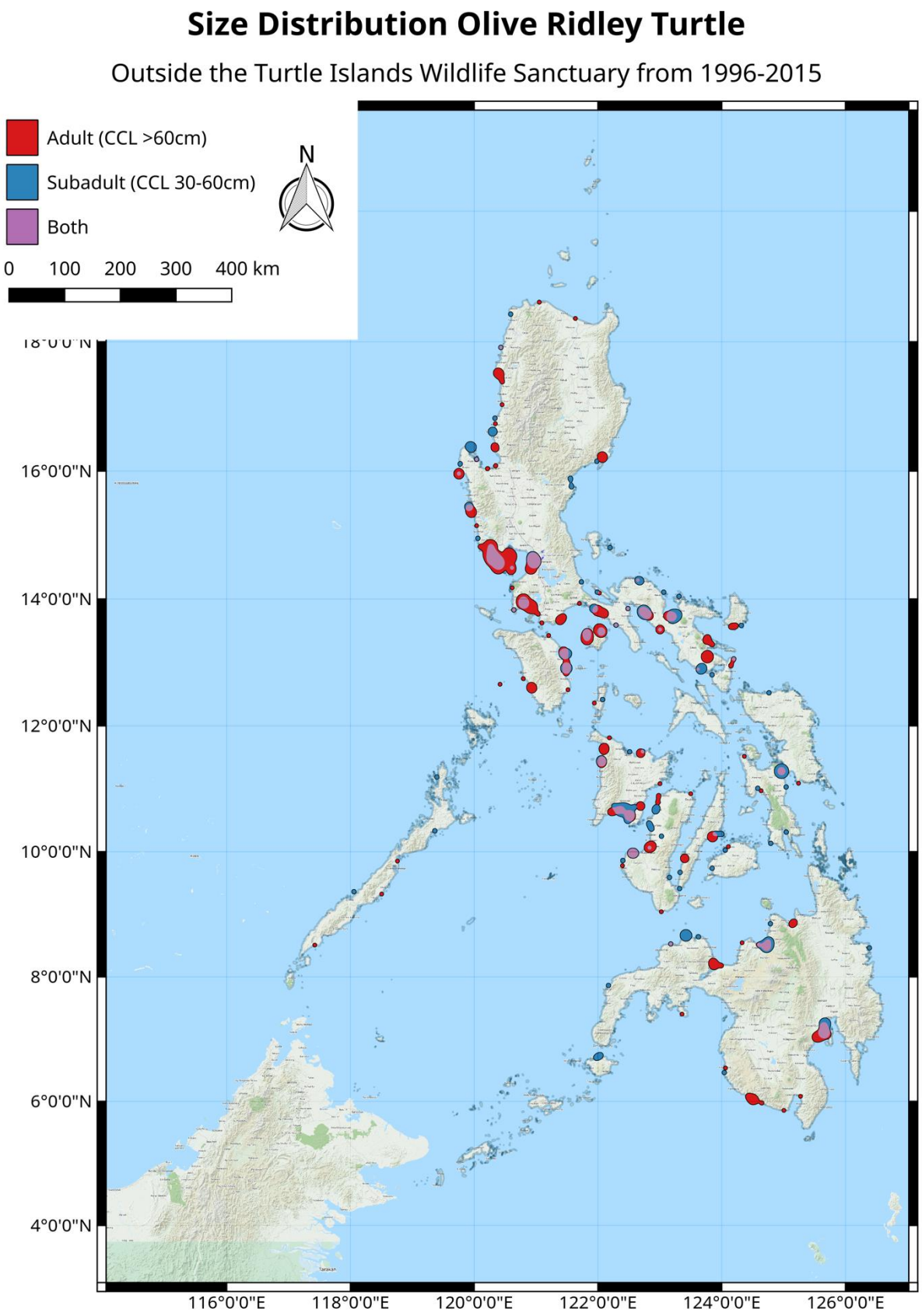

Figure 13. Distribution of tagged olive ridley turtles in different class sizes outside the Turtle Islands Wildlife Sanctuary.

3.5. Marine Turtle Fishery Interactions

Marine turtle habitats often coincide with areas used by coastal communities as their fishing grounds, which may result in accidental capture or bycatch. Of the 2,553 live captures, only nine were confirmed released, only 4 were recorded dead, and the remainder were recorded as unknown.

Marine turtle-fishery interaction information comes from the field action office data of the DENR regional offices. When it is caught alive and reported to the DENR, the marine turtle is usually tagged if it has not been tagged yet. Dead turtles are usually disposed of by burying.

A total of 2,629 records related to fishery interaction were analysed from 1996-2015, excluding TIWS, with the green turtle being the most commonly caught species comprising 62.2% (1,637 records), followed by the hawksbill turtle with 16.1% (424 records), the olive ridley turtle with 12.3% (324 records), and the leatherback (20 records) and loggerhead turtles (18 records) with less than 1% each, and unknown at 7.8% (206 records) (Figure 14). Two thousand three hundred eighty one (2,381) of the turtles involved in fishery interactions were previously tagged as nesters. A total of 343 sites, covering 391 municipalities from 81 provinces, have recorded marine turtle bycatch. The highest number of recorded fishery interaction came from Puerto Princesa City in Palawan with 217 incidences, followed by Bagac in Bataan with 117 records, then El Nido in Palawan with 87 records. Appendix 2: List of Municipalities and Provinces with Marine Turtle Fishery Interaction Incidents. shows the municipalities and provinces where marine turtle fishery interactions were reported.

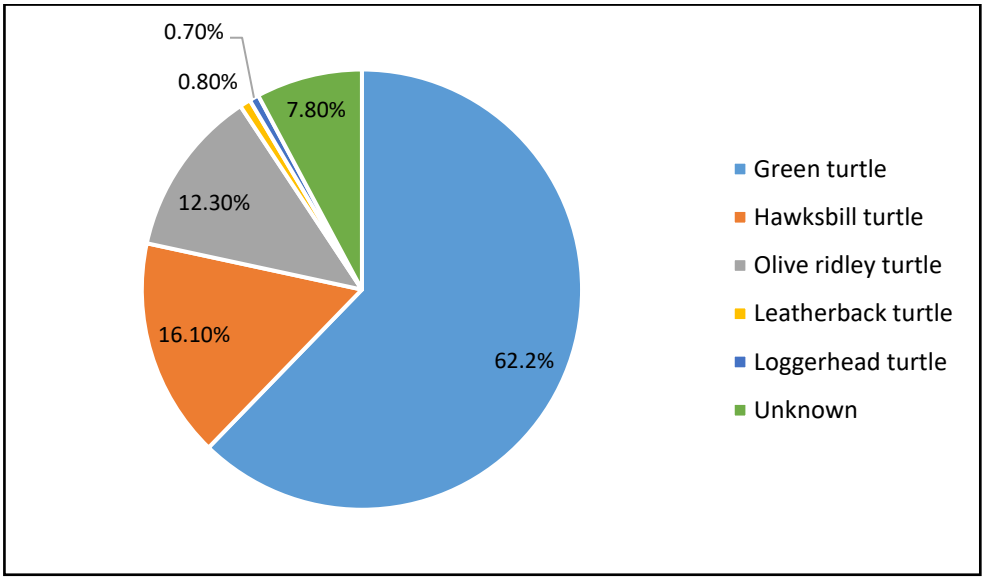

Figure 14. Fishery interaction percentages per marine turtle species in the Philippines.

Figure 15 shows the types of fishing gears that were recorded to be involved in marine turtle bycatch, with fish nets (non-specific) comprising 68% and non-net gears at 1%. The remaining 31% are unknown gears. The gears are classified as such because the

data collection sheet does not specify gears commonly used and data recorders had to make up terms. This resulted to varying terms used.

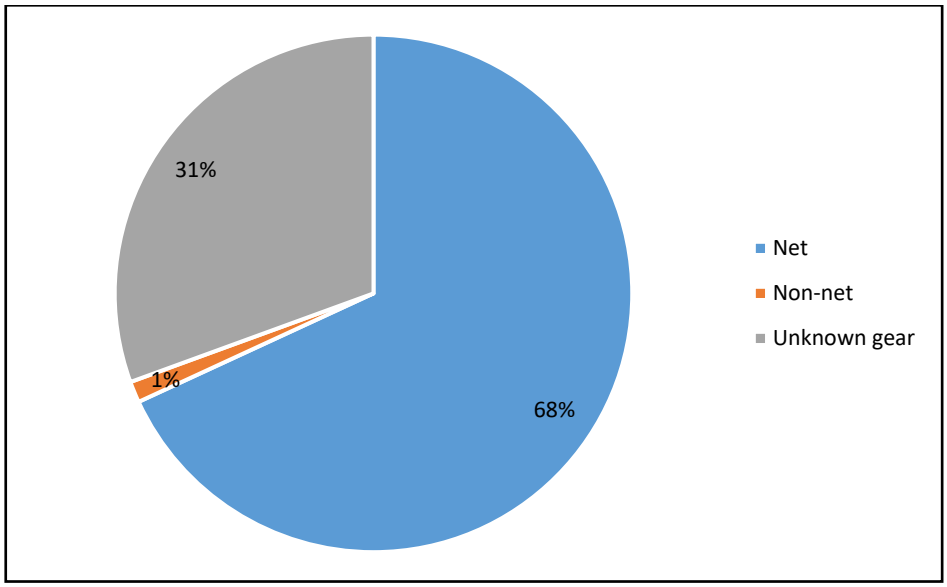

Figure 15. Marine turtle fishery interaction percentage by type of fishing gear in the Philippines.

3.5.1. Green Turtle Fishery Interaction

Figure 16 is a spot map that shows the number of green turtle fishery interaction with the location record standardized to the coast of the municipal waters where the animal was landed, not where it was caught. The top three places where green turtles were regularly reported to be caught were Puerto Princesa City in Palawan (140 records), Guimbal in Iloilo Province (66 records), and Bagac in Bataan with 49 fishery records. The majority of green turtles were caught by unknown gears (Figure 17).

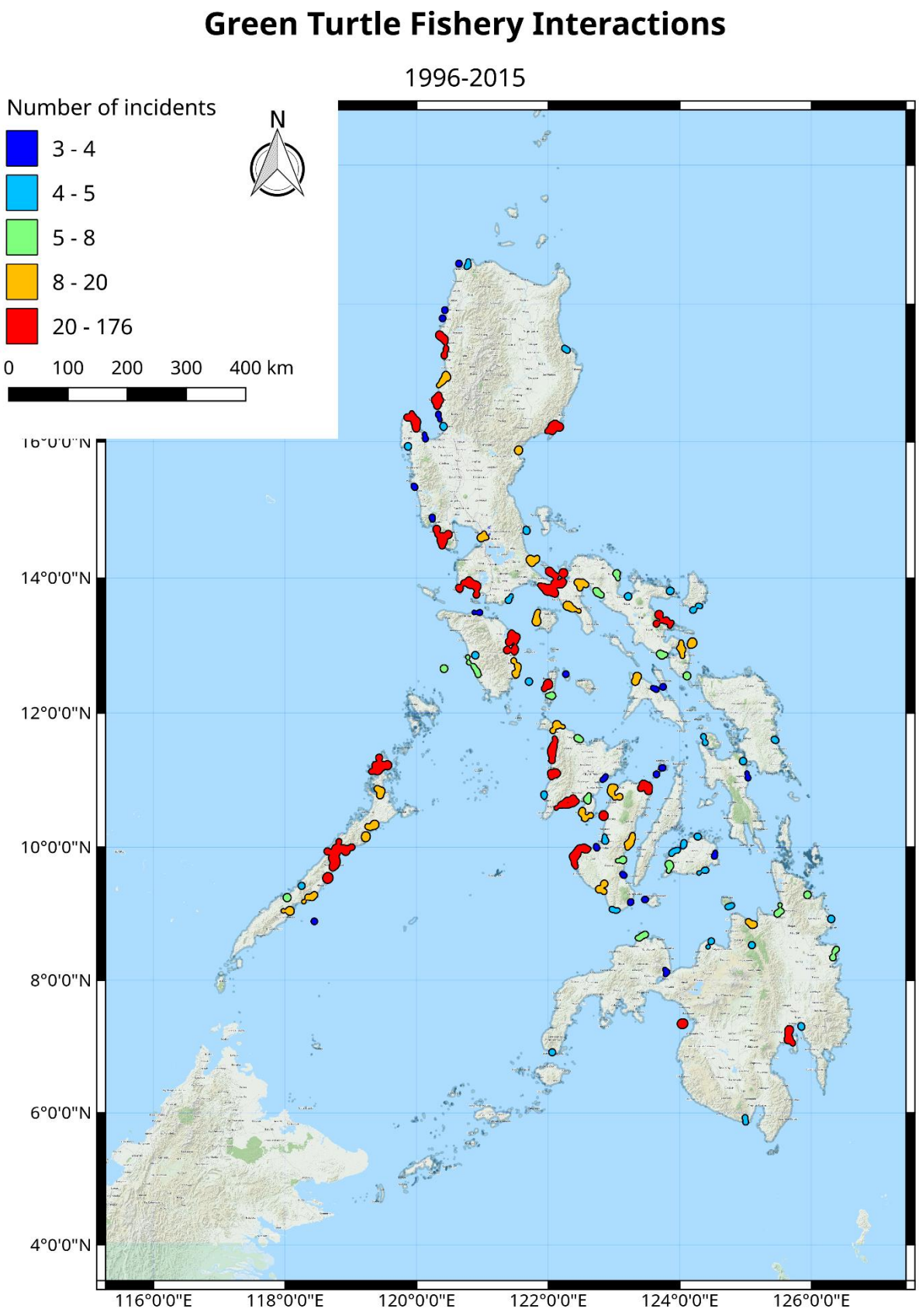

Figure 16. Green turtle fishery interaction records in the Philippines.

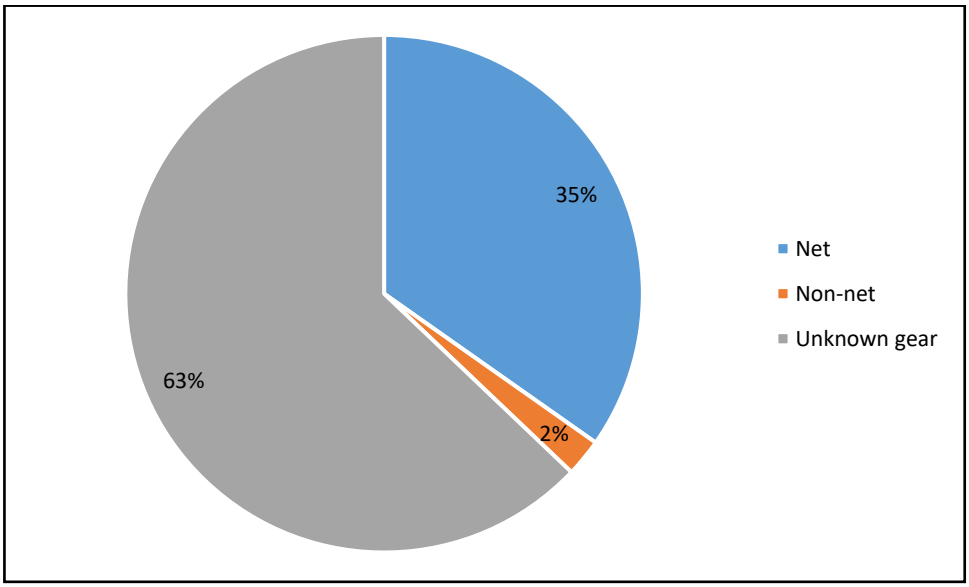

Figure 17. Green turtle fishery interaction percentage by type of fishing gear in the Philippines.

3.5.2. Hawksbill Turtle Fishery Interaction

Hawksbill turtles were regularly reported to be caught in Bagac in Bataan (38 records), Puerto Princesa City in Palawan (29 records), and El Nido in Palawan (26 records) (Figure 18). Fish nets are the most common fishing gear that traps hawksbill turtles as they are generally found in reefs, where also the fishing sites of most coastal communities are (Figure 19).

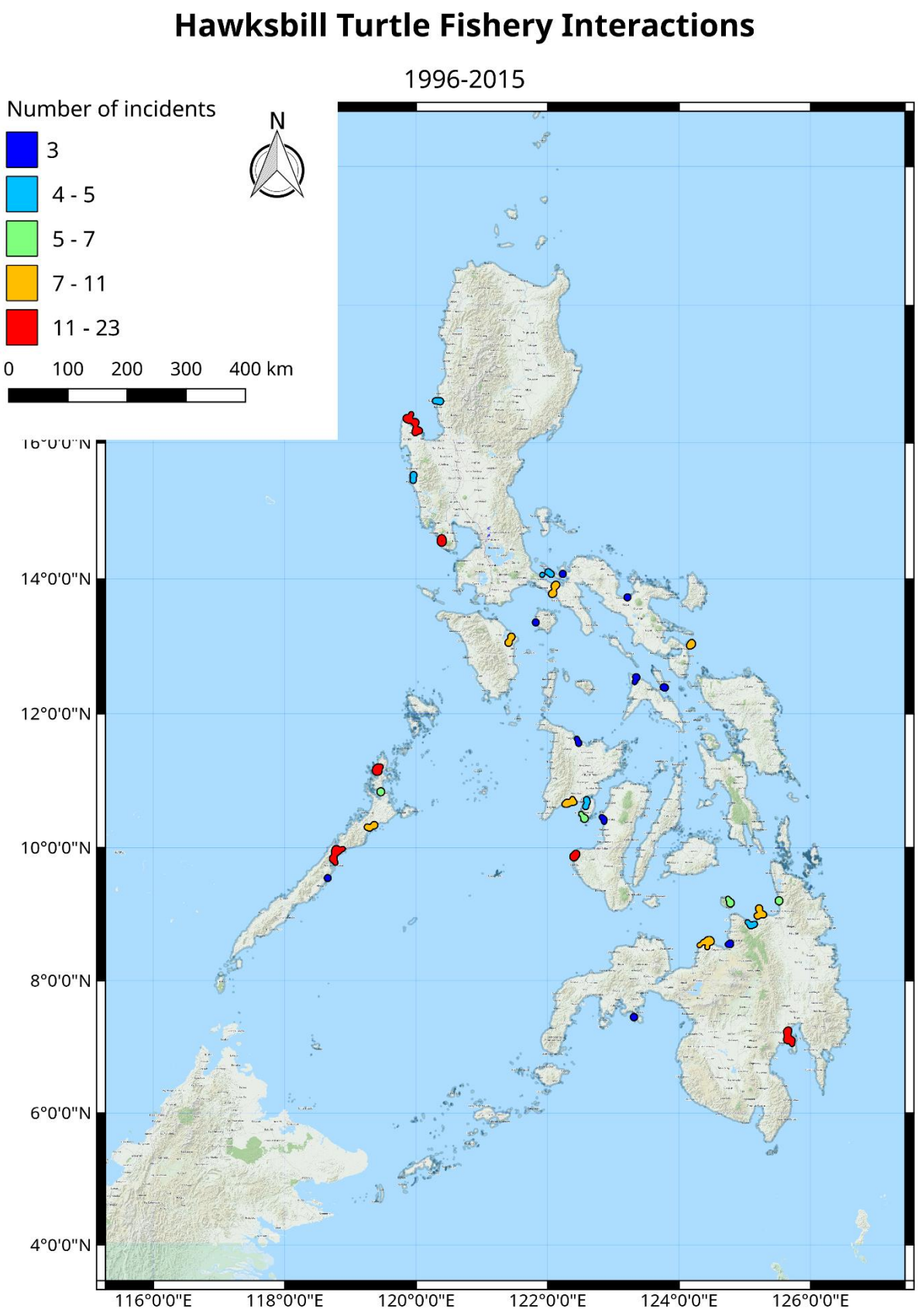

Figure 18. Hawksbill turtle fishery interaction records in the Philippines.

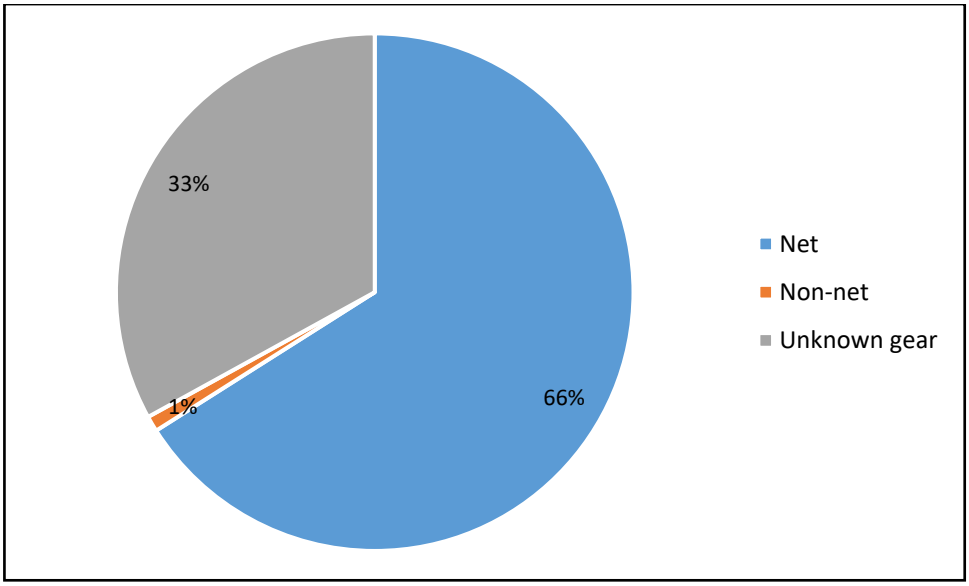

Figure 19. Hawksbill turtle fishery interaction percentage by type of fishing gear in the Philippines.

3.5.3. Olive Ridley Turtle Fishery Interaction

Olive Ridley turtles were regularly caught in the waters of Calaca in Batangas Province (34 records), Davao City (19 records), and Bagac in Bataan (14 records) (Figure 20). Fish nets still comprise a significant percentage of the gear (Figure 21).

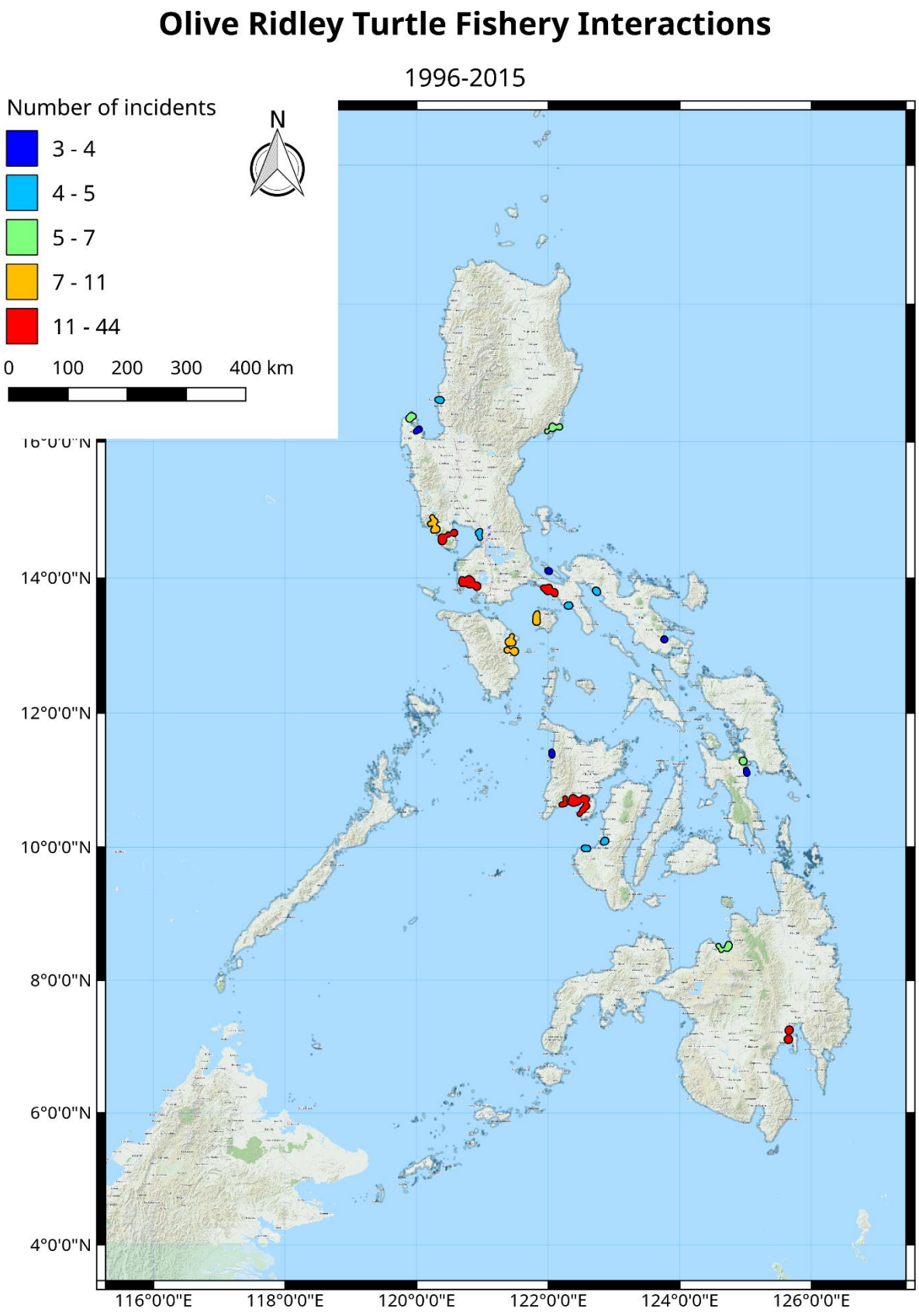

Figure 20. Olive ridley turtle fishery interaction records in the Philippines.

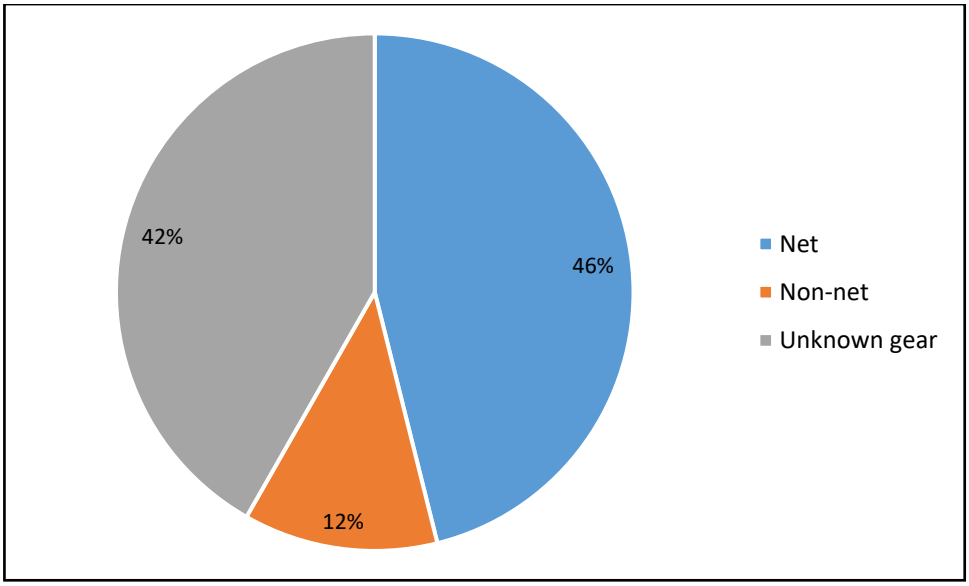

Figure 21. Olive ridley turtle fishery interaction percentage by type of fishing gear in the Philippines.

3.5.4. Loggerhead and Leatherback Turtles Fishery Interaction

There were 20 fishery interactions in 17 municipalities from 15 provinces recorded for the largest marine turtle, the leatherback turtle, and 18 interactions in ten municipalities from nine provinces for the loggerhead turtle (Figure 22). Leatherback turtles were mostly caught by unknown gear and loggerhead turtles were mostly caught by nets (Figure 24 and Figure 23).

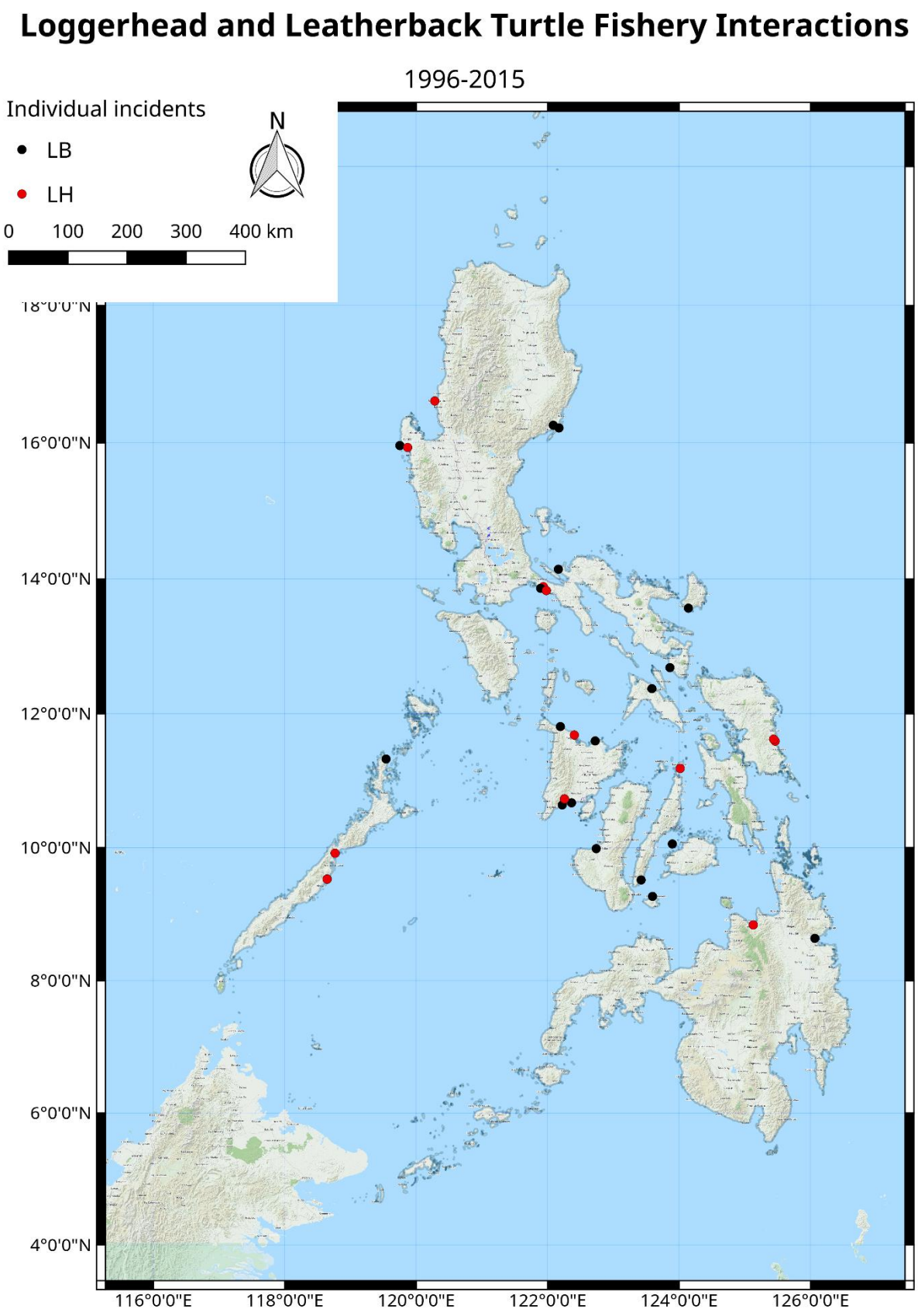

Figure 22.Loggerhead turtle and leatherback turtle fishery interaction records in the Philippines.

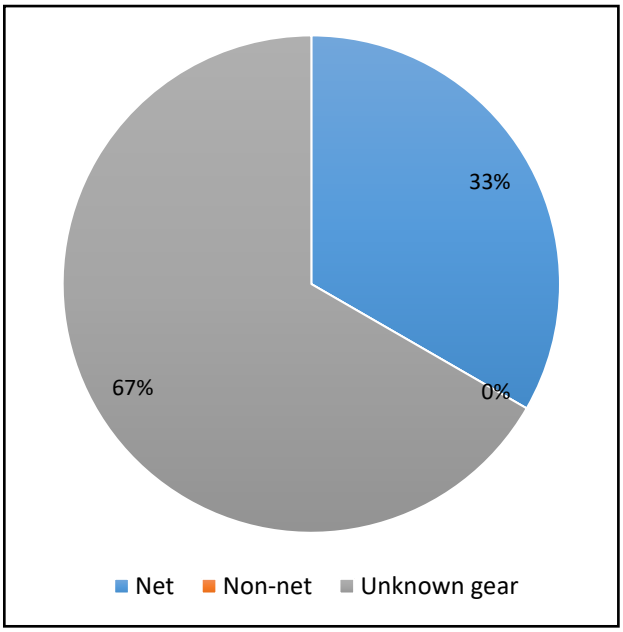

Figure 24. Leatherback turtle fishery interaction percentage by type of fishing gear in the Philippines.

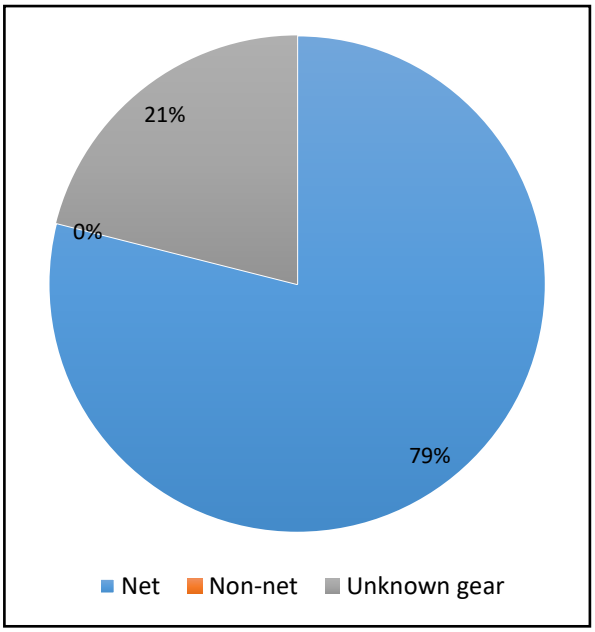

Figure 23. Loggerhead turtle fishery interaction percentage by type of fishing gear in the Philippines.

3.6. Habitat Connectivity

To establish the connectivity of habitats used by marine turtles, the location of the "non-nesting" encounters of tagged nesters were used. This means that the tagged turtle was recovered outside of its nesting ground.

A total of 17,491 "non-nesting" encounters including "unknown" were recorded from 1996-2015. Twelve thousand seven hundred thirty four (12,734) of these were green turtles, 2,056 hawksbill turtles, and 1,114 olive ridley turtles.

3.6.1. Green Turtle Habitat Connectivity

The province of Palawan has the highest number of green turtles recorded that nested in the TIWS. The west coasts of the Luzon and Visayas were also found to have strong connectivity with the nesters in TIWS (Figure 25).

The farthest distance between two locations within the Philippines where the same green turtle (Left tag: P19834, Right tag: P17943) was identified was 1,449 km from the TIWS, in Pagudpud, Ilocos Norte.

3.6.2. Hawksbill Turtle Habitat Connectivity

Hawksbill turtle nesters from the TIWS were documented to frequent Palawan, as well. While nesters tagged in Balabac and Taytay, Palawan were identified in the Davao Gulf, nesters from Davao Gulf were recorded in Bataan and Negros Island. Nesters from Bataan were recorded in Masbate, Davao Gulf, and Puerto Princesa City (Figure 26).

The farthest distance between two locations within the Philippines where the same hawksbill turtle (Left tag: P17084, Right tag: P17085) was found was 1,131 km from Burgos, Pangasinan, in Hinatuan, Surigao del Sur.

3.6.3. Olive Ridley Turtle Habitat Connectivity

Olive ridley turtles nesting in Bataan were documented to travel to Negros Occidental, while nesters from Oriental Mindoro were found to in the Davao Gulf. (Figure 27).

The farthest distance between two locations within the Philippines where the same olive ridley turtle (Left tag: RP09143, Right tag: RP09144) was found was 882 km from the Sanches-Mira, Cagayan, in Calubian, Leyte.

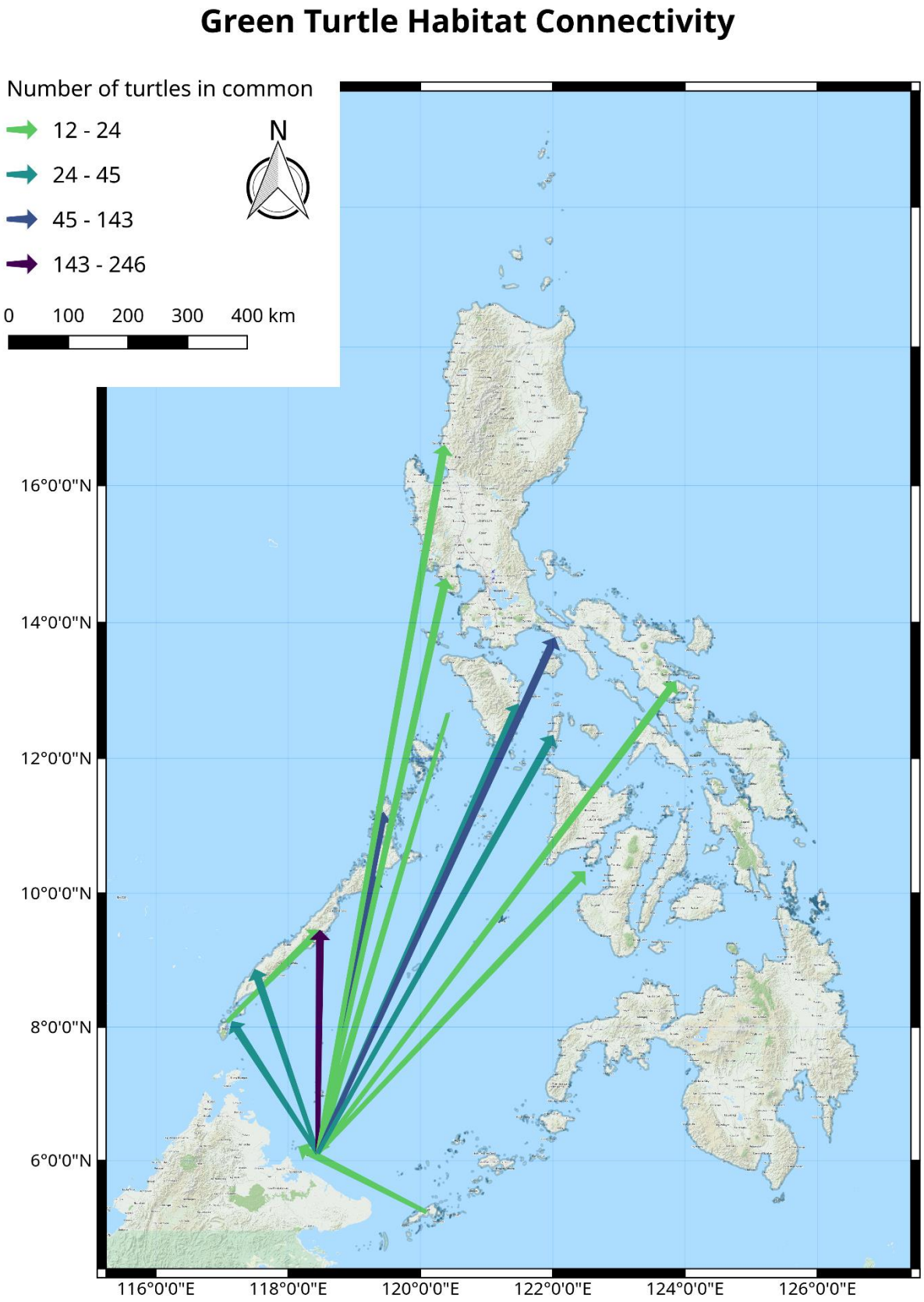

Figure 25. Habitat connectivity of tagged green turtle nesters from the Turtle Islands Wildlife Sanctuary with the rest of the Philippines.

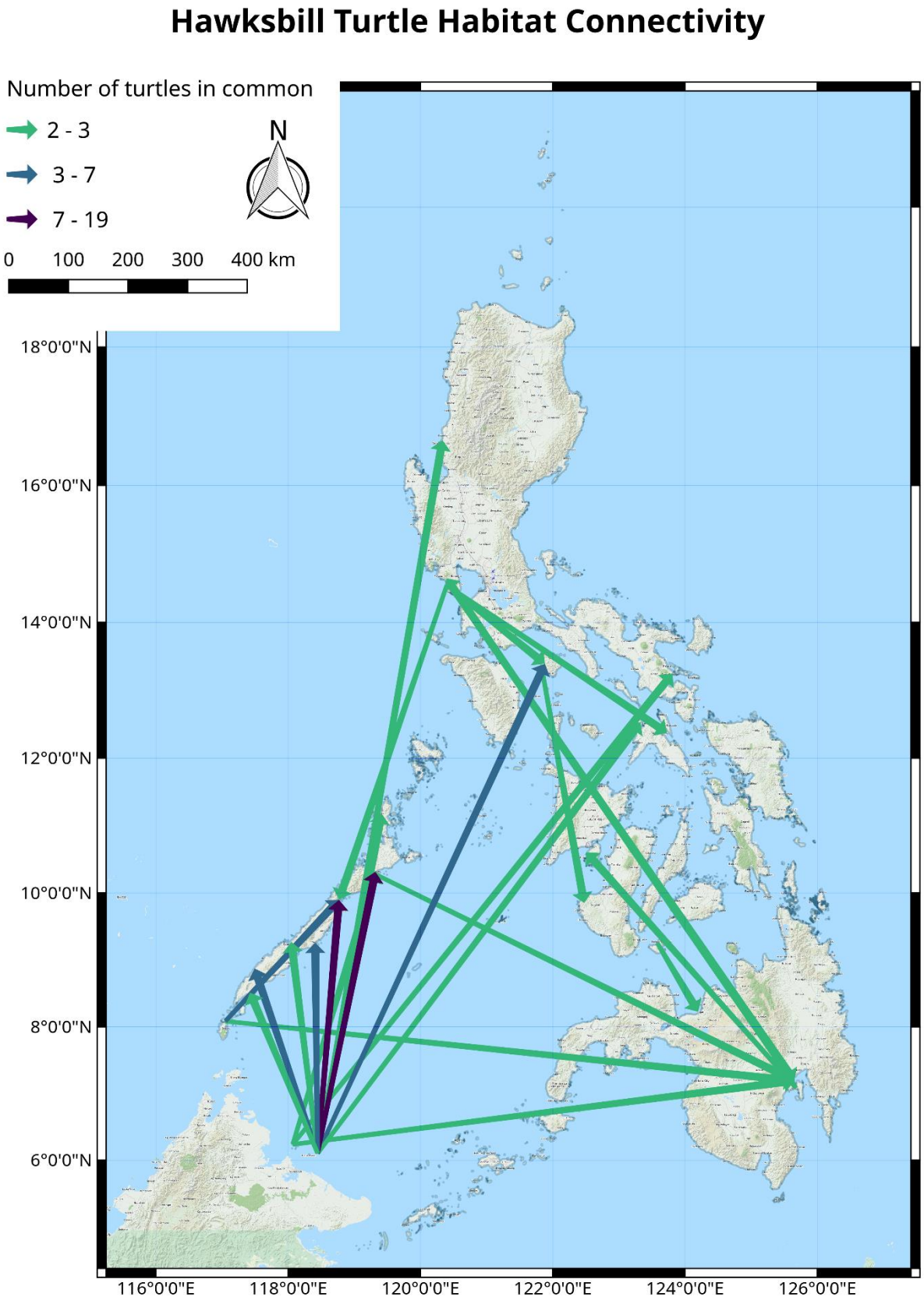

Figure 26. Habitat connectivity of tagged hawksbill turtle nesters within the Philippines.

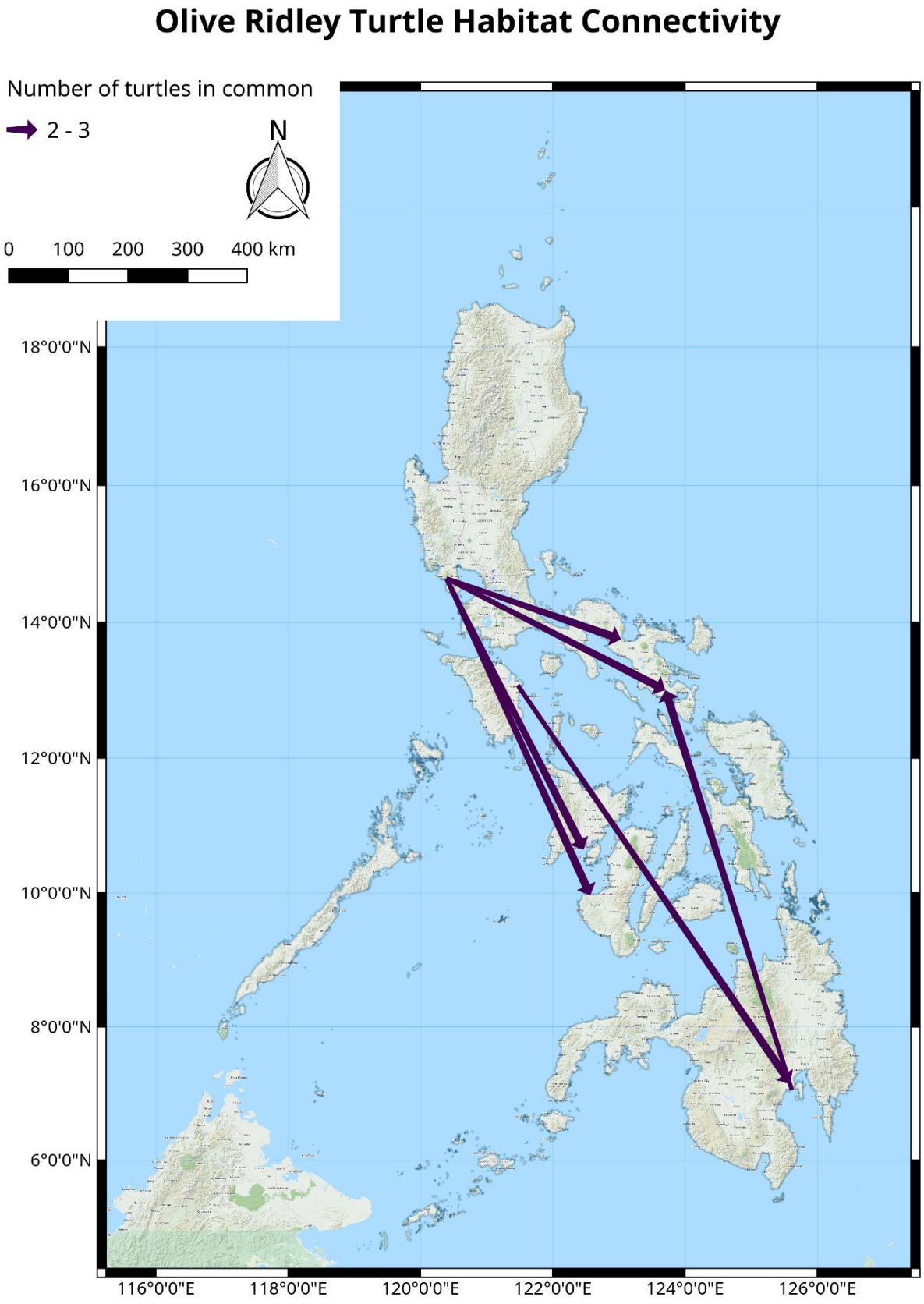

Figure 27. Habitat connectivity of tagged olive ridley turtle nesters within the Philippines.

3.7. Marine Turtle Incidents with Foreign Tags

A total of 692 incidents with green (674), hawksbill (3), olive ridley (1), loggerhead (1), and unknown (13) turtles bearing foreign tags were recorded from 1986-2015. Almost all incidents comprised turtles with Malaysian tags. Only three tagged turtles migrated from Japan. The majority of the encounter type were nestings (601), and the others were fishery interaction (4), stranding (1), and unknown (86). This is not unusual as the green turtles in the Turtle Islands are managed by Malaysia and the Philippines as one population. The list of marine turtle incidents with foreign tags are presented in Appendix 4.

3.8. Sites where Green, Hawksbill, and Olive Ridley Turtle Occur Together

Figure 28 shows the sites where green, hawksbill, and olive ridley turtles occur in the same area based on the tagging and FAO reports, regardless of the type of encounter. There is a total of 56 sites in the country where there are reports of the three (3) species. A complete list of the sites and the municipalities and provinces included are presented in Appendix 5.

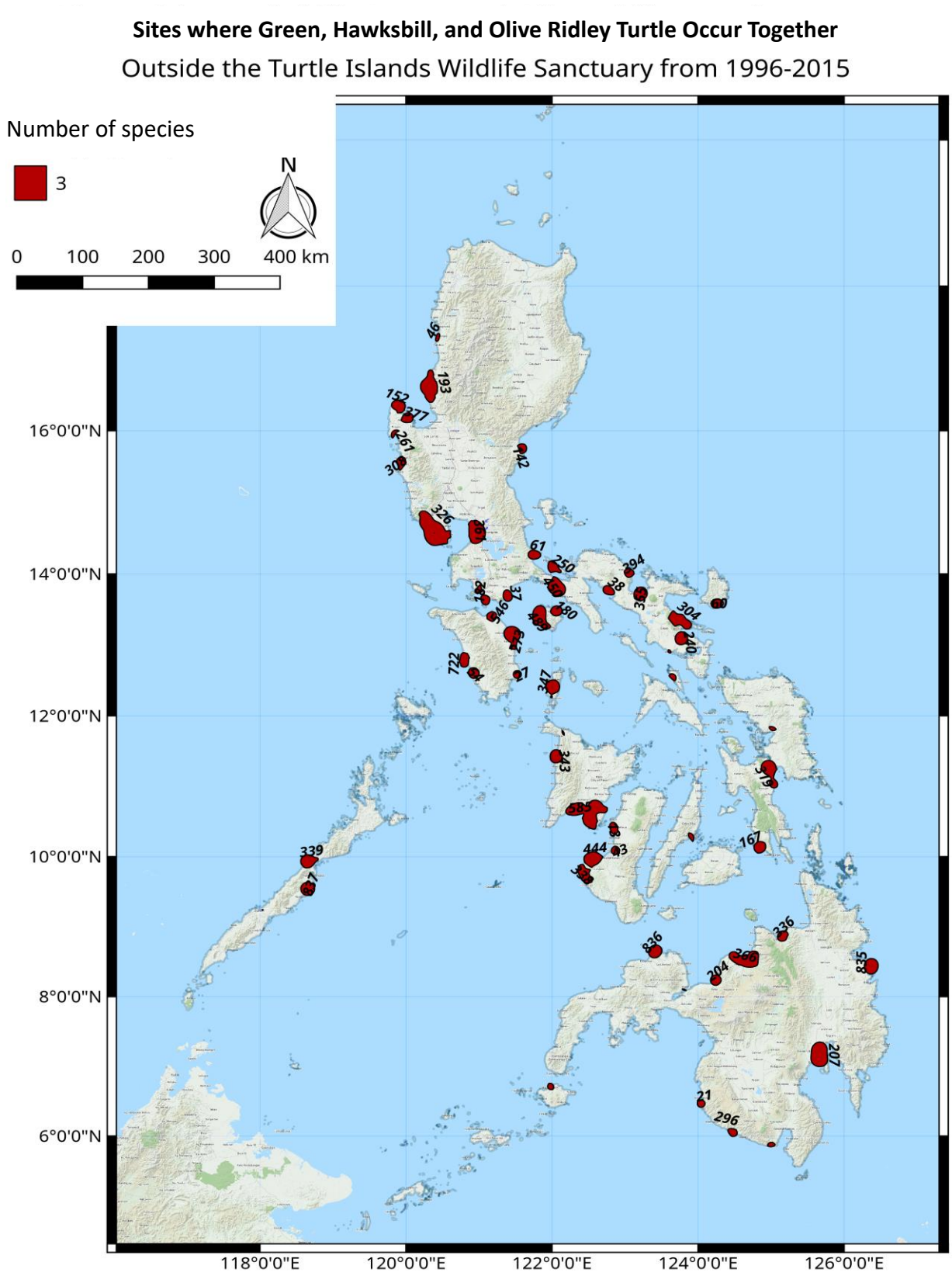

Figure 28. Sites where green, hawksbill, and olive ridley turtles occur together.

3.9. Statistical Analysis for Habitat Connectivity

3.9.1. Quadrat Analysis

The grid data consisted of n=2,624 rows of data, with μ=0.9096799 mean number of non-nesting encounters per grid cell, and variance v=38.3681259. Therefore, the variance-to-mean ratio (VMR) was 42.177613. Since this is much larger than 1, it suggests a high level of clustering. Calculating at the χ^2 test statistic ($\chi^2 = \frac{(n-1)*variance}{mean}$) resulted in$\chi^2 = 1.106319 \times 10^5$, while the 0.001 critical value for χ^2 with df=n-1=2,623 is 2,852.5. Since this critical value is much smaller than our test statistic, we can assume that the VMR cannot be explained by random chance. Since the VMR is much higher than 1, this suggests a highly clustered occurrence of non-nesting green turtle encounters that nest in the TIWS.

3.9.2. Regression

To further explore the relationship between distance from their nesting ground in the TIWS and the number for “non-nesting” encounters with the same marine turtles elsewhere, a General Linear Model was fitted where the number of “non-nesting” encounters was explained by the distance from the TIWS and the sampling effort. The sampling effort was approximated by counting the number of weeks for each cell in which marine turtle encounters were reported. Only cells where one or more encounters were recorded were included because of the over-representation of cells where no marine turtles were encountered. The calculations are presented in Figure 29.

.

```
##
## Call:
## glm(formula = df$num_encounters ~ df$distance_from_tiws + df$sampling_effort)
##
## Deviance Residuals:
##    Min    1Q  Median    3Q   Max
## -19.256  -4.445  -2.017  0.236 183.922
##
## Coefficients:
##                Estimate Std. Error t value Pr(>|t|)
## (Intercept)     1.441e+01 2.432e+00  5.923 6.35e-09 ***
## df$distance_from_tiws -1.286e-05 2.870e-06 -4.481 9.46e-06 ***
## df$sampling_effort   2.063e-01 5.025e-02  4.106 4.81e-05 ***
## ---
## Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## (Dispersion parameter for gaussian family taken to be 188.8311)
##
##   Null deviance: 89978 on 443 degrees of freedom
## Residual deviance: 83275 on 441 degrees of freedom
## AIC: 3591.9
##
## Number of Fisher Scoring iterations: 2
```

Figure 29. Calculations for regression analysis in R.

3.10. Turtle Islands Wildlife Sanctuary

3.10.1. Nesting Incidence Trends of Tagged Green Turtles

The TIWS is composed of six islands, namely: Taganak, Baguan, Lihiman, Langaan, Great Bakungaan, and Boaan. The Philippine dataset shows that the majority of the records come from tagging of green turtles in the TIWS, which is still regularly done. This dataset was divided by decade to establish trends per island that comprise the TIWS, aside from the combined trend analysis.

Combined tagging data of all islands over three decades revealed that the incidence of nestings had been declining. The highest tagging of nesters recorded was in 1994 and had dropped steadily, increasing slightly in 2012 (Figure 30).

This, however, holds only true for the recorded nestings of tagged turtles. The overall number of nesting turtles in the TIWS is not reflected in the results of this study. The discrepancies to the recorded data are due to the inconsistency of tagging efforts throughout the years.

Of the four islands, only Baguan Island showed a decreasing trend in the reported number of tagged nesters while the rest of the islands have an increasing trend (Table 12). Baguan Island had an increasing trend of reported tagged nesters during the first decade (1986-1995) but declined during the second decade (1996-2005) and was slightly increasing again during the third decade (Figure 31). Baguan Island also had the highest nesting records among the islands in the TIWS and had a big influence in the overall trends.

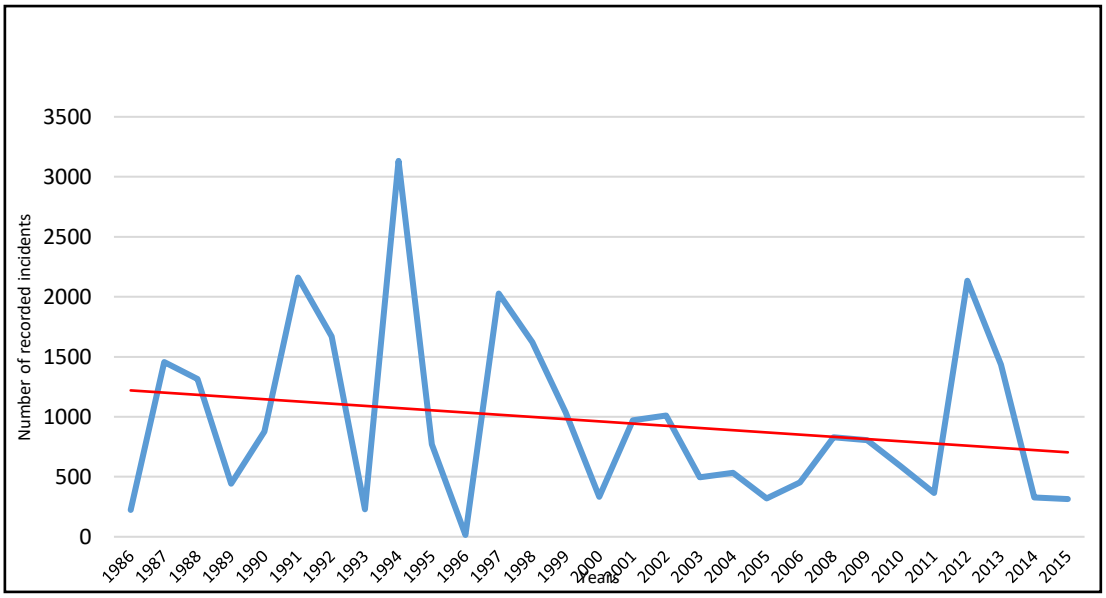

Figure 30. Mean annual tagging data for the Turtle Island Wildlife Sanctuary with declining trendline (red line).

Table 12. Mean annual tagged nesters reported per decade and overall trend in the Turtle Islands Wildlife Sanctuary.

Islands	Mean Annual Nesting for 1986-1995	Mean Annual Nesting for 1996-2005	Mean Annual Nesting for 2005-2015	Trend
Baguan Island	1,128 ± 255.32	551 ± 182.59	450 ± 135.27	Decreasing
Langaan Island	4 ± 2.52	57 ± 16.01	132 ± 39.01	Increasing
Lihiman Island	77 ± 62.19	105 ± 33.60	130 ± 32.92	Increasing
Taganak Island	19 ± 10.99	124 ± 37.10	94 ± 29.92	Increasing

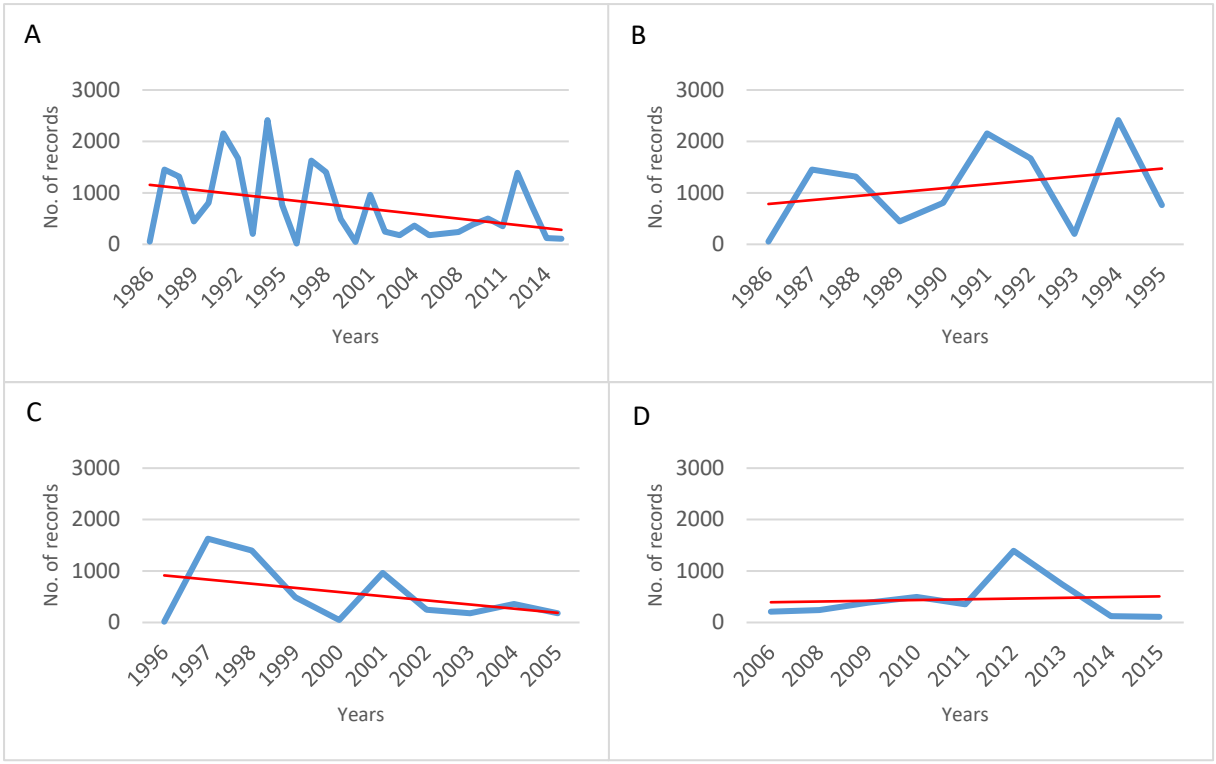

Figure 31. A) Overall tagged green turtle nesting trend in Baguan Island; B) Tagged green turtle nesting trend from 1986-1995; C) Tagged green turtle nesting trend from 1996-2005; D) Tagged green turtle nesting trend during 2006-2015. Blue line is the annual data, red line is the trend.

Lihiman Island had an increasing trend of reported tagged nesters with the first two decades showing an increasing trend, while the next decade had a steadily declining trend (Figure 32).

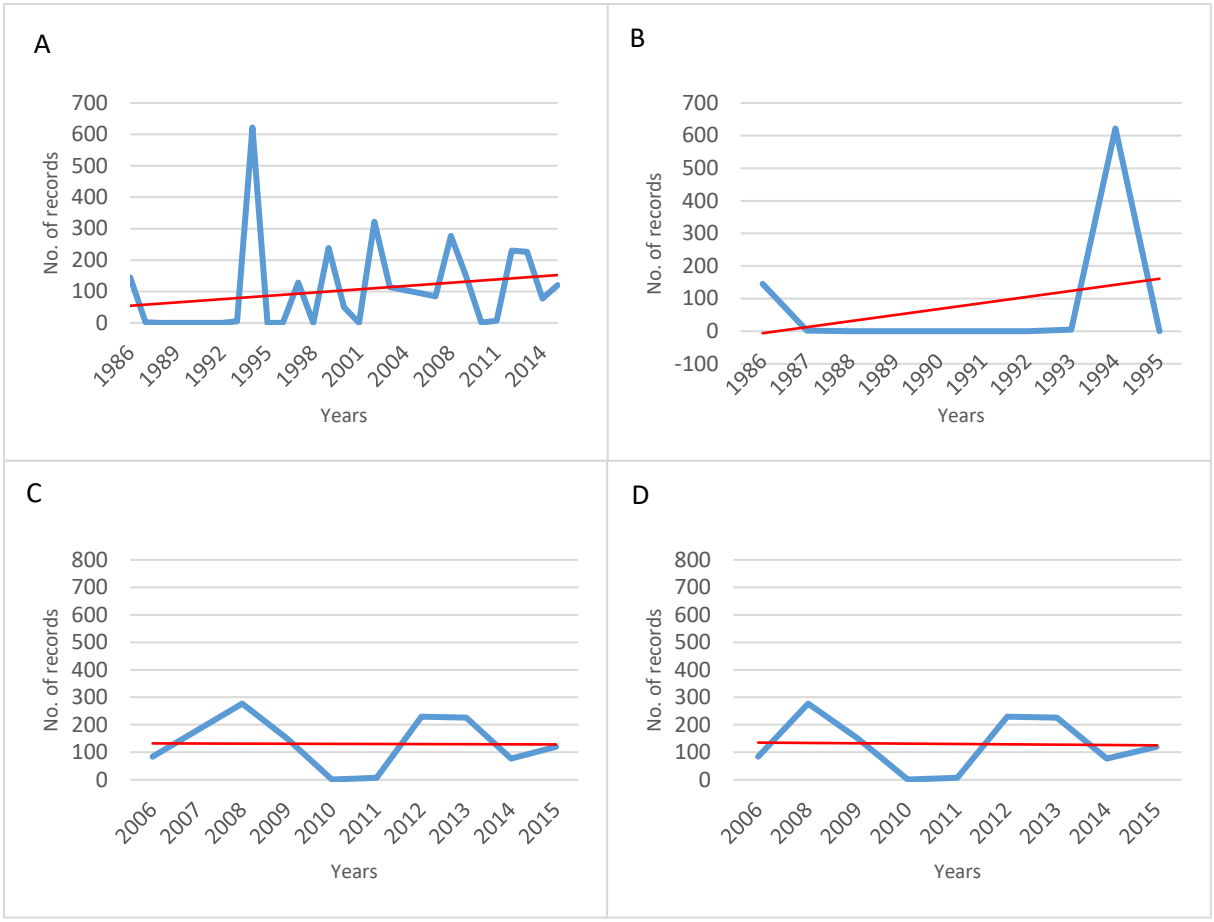

Figure 32. A) Overall tagged green turtle nesting trend in Lihiman Island; B) Tagged green turtle nesting trend from 1986-1995; C) Tagged green turtle nesting trend from 1996-2005; D) Tagged green turtle nesting trend during 2006-2015; blue line is the annual data; red line is the trend.

Taganak Island had an increasing trend of reported tagged nesters, which slightly declined during the last two decades (Figure 33).

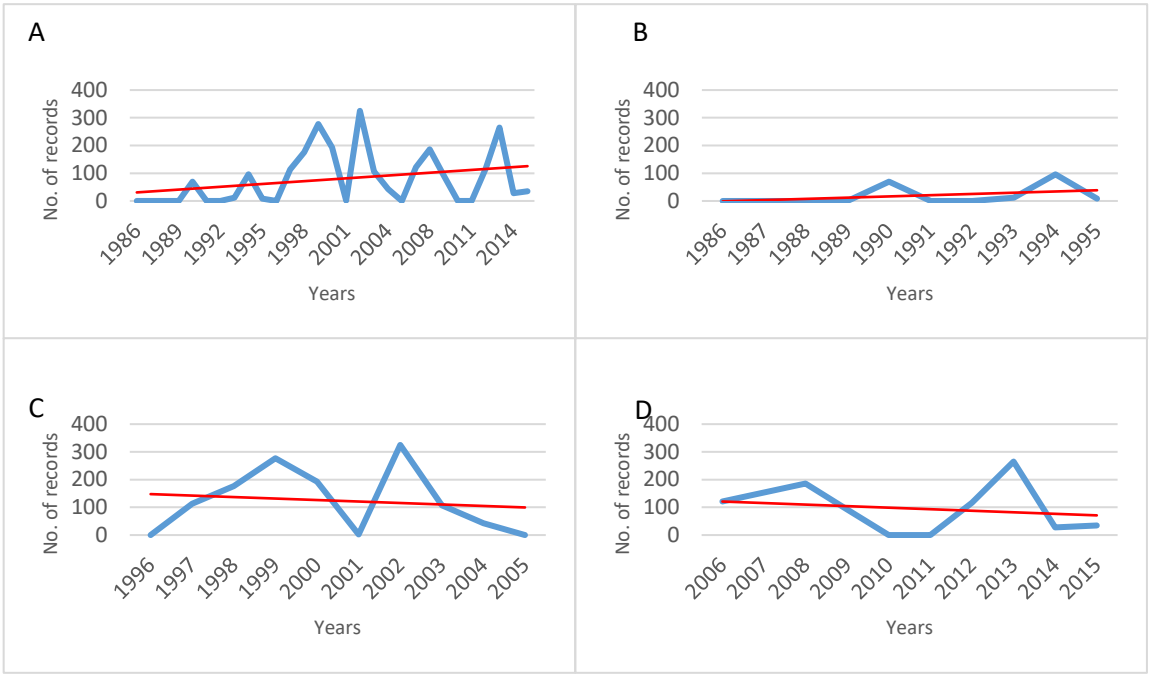

Figure 33. A) Overall tagged green turtle nesting trend in Taganak Island; B) Tagged green turtle nesting trend from 1986-1995; C) Tagged green turtle nesting trend from 1996-2005; D) Tagged green turtle nesting trend during 2006-2015; blue line is the annual data; red line is the trend.

Langaan Island had an overall increasing trend of reported tagged nesters, which declined during the first decade, but steadily increased during the next two decades (Figure 34).

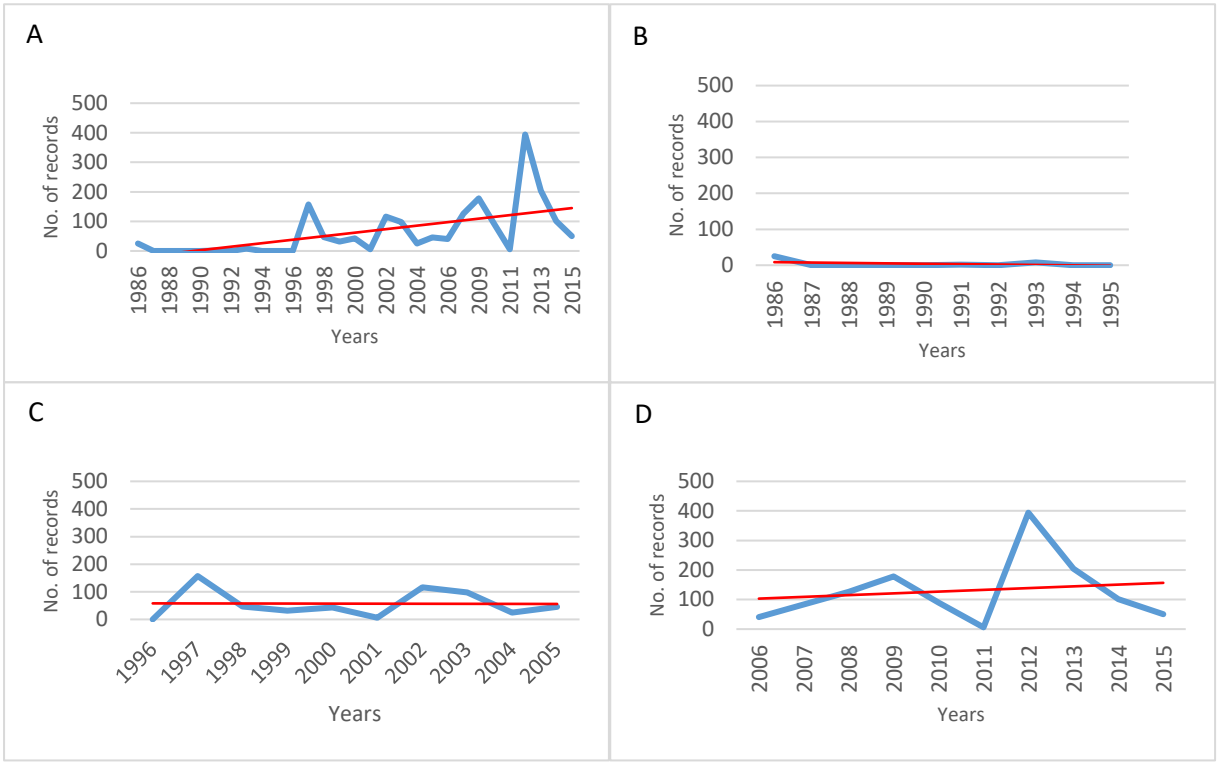

Figure 34. A) Overall tagged green turtle nesting trend in Langaan Island; B) Tagged green turtle nesting trend from 1986-1995; C) Tagged green turtle nesting trend from 1996-2005; D) Tagged green turtle nesting trend during 2006-2015; blue line is the annual data; red line is the trend.

3.10.2. Nesting Seasonality of Tagged Green Turtles

There is a consistent seasonality of nesting throughout the year, starting from May and peaking in September. Highest nesting records were observed in the 1994 nesting season (Figure 35).

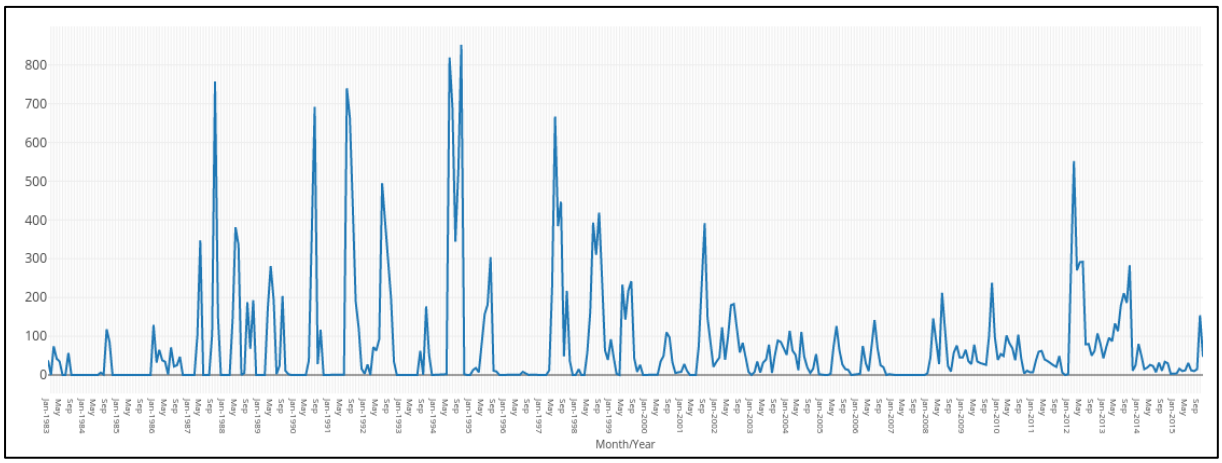

Figure 35. Total number of tagged green turtle nesters per month in the Turtle Island Wildlife Sanctuary from 1986-2015.

3.10.3. Size Distribution of Tagged Green Turtles in the Turtle Islands Wildlife Sanctuary

The green turtles encountered and tagged in the TIWS had a mean size of 92.6 cm CCL as they were all adult nesting females. Figure 36 shows the size distribution of turtles found in TIWS.

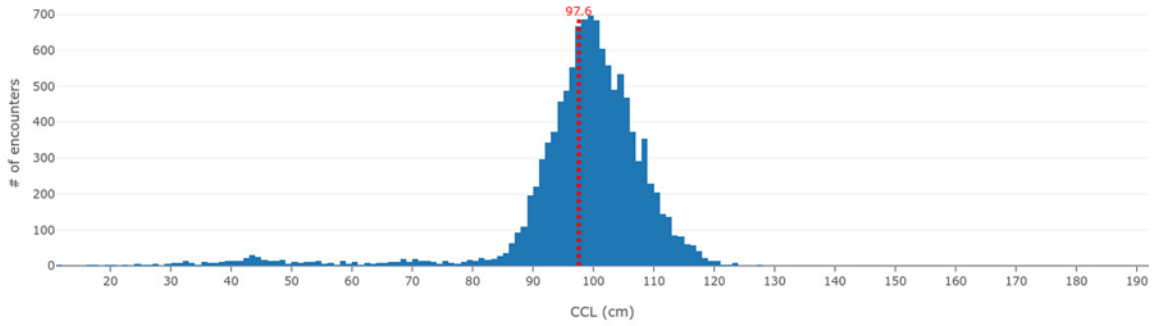

Figure 36. Size distribution of tagged green turtles in the Turtle Islands Wildlife Sanctuary.

3.10.4. Hawksbill Turtles in the Turtle Islands Wildlife Sanctuary

There were 100 nesting incidents of hawksbill turtles in the TIWS from 1996 to 2015, the highest among the hawksbill nesting sites, in both number of incidents and years with incidents. Therefore, the TIWS is also considered a priority site for hawksbill turtles.

4. Discussion

The results of this study are based on data available that were sufficient for statistical analysis to determine trends reflecting aspects of marine turtle occurrence, distribution, habitat connectivity, and fishery interaction in the Philippines. It is not meant to provide details on individual turtles or incidents. Rather, it provides broader results relevant to management.

An example of a question that this report will not be able to answer reliably would be: How many turtles have been nesting in a municipality? Even though there is data giving the number of tagged turtles in a municipality, the absence of a report does not mean that there are no nesting turtles in the area. If very few turtles have been reported in a municipality while surrounding municipalities have large numbers, chances are this municipality may have under-reported nesting incidents in their area.

An example of a question that this report can help with would be: Which regions and municipalities should be included in establishing a network of marine turtle protected areas? If an area on average shows a large number of nesting turtles, the whole site is probably important. Connectivity of nesting sites to other habitats can also be established. Further discussion with the region and municipalities can then help in filling in priorities and policies more accurately.

Therefore, this report is important in conservation management and should be a start point for setting priorities. Regional offices can fill in gaps and correct them based on their local knowledge and assessment (ground-truthing).

4.1. Marine Turtle Occurrence and Distribution

This report confirms that five species of marine turtles, namely the green, hawksbill, olive ridley, leatherback, and loggerhead turtles utilize the Philippines as habitat. Aside

from the clustering observed in the nesting sites, all five species of marine turtles are widely distributed throughout the Philippine Seas.

Five life stages of green turtles are observed in the Philippines, which include: (1) eggs, (2) hatchlings, (3) juveniles, (4) adult males, and (5) nesters, and four life stages of hawksbills turtles, which includes (1) eggs, (2) hatchlings, (3) juvenile, and (4) nesters, thus omitting the adult males for the latter species (Cruz & Torres, 2005). In all life stages, green turtles were reported to have been sighted more frequently than hawksbills (Cruz & Torres, 2005).

In terms of nesting, the green turtle is the most commonly found nesting species, followed by the olive ridley turtle, then the hawksbill turtle. Nestings of these three species concur with earlier reports (Cruz R. D., 2002).

Although there were records of leatherback and loggerhead turtle nestings in the database, it was discussed during several consultations with the DENR-BMB that these records are not confirmed and could not be verified at the time of writing. Therefore, these records would need verification, if at all possible. There were also not enough records for these two species available to show any trends, and therefore these were largely excluded from the results.

Aside from adult female turtles encountered nesting, juveniles and sub-adults utilize the Philippine Seas for their different habitat requirements throughout their life cycle too. Green turtles of adult and juvenile/sub-adult sizes were widespread, whereas olive ridley turtles were mostly adults. Hawksbills in contrast were mostly juvenile/sub-adults. Records of juvenile/sub-adult hawksbill turtles are consistent with observations that immature turtles remain in the same developmental habitats for extended periods (Meylan & Meylan, 1999; Houghton, Callow, & Hays, 2003), which may thus indicate that hawksbill turtles utilize the Philippines mostly for feeding and developmental purposes. Olive ridley turtles are pelagic in nature (Polovina, et al., 2004; Swimmer, et al., 2006), hence, relatively few juveniles/sub-adults were observed as the data set relied heavily on nesting and accidental nearshore fisheries.

Byrne and Hines (2005) reported that all reported individuals in Hinatuan Bay, Surigao del Sur in Mindanao are juvenile green, hawksbill, olive ridley, and loggerhead turtles, except for one adult hawksbill turtle; they mentioned, however, that a bias in capture and/or reporting might be responsible for that. Equally, Pilcher (2010) also finds that the majority (>80%) of the turtles that were sighted and captured in Tubbataha Reef in Palawan were juveniles. Adult turtles encountered were nesting and mating (Pilcher, 2010). In the same site, the majority of juveniles encountered by Cruz and Torres (2005) were green turtles, in contrast to very few juvenile hawksbills, and the authors note that the juvenile turtles are mostly concentrated in shallow waters. The latter finding is confirmed by Araujo et al. (2016) as the green turtles in the shallow interaction area (2.7 m-12 m depth) in Apo Island, Negros Oriental, appear to be mostly

immature, thus supporting an assumption by Meylan et al. (2011) of an immature-dominated, benthic developmental stage. Antonio and Matillano (2016) also encountered green turtles, feeding in the shallow seagrass meadows, on a frequent basis in Unok Island in Palawan, but this observation does not seem to be confined to juveniles only.

Araujo et al. (2016) found that the mean residency of juvenile green turtles in Apo Island, Negros Oriental was 873 days and they were absent from the study site for a mean time period of 324 days, within a total time period from 11 May 2012 until 11 March 2016 (1,401 days). This site fidelity, which has been reported on before, was attributed by the authors to the extensive seagrass beds providing excellent foraging grounds. As most green turtles at the interaction site seem to be immature, it seems like the seagrass beds are visited by immature individuals "before moving to adult-dominated foraging habitats," which has clear implications for habitat conservation and should thus form part of conservation strategies (Araujo, Montgomery, Pahang, Labaja, & Murray, 2016).

Other habitats utilized by marine turtles in the Philippines were mostly identified through fishery interaction records. These marine turtles were tagged for the first time upon encounter or were already tagged from nesting or from a previous bycatch incident. The areas where they were identified or caught were most likely used as migratory corridors with some areas indicated as feeding and developmental habitats. However, no field investigations of these sites were made to characterize them for differentiation between corridors or terminal habitats.

In some cases, the marine turtles encountered were not recorded where they were originally found or caught, which should have been at sea, but where they were landed and officially documented. This created location errors in some of the sites identified.

The presence of the different species of marine turtles throughout the Philippines poses a challenge in conservation, as various habitat types are utilized at different life stages exposing them to a multitude of threats. Determining the areas where the turtles are most vulnerable is essential to their conservation.

The presence of the three most common species in the same sites were also mapped out, as this can be used as a basis in identifying Critical Habitats for marine turtles in the Philippines. Critical Habitats refer to areas outside protected areas under Republic Act No. 7586 that are known habitats of threatened species and designated as such based on scientific data. Declaration of some of the marine turtle habitats as a Critical Habitat, particularly those where more than one species occur, could be a conservation option for some of the sites.

4.2. Nesting

Nesting for the green turtle occurs widely in the Philippines. Historically, green turtles are the most widely distributed species in Southeast Asia with high occurrences in the country (Trono, 1991; Cruz R. D., 2002).

Olive ridley turtles, although mostly absent in Southeast Asia (Shanker & Pilcher, 2003), have the second highest incidence of marine turtle nestings in the Philippines. A characteristic of olive ridley turtles is to form mass nestings in rookeries, resulting in high concentrations of nesters in a particular area (Bernardo & Plotkin, 2007). Although not observed in the Philippines, this trait is posited as why olive ridley turtles have few but concentrated nesting sites in the Philippines facing the West Philippine Sea (Cruz R. D., 2002).

Hawksbill turtles, on the other hand, have the least number of nesting habitats in the country owing to their characteristic of nesting in low densities covering a large area (Alcala, 1980; Witzel, 1983). Hawksbill turtles also tend to nest under shade or vegetation, making spotting a nest difficult resulting in fewer reports.

According to Cruz (2006), there is only one confirmed record of leatherback nesting in the Philippines back in 1986 in Palawan, with a few more anecdotal reports. A nesting of a leatherback in Legazpi City, Albay is now considered the first confirmation through proper documentation which happened in 2013 (Arguelles, 2013). Unfortunately, this specific record was not included in the DENR-BMB datasets. Loggerhead turtle nestings on the contrary are questionable and are probably misidentified green or hawksbill turtles as there are no confirmed nestings in the Philippines based on the distribution range of rookeries according to Wallace et al. (2010), as for the north Pacific they are known to nest only in Japan (National Marine Fisheries Service and U.S. Fish and Wildlife Service, 2007).

Important nesting beaches for at least three of the marine turtle species, namely: green, olive ridley, and hawksbill turtle as presentred in the priority sites need to be protected more effectively, not only from poaching but most especially to coastal development.

4.3. Priority Nesting Sites for Conservation

Based on nesting and tagging information in this study from 1996 to 2015, excluding the TIWS, multiple sites across the country were recommended as priority sites for conservation. This included 17 nesting sites for green turtles, seven (7) nesting sites for hawksbill turtles, and two (2) nesting sites for olive ridley turtles (Figure 37). Although the majority of the nesting records are low in nesting incidence and sporadic in the number of years with incidence, marine turtles tend to exhibit high nesting site fidelity, rendering the sites important. A full list and details of the priority nesting sites are presented in Appendix 3: Nesting Priority Sites Excluding Green Turtles from the Turtle Islands Wildlife Sanctuary.

These recommendations are based on the combined data of the individual incident records and number of years with nesting incidence in the sites. However, it should be noted that the information provided in this study may be incomplete and that other sites are not considered simply because they were not included in the data. The data used was heavily biased on opportunistic sampling, mostly in populated locations, but there are large inaccessible coastal areas that could very well be nesting sites but remain unreported.

The green turtles of the TIWS were not included in this analysis because, it has already been recognised as the top rookery for green turtles in the country due to extensive protection efforts in the 1980s and 90s and including it would have prevented other sites from significantly standing out. It is surprising to note that the TIWS is an important nesting ground for hawksbill turtles as well.

For the priority sites outside the TIWS, intensive conservation activities should be provided to ensure that these sites are maintained as safe nesting grounds for marine turtles.

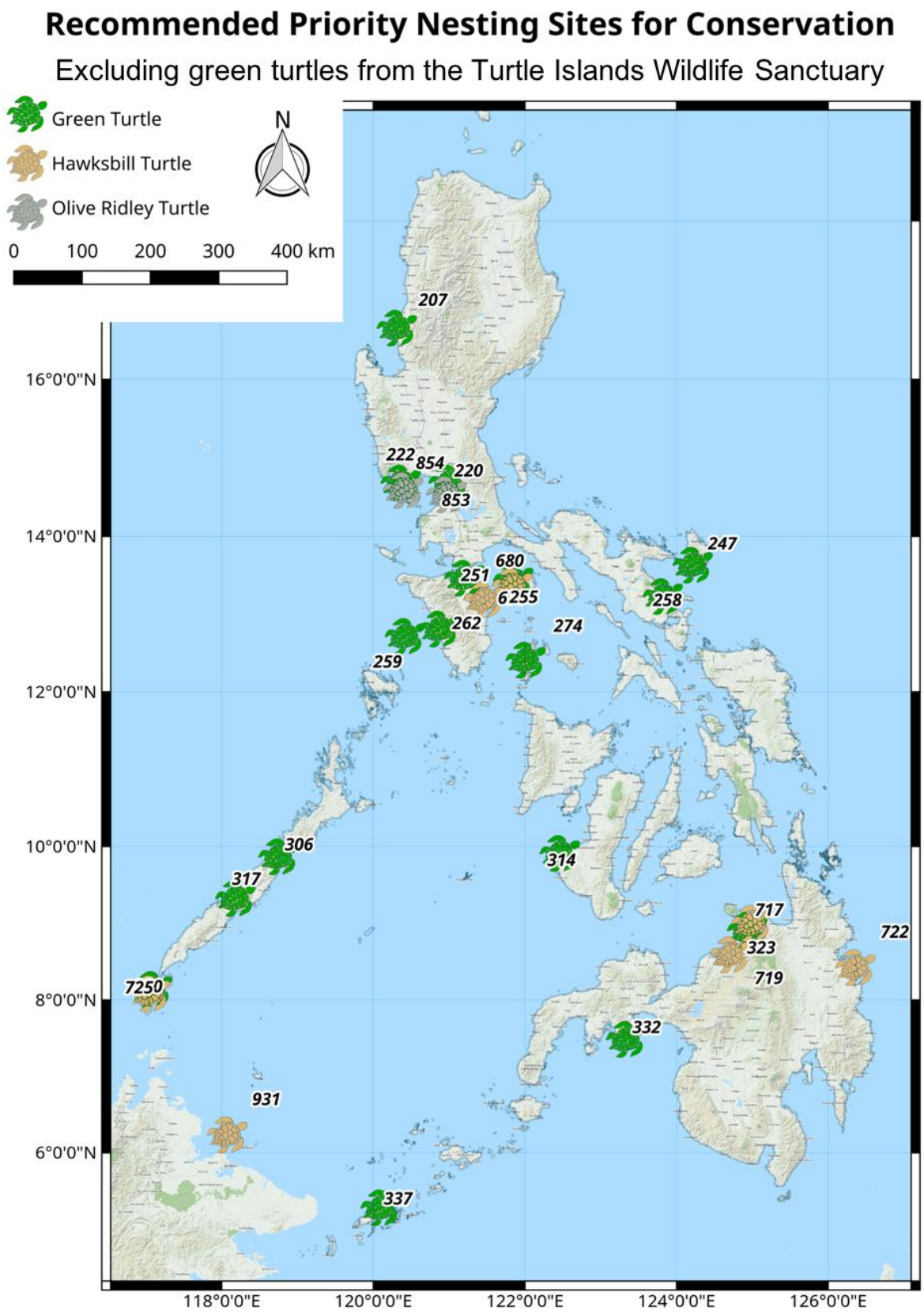

Figure 37. Nesting sites of green turtles, hawksbill turtles, and olive ridley turtles with highest value ratings per species for prioritization, excluding green turtles in the Turtle Islands Wildlife Sanctuary. The numbers represent the Site ID.

4.4. Habitat Use and Connectivity

Cruz and Torres (2005) classified marine turtle habitats into four categories: (1) for nesting; (2) as a juvenile developmental habitat; (3); as an adult foraging habitat and (4) for "resting". Antonio and Matillano (2016) equally identify four habitat types and add the ecosystem type to the use: (1) pelagic sites as migratory corridors, (2) coralline beaches for nesting, (3) lagoons, and (4) seagrass beds for juvenile development and foraging grounds for adult green turtles. Bagarinao (2011) stresses that it is the combination of both, the nesting beaches and the underwater foraging habitats, that is the key to turtle survival. Poonian et al. (2016) support that statement by writing that a rich diversity of marine habitats, including beaches, coral reefs, and seagrass beds, provides crucial nesting and foraging grounds to marine turtles.

For this study, tagged nesters have given an opportunity to look at the extent of movement and habitat use of adult female marine turtles. Specific areas were identified, which are assumed to be feeding habitats of these adults based on the number of recaptures outside of their nesting habitats.

The analysis shows a pattern of dispersion of the green and hawksbill turtles nesting in the TIWS moving towards the Philippine Islands via Palawan and the western side of the country. The data supports the known and potential feeding sites of marine turtles in the Sulu-Sulawesi Seas presented by Pilcher (2008). However, it cannot be determined if the marine turtles were using these areas as terminal locations or if they were just passing through these corridors. There were relatively fewer incidents of the olive ridley turtle compared to the other species considering it is a pelagic species and most records were based on bycatch and strandings.

The data has shown the importance of not only protecting nesting sites but also the migratory routes and other habitats utilized by marine turtles. It also emphasizes the need to have a comprehensive conservation program that considers all habitats utilized by marine turtles at different stages in their life cycle.

4.5. Turtle Islands Wildlife Sanctuary Nesting Trends for Tagged Green Turtles

The results from the TIWS should be regarded with caution as the decline observed may not reflect the true trend in the nesting population. The data from the tagged nesters are considered incomplete mainly due to inconsistent tagging effort due to various management issues such as: there were years when the DENR was not able to purchase tags due to lack of funds or difficulties with ordering from the U.S. suppliers or difficulties with claiming the imported tags from customs due to import tax issues; inability of local wardens to implement their tagging duties for some reason; tags were also distributed to the other DENR regional offices leaving the TIWS with less tags to use.

The increasing trend of reported tagged nesters during the first decade (1986-1995) was probably because the DENR conducted saturation tagging, meaning there was

consistent effort to tag all nesters on Baguan Island where the DENR was based, each night. The decline during the second decade (1996-2005) could be a result of lower tagging effort due to reasons already stated.

It should also be noted that the tagging reports cannot be related to the egg production in the TIWS as some of the tagged turtles did not complete their nesting nor were all the nesters tagged or monitored. Based on the results of this study, tagging may not be the best way to monitor egg production trends in the TIWS. Productivity estimates is probably best addressed through counting the tracks left by turtles with complete nests on a daily basis. The effective assessment of the TIWS in terms of nester population and egg production need to be addressed through proper research design and implementable methods.

4.6. Identifying Movement Patterns and Important Post-Nesting Habitats of Tagged Green Turtles

Working with a large heterogeneous dataset of tagging data, produced results where regression model assumptions were not met. Model parameters where highly significant with all model parameter $p<0.001$. Figure 38 looks at the residual Normal Q-Q plot. However, it is clear that the model assumption of normally distributed residuals is not satisfied. The cells with very high numbers of marine turtles (darker grid cells) cannot be explained by the distance from the breeding ground or sampling effort alone, as the plots show. Therefore, this indicates that there is possibly another factor that was not considered in the dataset which needs to be considered to explain these large numbers, given that there was no information regarding habitat use provided.

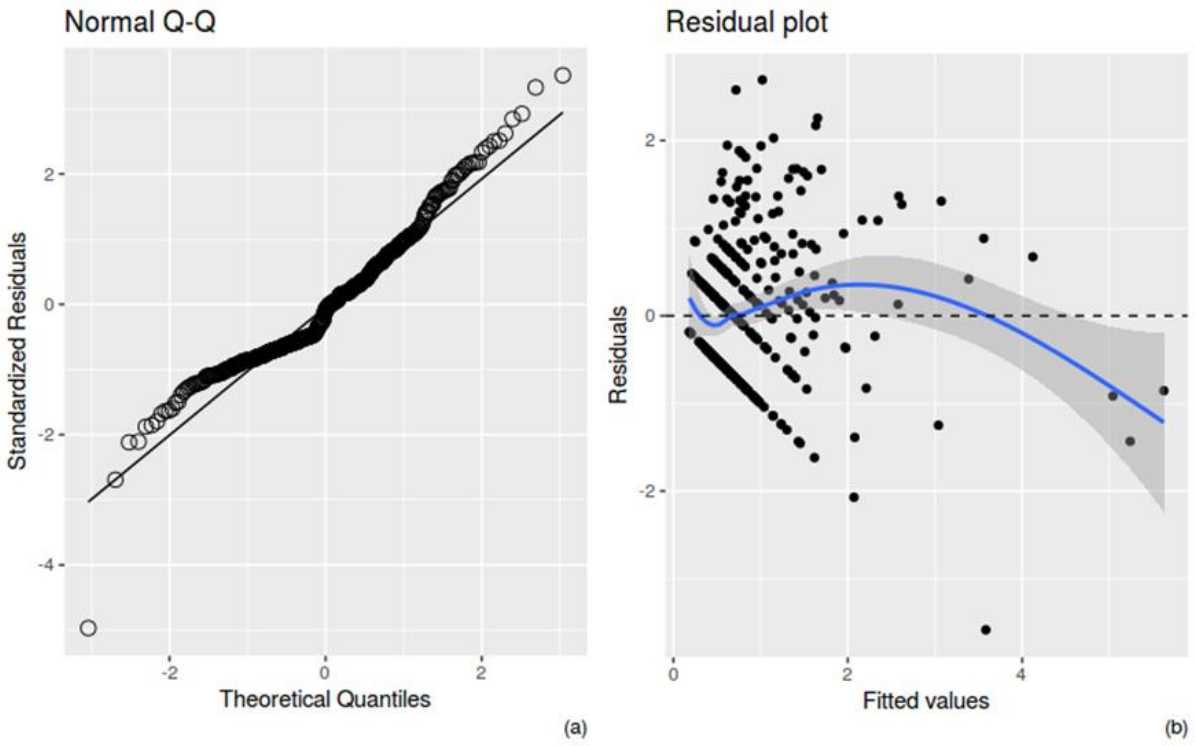

Figure 38. Normal Q-Q plot of the standardized model residuals and the normal Q-Q line (a) and graph of the residuals plotted against the fitted values. The horizontal blue line a loess fit of the difference between the residuals and fitted values and it is confidence interval in the grey area (b).

From the maps presented in Figure 39 and Figure 40, it is shown that there is a clear gradient of connectivity, with the sites in the western part of the Philippines having more chances of encounters of marine turtles nesting in the TIWS. The map also shows that the distribution of green turtles across the country is widespread, reaching as far as the eastern side of the country. The same model supports the prediction of Pilcher (2008) in his paper on the migratory pattern of marine turtles in the Sulu-Sulawesi region.

This regression analysis shows that even in a large heterogeneous dataset with varying levels of sampling effort, it is still possible to identify marine turtles' habitat connectivity and movement patterns. It thus shows areas of interest for further habitat use studies.

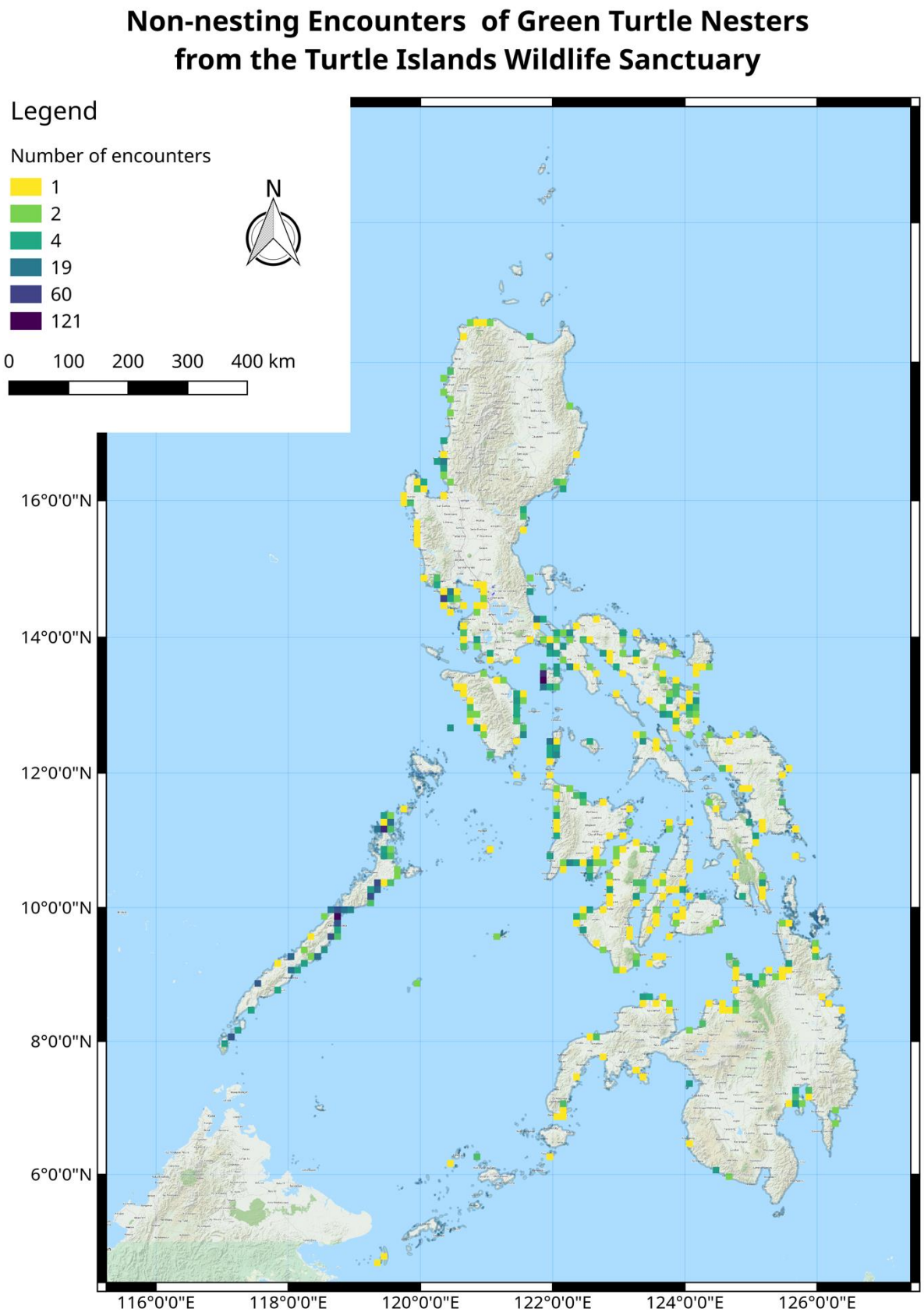

Figure 39. Gridded map of non-nesting encounters of green turtles nesting in the Turtle Islands Wildlife Sanctuary.

Model Residual Values

Non-nesting encounters of green turtle nesters from the TIWS

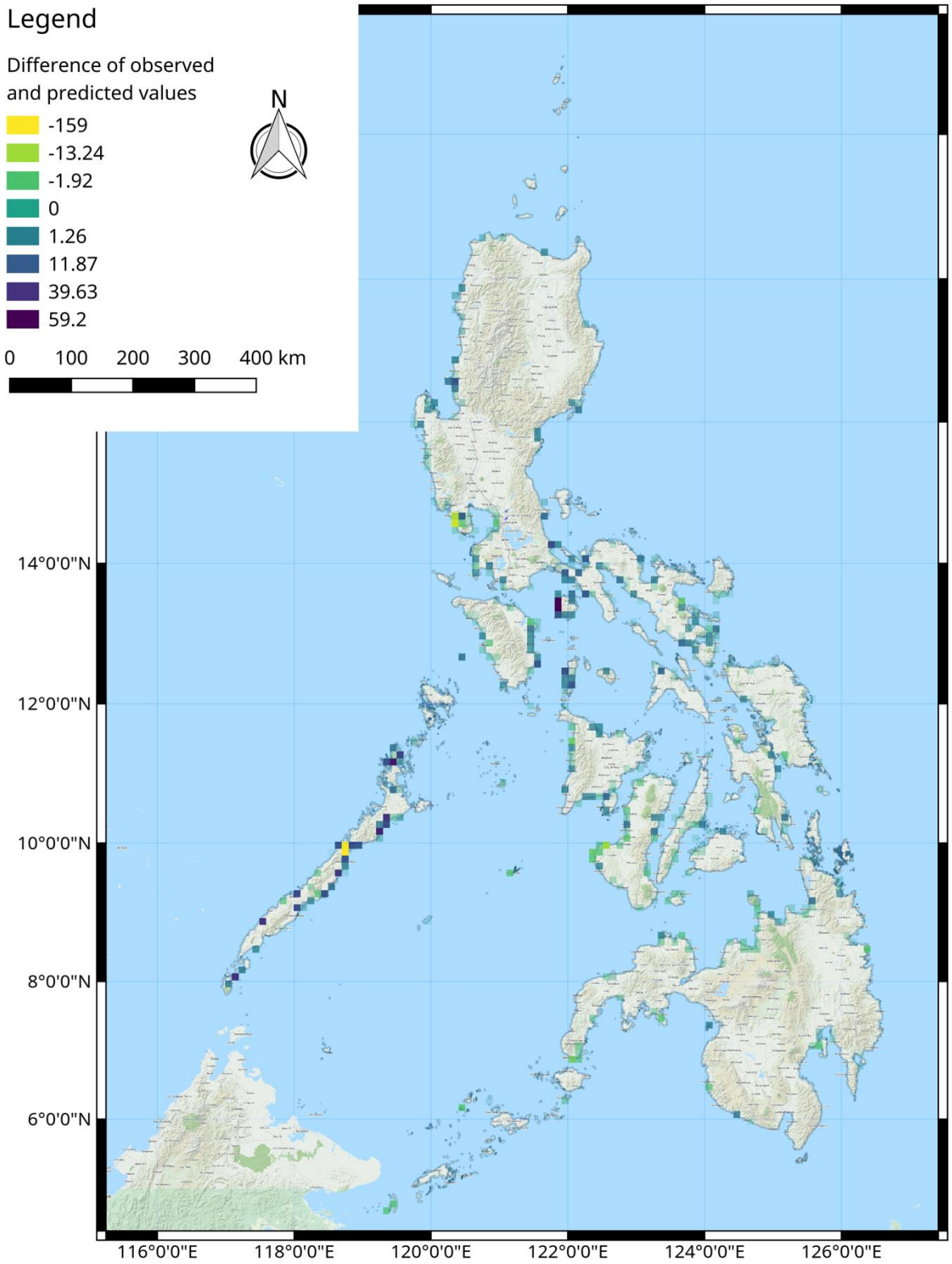

Figure 40. Map showing the difference between the observed values and the values predicted by our regression model. Negative values mean the model predicted more encounters than were actually recorded, while positive numbers mean more encounters were observed than predicted by the model.

4.7. Threats

The data used in this study were unable to capture the variety of threats faced by marine turtles in the country, as the reports were focused mainly on fishery interactions. There were other possible threats involved from non-fishery related reports (4 records), stranding (50 records), captive (217 records), and boat strike (1 record). These threats need to be examined more in detail.

As evidenced by the reports, fishery with marine turtles as bycatch is a major threat to all the species in the country. Areas of high interactions indicate areas of high fishing pressure and high use by marine turtles.

Bagarinao (2011) observed that about 77% of green turtles were caught in fish corrals, about 75% of olive ridley turtles in gillnets and longlines, hawksbills were caught by various gears, and leatherback and loggerhead turtles were caught by gill nets in the northeastern Sulu Sea. Although most of the turtles could be released, some of them died from entanglement.

Fisheries interaction is expected to happen more with the increasing number of fisheries and the types of gear used. However, this study shows the need for better monitoring with standardized classification of gear type, as a lot of 'unidentified gear' was found in the results. This is the only way to properly address bycatch and recommend a change in the design and use of gears (e.g. install Turtle Excluder Devices) in order to reduce marine turtle mortalities.

5. Conclusions

The analysis of tagging and field report data of the DENR collected over 30 years has shown patterns of nesting, occurrence, fishery interaction, and habitat connectivity of marine turtles in the Philippines. The whole Philippine Seas is frequented consistently and regularly by all five species: green, hawksbill, olive ridley, leatherback, and loggerhead turtles.

The green turtle is the only species with a major nesting rookery in the country found in the TIWS. The general trend for the TIWS is a decline in the reported incidence of tagged nesters throughout the years which may be attributed more to management issues than biological conditions. Outside the TIWS, the provinces of Palawan, Oriental Mindoro, Albay, and Misamis Oriental have been consistent sites for green and hawksbill turtles nesting, while the province of Bataan has the highest concentration of olive ridley turtle nesters.

Connectivity and predicted model maps have shown that the TIWS green turtle nesters migrate across the country showing a higher occurrence in the western side of the country, particularly Palawan. This is shown by the significant clustering of non-nesters in Palawan as well as in the Visayas Sea. However, due to the lack of data on the habitats in these locations, it can only be theorized that this gradient in clustering is a result of significant habitat connectivity from nesting in the TIWS to the rest of the country.

In terms of fisheries, the provinces of Palawan and Quezon are hotspots for bycatch with Palawan having the highest recorded bycatch of green and hawksbill turtles. Fishing nets are the primary fishing gears that were recorded to accidentally capture marine turtles in these areas.

Aside from the insights this paper provides on the status of marine turtles, it constitutes the basis for the next steps to be taken in developing a better conservation program for marine turtles in the Philippines. As a first step, it is recommended that an appropriate research design to answer specific research questions be crafted. It is necessary to assess the information needs both at a national and site levels. An implementable research program that can be funded and run by technical personnel in the long-term needs to be ensured.

Secondly, the research program has to be supported by an information management system that would allow for better and easier data collection, monitoring, sharing, analysis, and reporting. The need to improve the data on marine turtles in the Philippines and to analyze it is a further necessary step to manage threats and protect marine turtles better in the country.

Specific recommendations are:

RESEARCH
• Continued research and monitoring of the TIWS and Bataan marine turtles through tagging of nesters and egg production monitoring but with a consistent observation effort. • Development of a more appropriate tagging program and other methodology for monitoring. • Satellite tagging and tracking of mature turtles to determine definite movement patterns. • Population identification through genetic studies. • Identification and characterization of important non-nesting habitats. • Monitor identified feeding and developmental habitats of marine turtle in terms of habitat use and habitat status. • Develop simpler and coherent data collection and reporting protocols specifically one that is assisted by an automated technology with a standardized menu. • Data should be easily verifiable to include prescribed photographs and confirmation before being entered into a centralized database. • Develop a centralized database system/information management system that is accessible online, sufficiently funded, and managed by trained personnel. • Include other sources of data to come up with a more comprehensive status for the Philippines. • Monitor and collect more detailed data on threats, including fishery interaction specific gears, illegal trade, diseases, marine debris, etc.

MANAGEMENT
• Focus protection and monitoring activities on identified priority nesting areas and fishery hotspots. • Focus conservation efforts on areas with a high incidence of fishery interactions and address the use and modification of gears (e.g. Turtle Excluder Devices). • Provide free and accessible knowledge products to personnel monitoring and recording marine turtle data to increase their technical capability and the quality of marine turtle reports. • Train personnel on the ground responding to marine turtle reports. • Enhance relationships with local partners, especially in implementing conservation activities, data gathering, and submission. • Enhance relationships with the private sector, to more efficiently protect marine turtles and to act as a role model for other companies and organisations. • Simplify reporting systems, make templates coherent, and improve communication between field and central offices.

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Appendix 1: List of Municipalities and Provinces with Marine Turtle Nesting Incidents.

Municipality	Province	Green Turtle	Olive Ridley Turtle	Hawksbill Turtle	Loggerhead Turtle	Leatherback Turtle	Unknown	Total
Bagac	Bataan	28	255	4			11	**298**
Morong	Bataan	4	181					**185**
Pitogo	Zamboanga del Sur	90		4			16	**110**
Balabac	Palawan	54		22				**76**
Sablayan	Occidental Mindoro	59	2	11			2	**74**
Quezon	Palawan	42	1	4				**47**
Puerto Princesa City	Palawan	27	4	3	3		2	**39**
Pola	Oriental Mindoro	21	8	7				**36**
Manila	Metropolitan Manila	15	13	6				**34**
Kalayaan	Palawan	29						**29**
Parang	Maguindanao	25		1			1	**27**
Hinatuan	Surigao del Sur	16	1	10				**27**
Boac	Marinduque	9	5	8				**22**
Gasan	Marinduque	16	1	1			1	**19**
Magsaysay	Misamis Oriental	10		9				**19**
Cauayan	Negros Occidental	9	4	5				**18**
Tiwi	Albay	17						**17**
Gingoog City	Misamis Oriental	15		2				**17**

El Nido	Palawan	13		2	1			**16**
San Fernando City	La Union	8	3	4				**15**
Odiongan	Romblon	8	4	2			1	**15**
Tabaco City	Albay	10	1	3				**14**
Bacacay	Albay	9	1	4				**14**
Mapun	Tawi-Tawi	13						**13**
Virac	Catanduanes	12	1					**13**
Sofronio Espanola	Palawan	10		3				**13**
San Jose	Occidental Mindoro	12	1					**13**
Maitum	Sarangani	2	4		1		5	**12**
Legazpi City	Albay	5	1	2		1	2	**11**
Prieto Diaz	Sorsogon	2		7	1			**10**
Roxas	Palawan	5		5				**10**
Sorsogon City	Sorsogon	8	1	1				**10**
Pilar	Bataan		9					**9**
Bato	Catanduanes	6	1	1				**8**
Narra	Palawan	5		2	1			**8**
Zamboanga City	Zamboanga del Sur	6	1		1			**8**
Cuyo	Palawan	4		4				**8**
San Jacinto	Masbate	6		2				**8**

Mabini	Bohol	8						**8**
Villanueva	Misamis Oriental	3	2	2				**7**
Talisayan	Misamis Oriental	3		4				**7**
Cagayan de Oro City	Misamis Oriental	5		1			1	**7**
El Salvador City	Misamis Oriental	2		2			2	**6**
Talibon	Bohol	5		1				**6**
Opol	Misamis Oriental	6						**6**
Santa Cruz	Marinduque	1	5					**6**
Ragay	Camarines Sur		6					**6**
Gloria	Oriental Mindoro	4	1	1				**6**
Mariveles	Bataan	3	3					**6**
Dalaguete	Cebu	6						**6**
Gonzaga	Cagayan	6						**6**
Calapan City	Oriental Mindoro	4	1				1	**6**
Tacloban City	Leyte	6						**6**
Unisan	Quezon	5						**5**
Davao City	Davao del Sur		1	3			1	**5**
Naic	Cavite	1	4					**5**
Batangas City	Batangas	2	2	1				**5**
Culasi	Antique	4		1				**5**

Larena	Siquijor	2		2		1		**5**
Calabanga	Camarines Sur	4						**4**
Carmen	Agusan del Norte			2			2	**4**
Badian	Cebu	3	1					**4**
Lemery	Batangas	3	1					**4**
Salay	Misamis Oriental	1	1	1			1	**4**
Sipalay City	Negros Occidental	2	1	1				**4**
Magdiwang	Romblon	4						**4**
Cabusao	Camarines Sur	4						**4**
Nasugbu	Batangas		4					**4**
Medina	Misamis Oriental	2		2				**4**
Balayan	Batangas	4						**4**
Kiamba	Sarangani	1	3					**4**
Mati City	Davao Oriental	4						**4**
Borongan City	Eastern Samar	4						**4**
San Andres	Catanduanes	4						**4**
Marabut	Samar	3	1					**4**
Guinsiliban	Camiguin	3		1				**4**
Navotas	Metropolitan Manila	2	2					**4**
Ozamis City	Misamis Occidental	3						**3**

Tubigon	Bohol	2		1				**3**
Caramoan	Camarines Sur	2					1	**3**
Mambajao	Camiguin	2		1				**3**
Jasaan	Misamis Oriental	1		2				**3**
Carrascal	Surigao del Sur	3						**3**
Pasacao	Camarines Sur		3					**3**
Isabela City	Basilan			3				**3**
Alcantara	Romblon	3						**3**
Ibajay	Aklan	2	1					**3**
Rapu-Rapu	Albay	3						**3**
Baler	Aurora	3						**3**
Sagay	Camiguin			3				**3**
Maasim	Sarangani	2	1					**3**
Pilar	Sorsogon	3						**3**
San Juan	Batangas	1	2					**3**
Guimbal	Iloilo	2	1					**3**
Olongapo City	Zambales		2				1	**3**
Samal City	Davao del Norte		1	2				**3**
Mansalay	Oriental Mindoro	3						**3**
Badoc	Ilocos Norte	2	1					**3**

Burgos	Pangasinan		2	1				**3**
Iba	Zambales		3					**3**
Gubat	Sorsogon	3						**3**
Hinoba-An	Negros Occidental	2		1				**3**
Alaminos City	Pangasinan	2		1				**3**
Donsol	Sorsogon	3						**3**
Oroquieta City	Misamis Occidental	1		2				**3**
Can-Avid	Eastern Samar	2						**2**
Pagbilao	Quezon	2						**2**
Buenavista	Agusan del Norte	1		1				**2**
Tagoloan	Misamis Oriental	1		1				**2**
Sebaste	Antique	1					1	**2**
Lanuza	Surigao del Sur			2				**2**
Sugbongcogon	Misamis Oriental			2				**2**
Bangui	Ilocos Norte	1					1	**2**
Sagnay	Camarines Sur	2						**2**
Looc	Romblon	2						**2**
Malabon	Metropolitan Manila	1		1				**2**
Basey	Samar	2						**2**
Mercedes	Camarines Norte			1	1			**2**

Laua-An	Antique						2	**2**
Candelaria	Zambales	1	1					**2**
Brooke's Point	Palawan	1	1					**2**
Malinao	Albay	1		1				**2**
Rosario	La Union	1		1				**2**
Enrique Villanueva	Siquijor	1		1				**2**
Mahinog	Camiguin	1		1				**2**
Butuan City	Agusan del Norte	1			1			**2**
Tanauan	Leyte	2						**2**
Calintaan	Occidental Mindoro	2						**2**
Anda	Pangasinan	2						**2**
Lapu-Lapu City	Cebu	2						**2**
Mobo	Masbate	1		1				**2**
Milagros	Masbate	2						**2**
Dasol	Pangasinan	2						**2**
Pitogo	Quezon	2						**2**
Clarin	Misamis Occidental	2						**2**
Dapitan City	Zamboanga del Norte	2						**2**
Iligan City	Lanao del Norte	2						**2**
Luna	La Union	1		1				**2**

Talisay City	Cebu	1	1					**2**
Palanas	Masbate	1		1				**2**
Sipocot	Camarines Sur	2						**2**
Barili	Cebu	2						**2**
Casiguran	Aurora	2						**2**
Linamon	Lanao del Norte	2						**2**
Jordan	Guimaras	1		1				**2**
Masbate City	Masbate	2						**2**
Candijay	Bohol			2				**2**
Dipolog City	Zamboanga del Norte	1		1				**2**
Taguig	Metropolitan Manila	1		1				**2**
Cagayancillo	Palawan	2						**2**
Manito	Albay	2						**2**
Baras	Catanduanes	1						**1**
Sitangkai	Tawi-Tawi	1						**1**
Buenavista	Quezon	1						**1**
Caramoran	Catanduanes	1						**1**
Lawaan	Eastern Samar	1						**1**
Kalamansig	Sultan Kudarat						1	**1**
Balingasag	Misamis Oriental			1				**1**

Pagadian City	Zamboanga del Sur	1						**1**
Antipolo City	Rizal	1						**1**
San Juan	La Union	1						**1**
San Francisco	Cebu	1						**1**
Laoang	Northern Samar	1						**1**
Pagudpud	Ilocos Norte	1						**1**
Caba	La Union		1					**1**
Labrador	Pangasinan			1				**1**
San Esteban	Ilocos Sur			1				**1**
Tolosa	Leyte	1						**1**
Tinambac	Camarines Sur	1						**1**
Malita	Davao del Sur			1				**1**
Casiguran	Sorsogon	1						**1**
Jose Panganiban	Camarines Norte	1						**1**
Almeria	Biliran	1						**1**
Monreal	Masbate	1						**1**
Malasiqui	Pangasinan	1						**1**
Kauswagan	Lanao del Norte			1				**1**
Cawayan	Masbate	1						**1**
Alabat	Quezon	1						**1**

Catanauan	Quezon	1						**1**
Concepcion	Romblon	1						**1**
San Luis	Aurora	1						**1**
Gitagum	Misamis Oriental			1				**1**
Infanta	Quezon	1						**1**
Albuera	Leyte	1						**1**
Mabini	Compostela Valley	1						**1**
Bauang	La Union	1						**1**
Naawan	Misamis Oriental	1						**1**
Miagao	Iloilo	1						**1**
Agno	Pangasinan	1						**1**
Loboc	Bohol			1				**1**
Cavite City	Cavite	1						**1**
San Fernando City	Pampanga	1						**1**
San Antonio	Zambales		1					**1**
Alabel	Sarangani	1						**1**
Kabankalan City	Negros Occidental	1						**1**
Garchitorena	Camarines Sur	1						**1**
Calape	Bohol	1						**1**
Pangutaran	Sulu	1						**1**

Inabanga	Bohol				1			**1**
Bataraza	Palawan	1						**1**
Silay City	Negros Occidental	1						**1**
Macrohon	Southern Leyte	1						**1**
Bobon	Northern Samar	1						**1**
Santa Ana	Cagayan	1						**1**
Santa Cruz	Zambales	1						**1**
Buenavista	Marinduque	1						**1**
Aroroy	Masbate	1						**1**
Pio Duran	Albay	1						**1**
San Antonio	Northern Samar	1						**1**
Calatrava	Romblon	1						**1**
Masinloc	Zambales	1						**1**
Tanjay City	Negros Oriental	1						**1**
San Juan	Siquijor			1				**1**
Santa Maria	Ilocos Sur		1					**1**
San Julian	Eastern Samar	1						**1**
Quezon City	Metropolitan Manila		1					**1**
Maasin City	Southern Leyte	1						**1**
Torrijos	Marinduque			1				**1**

Santa Elena	Camarines Norte	1						**1**
Nasipit	Agusan del Norte	1						**1**
Surigao City	Surigao del Norte	1						**1**
Cajidiocan	Romblon	1						**1**
Balud	Masbate	1						**1**
Baybay City	Leyte	1						**1**
Castilla	Sorsogon	1						**1**
Currimao	Ilocos Norte	1						**1**
Patnanungan	Quezon		1					**1**
Mauban	Quezon	1						**1**
Daanbantayan	Cebu	1						**1**
Romblon	Romblon	1						**1**
Concepcion	Iloilo	1						**1**
Cortes	Bohol	1						**1**
Santa Cruz	Ilocos Sur		1					**1**
Labason	Zamboanga del Norte			1				**1**
Dumaguete City	Negros Oriental	1						**1**
Alubijid	Misamis Oriental	1						**1**
Naga City	Cebu	1						**1**
Laoang	Samar	1						**1**

San Joaquin	Iloilo	1						**1**
Cebu City	Cebu	1						**1**
Jagna	Bohol			1				**1**
Barbaza	Antique	1						**1**
Himamaylan City	Negros Occidental		1					**1**
Sibulan	Negros Oriental	1						**1**
Sibunag	Guimaras	1						**1**
Looc	Occidental Mindoro	1						**1**
San Andres	Quezon	1						**1**
Calaca	Batangas		1					**1**
Palauig	Zambales		1					**1**
Sirawai	Zamboanga del Norte	1						**1**
Vincenzo A. Sagun	Zamboanga del Sur	1						**1**
Baco	Oriental Mindoro	1						**1**
Mamburao	Occidental Mindoro			1				**1**
Escalante City	Negros Occidental	1						**1**
Abucay	Bataan		1					**1**
Dipaculao	Aurora	1						**1**
San Jose	Negros Oriental	1						**1**
Daet	Camarines Norte	1						**1**

Pinamalayan	Oriental Mindoro		1					**1**
Lagonglong	Misamis Oriental	1						**1**
Dinagat	Dinagat Islands	1						**1**
Cantilan	Surigao del Sur	1						**1**
Aparri	Cagayan	1						**1**
Cabadbaran City	Agusan del Norte	1						**1**
Bacong	Negros Oriental	1						**1**
Uson	Masbate			1				**1**
Matnog	Sorsogon	1						**1**
Lianga	Surigao del Sur			1				**1**
Caoayan	Ilocos Sur	1						**1**
San Lorenzo	Guimaras		1					**1**
Rosario	Cavite		1					**1**
Socorro	Surigao del Norte	1						**1**
Santa Cruz	Davao del Sur						1	**1**
Bongabong	Oriental Mindoro	1						**1**
Bansud	Oriental Mindoro	1						**1**
Tudela	Misamis Occidental		1					**1**
Libmanan	Camarines Sur	1						**1**
Bato	Camarines Sur		1					**1**

Totals	**960**	**577**	**215**	**11**	**2**	**57**	**1,822**

Appendix 2: List of Municipalities and Provinces with Marine Turtle Fishery Interaction Incidents.

Municipality	Province	Green Turtle	Hawksbill Turtle	Olive Ridley Turtle	Loggerhead Turtle	Leatherback Turtle	Unknown	Total
Puerto Princesa City	Palawan	140	29	7	5		35	**216**
Bagac	Bataan	49	38	14			16	**117**
El Nido	Palawan	46	26			1	14	**87**
Cauayan	Negros Occidental	41	13	5			12	**71**
Guimbal	Iloilo	66	3	1				**70**
Calaca	Batangas	29		34				**63**
Davao City	Davao del Sur	23	19	19			1	**62**
Roxas	Palawan	40	4				6	**50**
Balabac	Palawan	48						**48**
Culasi	Antique	41	2	4				**47**
Quezon	Palawan	41	1				1	**43**
Casiguran	Aurora	31		6		3	1	**41**
Parang	Maguindanao	34	3					**37**
Pola	Oriental Mindoro	20	7	8				**35**
Anda	Pangasinan	30	5					**35**
Prieto Diaz	Sorsogon	19	9				6	**34**
Tigbauan	Iloilo	19	2	12		1		**34**
Unisan	Quezon	15		12	2		1	**30**

Sagay City	Negros Occidental	30						**30**
San Fernando City	La Union	11	7	7	1		1	**27**
Odiongan	Romblon	18	2	2			5	**27**
Gumaca	Quezon	16	8					**24**
Gloria	Oriental Mindoro	13		9			2	**24**
Catanauan	Quezon	18		5				**23**
Mauban	Quezon	9	11	3				**23**
Gasan	Marinduque	18		5				**23**
Gingoog City	Misamis Oriental	12	4	2	2		2	**22**
Bolinao	Pangasinan	5	9	4			4	**22**
Sablayan	Occidental Mindoro	12	8	1			1	**22**
Calauag	Quezon	13	7			1		**21**
Aroroy	Masbate	15	5	1				**21**
Lemery	Batangas	16		4				**20**
Alabat	Quezon	14	3	2				**19**
Pitogo	Quezon	7	6	6				**19**
Miagao	Iloilo	9		2	2	1	4	**18**
Sofronio Espanola	Palawan	17					1	**18**
Nueva Valencia	Guimaras	6	8	1				**15**
Ragay	Camarines Sur	4	2	7			1	**14**

Morong	Bataan	7	1	5				**13**
Alaminos City	Pangasinan	3	5	3			2	**13**
Tacloban City	Leyte	5					7	**12**
Himamaylan City	Negros Occidental	3	2	7				**12**
Narra	Palawan	11						**11**
Tiwi	Albay	11						**11**
Dipaculao	Aurora	11						**11**
Ibajay	Aklan	10				1		**11**
Silay City	Negros Occidental	6	1	2			2	**11**
Bayawan City	Negros Oriental	5					6	**11**
Sorsogon City	Sorsogon	5	3				2	**10**
Enrique B. Magalona	Negros Occidental	5		2			3	**10**
Pilar	Sorsogon	7					3	**10**
Oton	Iloilo			10				**10**
New Washington	Aklan	6	1				2	**9**
Jordan	Guimaras	2	2	5				**9**
Mercedes	Camarines Norte	5	1	2			1	**9**
Hinatuan	Surigao del Sur	7	2					**9**
Pagudpud	Ilocos Norte	8	1					**9**
La Libertad	Negros Oriental	9						**9**

Tabaco City	Albay	8						**8**
Boac	Marinduque			8				**8**
Carmen	Agusan del Norte	1	7					**8**
Santa	Ilocos Sur	5		1			2	**8**
Tagudin	Ilocos Sur	7					1	**8**
Alubijid	Misamis Oriental	3	4				1	**8**
Vigan City	Ilocos Sur	7		1				**8**
Calabanga	Camarines Sur	3	5					**8**
Zamboanga City	Zamboanga del Sur	6	2					**8**
Dapitan City	Zamboanga del Norte	6	1				1	**8**
Taytay	Palawan	4					4	**8**
Iloilo City	Iloilo	6	1	1				**8**
Padre Burgos	Quezon	8						**8**
Dasol	Pangasinan	5	2		1			**8**
Sebaste	Antique	6	1					**7**
Bauang	La Union	6		1				**7**
Matnog	Sorsogon	7						**7**
Bongabong	Oriental Mindoro	7						**7**
Bantayan	Cebu	6	1					**7**
Calatagan	Batangas	5		2				**7**

Batuan	Masbate	3	4					**7**
Tagkawayan	Quezon	7						**7**
Calintaan	Occidental Mindoro	3	4					**7**
Sipalay City	Negros Occidental	3	1	2			1	**7**
Lopez	Quezon	6						**6**
Carrascal	Surigao del Sur	6						**6**
Borongan City	Eastern Samar	4			2			**6**
Rosario	La Union	5	1					**6**
Tubay	Agusan del Norte		6					**6**
Legazpi City	Albay	1		2			3	**6**
Maribojoc	Bohol	5		1				**6**
Alcantara	Romblon	6						**6**
San Juan	Batangas	1	1	1			3	**6**
	La Union	5					1	**6**
Pasacao	Camarines Sur	1		3			2	**6**
Inabanga	Bohol	4		1				**5**
Caramoan	Camarines Sur	5						**5**
Agdangan	Quezon	2		1	1	1		**5**
Siaton	Negros Oriental	4		1				**5**
Tagoloan	Misamis Oriental		2	3				**5**

Santa Cruz	Marinduque	2	3					**5**
Cagayan de Oro City	Misamis Oriental	4		1				**5**
Infanta	Quezon	4					1	**5**
Magdiwang	Romblon	5						**5**
Caoayan	Ilocos Sur	3		2				**5**
Mahinog	Camiguin		4				1	**5**
San Jose	Antique	3	2					**5**
Iba	Zambales	3		2				**5**
Cagwait	Surigao del Sur	5						**5**
Balayan	Batangas	3		2				**5**
Jose Panganiban	Camarines Norte	1		3			1	**5**
Mabini	Bohol	4	1					**5**
Samal City	Davao del Norte	2	3					**5**
Laguindingan	Misamis Oriental	1	3				1	**5**
Ayungon	Negros Oriental	5						**5**
Siquijor	Siquijor	3	1					**4**
Guihulngan City	Negros Oriental	4						**4**
Tubigon	Bohol	3				1		**4**
San Lorenzo	Guimaras	2	2					**4**
Iligan City	Lanao del Norte	1	3					**4**

Agoo	La Union	1					3	**4**
Pitogo	Zamboanga del Sur		4					**4**
Mabini	Compostela Valley	3					1	**4**
Butuan City	Agusan del Norte	4						**4**
Magsaysay	Misamis Oriental	2	2					**4**
Bais City	Negros Oriental	3					1	**4**
Mariveles	Bataan		2	2				**4**
Masbate City	Masbate	1	2			1		**4**
Dauin	Negros Oriental	3	1					**4**
Kapatagan	Lanao del Sur	2	2					**4**
Bugasong	Antique	4						**4**
Talibon	Bohol	4						**4**
Brooke's Point	Palawan	2					2	**4**
Santa Ana	Cagayan	4						**4**
Subic	Zambales		1	2			1	**4**
Ilog	Negros Occidental	2	1			1		**4**
Lingayen	Pangasinan	2	1	1				**4**
Badoc	Ilocos Norte	4						**4**
Baler	Aurora		2	2				**4**
Masinloc	Zambales	1	3					**4**

Kalamansig	Sultan Kudarat	1	3					**4**
Escalante City	Negros Occidental	4						**4**
Del Gallego	Camarines Sur	2					1	**3**
Oslob	Cebu	2				1		**3**
Tibiao	Antique	3						**3**
Naga City	Cebu	2					1	**3**
Lebak	Sultan Kudarat	2		1				**3**
Calape	Bohol	1	2					**3**
Ozamis City	Misamis Occidental	3						**3**
Oroquieta City	Misamis Occidental	2	1					**3**
San Luis	Aurora	1	2					**3**
Concepcion	Iloilo	1					2	**3**
Batangas City	Batangas		2	1				**3**
Argao	Cebu	2	1					**3**
Laua-An	Antique	3						**3**
Virac	Catanduanes	3						**3**
Hamtic	Antique	2	1					**3**
Nasugbu	Batangas			3				**3**
Navotas	Metropolitan Manila	1		2				**3**
Cagayancillo	Palawan	3						**3**

Claveria	Cagayan	1		1			1	**3**
Roxas	Oriental Mindoro	2					1	**3**
Bacacay	Albay	1					2	**3**
Santiago	Ilocos Sur		1	2				**3**
Santa Cruz	Ilocos Sur	3						**3**
Cabusao	Camarines Sur	1					2	**3**
Bacoor	Cavite			2			1	**3**
Tanauan	Leyte	1		2				**3**
Pinamalayan	Oriental Mindoro	1		2				**3**
Mabini	Batangas	3						**3**
Jagna	Bohol	3						**3**
Mulanay	Quezon	2		1				**3**
Bangar	La Union	3						**3**
Calapan City	Oriental Mindoro	2		1				**3**
Cabugao	Ilocos Sur	3						**3**
Buenavista	Guimaras		2	1				**3**
Pilar	Bataan			2			1	**3**
Santa Catalina	Negros Oriental	2						**2**
Bangui	Ilocos Norte		2					**2**
Maasim	Sarangani	2						**2**

Guinayangan	Quezon	2						**2**
Cavite City	Cavite		1				1	**2**
Carmen	Cebu	1			1			**2**
Guiuan	Eastern Samar	1					1	**2**
Roxas City	Capiz			1		1		**2**
Barotac Viejo	Iloilo	2						**2**
Puerto Galera	Oriental Mindoro	2						**2**
Santa Elena	Camarines Norte	1					1	**2**
Palo	Leyte		1	1				**2**
Maitum	Sarangani	2						**2**
Uson	Masbate		2					**2**
Perez	Quezon	2						**2**
Caba	La Union	1					1	**2**
Bato	Catanduanes	2						**2**
Luna	La Union	1	1					**2**
Sinacaban	Misamis Occidental	2						**2**
Santa Cruz	Zambales		2					**2**
Olongapo City	Zambales			2				**2**
Kauswagan	Lanao del Norte	1	1					**2**
Sagay	Camiguin	2						**2**

Magallanes	Agusan del Norte	2						**2**
Tanza	Cavite		2					**2**
Valladolid	Negros Occidental	1	1					**2**
Tangalan	Aklan	1					1	**2**
Limay	Bataan			2				**2**
Agno	Pangasinan	1		1				**2**
Aborlan	Palawan	1	1					**2**
Aringay	La Union			2				**2**
Divilacan	Isabela	2						**2**
Maconacon	Isabela	2						**2**
Baliguian	Zamboanga del Norte	1		1				**2**
Ferrol	Romblon		2					**2**
Dumalinao	Zamboanga del Sur	2						**2**
Rapu-Rapu	Albay	1	1					**2**
Sibunag	Guimaras	2						**2**
Mogpog	Marinduque	2						**2**
Pambujan	Northern Samar	2						**2**
Vallehermoso	Negros Oriental	2						**2**
Calubian	Leyte	1	1					**2**
Naval	Biliran	2						**2**

Tolosa	Leyte	2						**2**
Dauis	Bohol	1					1	**2**
Pandan	Antique	2						**2**
San Narciso	Quezon		2					**2**
Bago City	Negros Occidental	1		1				**2**
Dagupan City	Pangasinan	1		1				**2**
Hinigaran	Negros Occidental			2				**2**
Tagbilaran City	Bohol	2						**2**
Malolos City	Bulacan	1	1					**2**
Candelaria	Zambales	1		1				**2**
Ajuy	Iloilo	1					1	**2**
Burgos	Pangasinan					2		**2**
Labrador	Pangasinan	2						**2**
Almeria	Biliran	2						**2**
Guinsiliban	Camiguin	2						**2**
Palauig	Zambales		2					**2**
Dinalungan	Aurora	2						**2**
Castilla	Sorsogon	2						**2**
Trinidad	Bohol	2						**2**
Dimiao	Bohol		2					**2**

Pola	Romblon	2						**2**
Milagros	Masbate	2						**2**
Cabadbaran City	Agusan del Norte	1	1					**2**
Baybay City	Leyte			1				**1**
Pilar	Cebu	1						**1**
Leganes	Iloilo	1						**1**
Kalibo	Aklan				1			**1**
Sual	Pangasinan	1						**1**
Alabel	Sarangani						1	**1**
Polillo	Quezon	1						**1**
Catmon	Cebu		1					**1**
Cordoba	Cebu						1	**1**
Sipocot	Camarines Sur			1				**1**
Bacolod City	Negros Occidental			1				**1**
San Jose	Northern Samar	1						**1**
Estancia	Iloilo	1						**1**
Balaoan	La Union						1	**1**
Consolacion	Cebu						1	**1**
Naawan	Misamis Oriental	1						**1**
Dolores	Eastern Samar	1						**1**

Gitagum	Misamis Oriental		1					**1**
Sogod	Cebu	1						**1**
San Andres	Catanduanes					1		**1**
San Pablo	Zamboanga del Sur						1	**1**
Clarin	Misamis Occidental			1				**1**
Dalaguete	Cebu	1						**1**
San Jacinto	Masbate		1					**1**
Pasuquin	Ilocos Norte		1					**1**
Jimalalud	Negros Oriental	1						**1**
Maasin City	Southern Leyte	1						**1**
Hilongos	Leyte	1						**1**
Altavas	Aklan		1					**1**
Cuyo	Palawan						1	**1**
Macrohon	Southern Leyte	1						**1**
Buenavista	Bohol			1				**1**
Silago	Southern Leyte		1					**1**
Agutaya	Palawan						1	**1**
San Enrique	Negros Occidental		1					**1**
Nasipit	Agusan del Norte	1						**1**
Opol	Misamis Oriental			1				**1**

Socorro	Surigao del Norte		1					**1**
Paombong	Bulacan		1					**1**
Mambajao	Camiguin		1					**1**
Pagbilao	Quezon			1				**1**
San Fernando	Cebu		1					**1**
Looc	Romblon		1					**1**
Mansalay	Oriental Mindoro	1						**1**
Plaridel	Misamis Occidental	1						**1**
Buenavista	Marinduque			1				**1**
Villanueva	Misamis Oriental		1					**1**
Basud	Camarines Norte	1						**1**
Laoang	Northern Samar	1						**1**
Liloan	Cebu	1						**1**
Lapu-Lapu City	Cebu	1						**1**
Marabut	Samar	1						**1**
San Narciso	Zambales						1	**1**
Dipolog City	Zamboanga del Norte	1						**1**
Bacolod	Lanao del Norte			1				**1**
San Joaquin	Iloilo	1						**1**
Burgos	Ilocos Norte	1						**1**

San Andres	Quezon			1				**1**
Lianga	Surigao del Sur					1		**1**
Tandag City	Surigao del Sur	1						**1**
Atimonan	Quezon			1				**1**
Manila	Metropolitan Manila			1				**1**
Dimasalang	Masbate	1						**1**
Sugbongcogon	Misamis Oriental		1					**1**
Malinao	Albay			1				**1**
Siruma	Camarines Sur	1						**1**
Bulusan	Sorsogon	1						**1**
San Luis	Batangas	1						**1**
Upi	Maguindanao	1						**1**
Pio Duran	Albay	1						**1**
Liloy	Zamboanga del Norte		1					**1**
Baliangao	Misamis Occidental	1						**1**
Minalabac	Camarines Sur	1						**1**
Manito	Albay	1						**1**
Dimataling	Zamboanga del Sur	1						**1**
Garcia Hernandez	Bohol	1						**1**
Pantukan	Compostela Valley	1						**1**

San Esteban	Ilocos Sur	1						**1**
Casiguran	Sorsogon	1						**1**
Dinas	Zamboanga del Sur	1						**1**
Larena	Siquijor					1		**1**
Cadiz City	Negros Occidental		1					**1**
Cortes	Bohol	1						**1**
Talisay City	Negros Occidental	1						**1**
Duero	Bohol		1					**1**
Basay	Negros Oriental		1					**1**
Torrijos	Marinduque		1					**1**
Burdeos	Quezon	1						**1**
Angeles City	Pampanga		1					**1**
Orani	Bataan		1					**1**
Initao	Misamis Oriental	1						**1**
Mamburao	Occidental Mindoro	1						**1**
Batan	Aklan		1					**1**
Lupi	Camarines Sur		1					**1**
Palanan	Isabela	1						**1**
San Jose	Occidental Mindoro		1					**1**
Burgos	Ilocos Sur		1					**1**

Hinunangan	Southern Leyte	1						**1**
Santa Maria	Ilocos Sur			1				**1**
Bien Unido	Bohol	1						**1**
Narvacan	Ilocos Sur	1						**1**
Dapa	Surigao del Norte		1					**1**
San Pascual	Masbate	1						**1**
Asturias	Cebu	1						**1**
Jolo	Sulu		1					**1**
Oras	Eastern Samar						1	**1**
Lanuza	Surigao del Sur	1						**1**
Sagnay	Camarines Sur	1						**1**
Jetafe	Bohol	1						**1**
Banate	Iloilo	1						**1**
Barcelona	Sorsogon	1						**1**
Pontevedra	Negros Occidental		1					**1**
Mobo	Masbate	1						**1**
Bulan	Sorsogon					1		**1**
Bacnotan	La Union			1				**1**
Lagonglong	Misamis Oriental	1						**1**
Abra de Ilog	Occidental Mindoro	1						**1**

Sultan Kudarat	Maguindanao	1						**1**
Sanchez-Mira	Cagayan	1						**1**
Libmanan	Camarines Sur	1						**1**
Libertad	Antique			1				**1**
Surigao City	Surigao del Norte	1						**1**
Total number of encounters		**1,606**	**415**	**317**	**18**	**20**	**201**	**2,577**

Appendix 3: Nesting Priority Sites Excluding Green Turtles from the Turtle Islands Wildlife Sanctuary.

Site ID	Provinces Included	Municipalities Included	Regions Included	Species	Number of Individuals	Number of Incidents	Category	Number of Years	Category
337	Tawi-Tawi	Bongao, Languyan, Panglima Sugala, Sapa-Sapa, Tandubas	Autonomous Region of Muslim Mindanao (ARMM)	Green	342	421	high	6	high
332	Zamboanga del Sur	Dimataling, Dinas, Margosatubig, Pitogo, Tabina, Vincenzo A. Sagun	Zamboanga Peninsula (Region IX)	Green	75	105	high	4	mid
222	Bataan, Zambales	Abucay, Bagac, Balanga City, Hermosa, Limay, Mariveles, Morong, Olongapo City, Orani, Orion, Pilar, Samal, San Antonio, Subic	Central Luzon (Region III)	Green	70	77	high	8	high
258	Albay, Camarines Sur, Sorsogon	Bacacay, Tabaco City, Legazpi City, Rapu-Rapu, Malinao, Manito, Pio Duran, Tiwi, Casiguran, Castilla, Sorsogon City, Donsol, Gubat, Pilar, Prieto Diaz, Sagnay	Bicol Region (Region V)	Green	69	74	high	7	high
323	Agusan del Norte, Bukidnon, Camiguin, Misamis Oriental	Alubijid, Balingasag, Balingoan, Baungon, Binuangan, Buenavista, Butuan City, Cabadbaran City, Cagayan de Oro City, Carmen, Catarman, El Salvador City, Gingoog City, Guinsiliban, Jasaan, Kinoguitan, Lagonglong, Laguindingan, Libona, Magallanes, Magsaysay, Mahinog, Malitbog, Mambajao, Manolo Fortich, Medina, Nasipit, Opol, Sagay, Salay, Sugbongcogon, Tagoloan, Talisayan, Villanueva	Caraga (Region XIII),Northern Mindanao (Region X)	Green	53	69	high	9	high

Site ID	Provinces Included	Municipalities Included	Regions Included	Species	Number of Individuals	Number of Incidents	Category	Number of Years	Category
330	Palawan	Balabac	MIMAROPA (Region IV-B)	Green	62	65	high	2	low
317	Palawan	Aborlan, Narra, Quezon, Sofronio Espanola	MIMAROPA (Region IV-B)	Green	49	57	high	6	high
262	Occidental Mindoro	Calintaan, Rizal, Sablayan	MIMAROPA (Region IV-B)	Green	34	43	mid	10	high
306	Palawan	Aborlan, Puerto Princesa City	MIMAROPA (Region IV-B)	Green	32	35	mid	9	high
220	Bulacan, Cavite, Metropolitan Manila, Rizal	Bulacan, Cavite City, Las Piñas, Manila, Navotas, Obando, Parañaque, Pasay City	CALABARZON (Region IV-A), Central Luzon (Region III), Metropolitan Manila	Green	25	28	mid	8	high
247	Catanduanes	Baras, Bato, San Andres, Virac	Bicol Region (Region V)	Green	21	22	mid	8	high
259	Occidental Mindoro	Sablayan	MIMAROPA (Region IV-B)	Green	22	22	mid	7	high
255	Marinduque	Boac, Buenavista, Gasan, Mogpog	MIMAROPA (Region IV-B)	Green	17	20	mid	5	high
207	La Union	Aringay, Bacnotan, Bauang, Caba, San Fernando City, San Juan	Ilocos Region (Region I)	Green	16	16	mid	7	high
274	Romblon	Alcantara, Ferrol, Looc, Odiongan, San Agustin, San Andres, Santa Fe, Santa Maria	MIMAROPA (Region IV-B)	Green	13	14	mid	8	high

Site ID	Provinces Included	Municipalities Included	Regions Included	Species	Number of Individuals	Number of Incidents	Category	Number of Years	Category
314	Negros Occidental	Cauayan, Hinoba-An, Sipalay City	Western Visayas (Region VI)	Green	11	13	mid	8	high
251	Oriental Mindoro	Baco, Calapan City	MIMAROPA (Region IV-B)	Green	6	6	low	5	high
717	Agusan del Norte, Camiguin, Misamis Oriental	Buenavista, Carmen, Gingoog City, Magsaysay, Medina, Sugbongcogon, Talisayan Salay, Guinsiliban, Mahinog, Mambajao, Sagay	Caraga (Region XIII), Northern Mindanao (Region X)	Hawksbill	19	25	high	13	high
678	Marinduque	Boac, Gasan	MIMAROPA (Region IV-B)	Hawksbill	7	16	high	4	mid
722	Surigao del Sur	Hinatuan	Caraga (Region XIII)	Hawksbill	10	11	high	2	low
725	Palawan	Balabac	MIMAROPA (Region IV-B)	Hawksbill	9	11	high	2	low
931	Tawi-Tawi	Turtle Islands	Autonomous Region of Muslim Mindanao (ARMM)	Hawksbill	22	34	high	14	high
680	Oriental Mindoro	Pola	MIMAROPA (Region IV-B)	Hawksbill	9	9	high	3	mid
719	Misamis Oriental	Balingasag, Cagayan de Oro City, El Salvador City, Jasaan, Tagoloan, Villanueva	Northern Mindanao (Region X)	Hawksbill	6	6	mid	6	high

Site ID	Provinces Included	Municipalities Included	Regions Included	Species	Number of Individuals	Number of Incidents	Category	Number of Years	Category
854	Bataan, Zambales	Abucay, Bagac, Morong, Pilar, Olongapo City, San Antonio	Central Luzon (Region III)	Olive Ridley	144	410	high	15	high
853	Bulacan, Cavite, Metropolitan Manila	Bacoor, Bulacan, Cavite City, Imus, Kawit, Las Piñas, Manila, Navota, Noveleta, Obando, Parañaque Pasay City	CALABARZON (Region IV-A), Central Luzon (Region III), Metropolitan Manila	Olive Ridley	13	19	mid	8	high

Appendix 4: List of Marine Turtle Incidents with Foreign Tags from 1986-2015.

No	Country of Origin	Encounter	Date Encountered	Left Tag #	Right Tag #	Species	Barangay	Municipality	Province	Region
1	Japan	Unknown	13/03/2002		JPN03484	Olive Ridley		Itbayat	Batanes	2
2	Japan	Fishery interaction	27/09/2002	JPN25572	JPN14638	Green	Jacana Beach	Puerto Princesa City	Palawan	4B
3	Japan	Unknown	08/07/2004	JPN28540		Green	Del Remedio	Sulat	Eastern Samar	8
4	Malaysia	Nesting	12/10/1987	MYS02130		Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
5	Malaysia	Nesting	12/10/1987	MYS02130		Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
6	Malaysia	Nesting	23/10/1987	MY20368		Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
7	Malaysia	Nesting	19/07/1991	MY28766		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
8	Malaysia	Nesting	19/07/1991	MY28766		Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
9	Malaysia	Nesting	16/08/1991	MY29565		Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
10	Malaysia	Nesting	27/09/1991	MY29312		Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
11	Malaysia	Nesting	20/05/1992	MY32063		Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
12	Malaysia	Nesting	06/08/1992	MY32367		Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
13	Malaysia	Nesting	06/08/1992	MY32195		Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
14	Malaysia	Nesting	07/08/1992	MY33722		Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
15	Malaysia	Nesting	30/08/1994		MY30788	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
16	Malaysia	Nesting	12/10/1994	MY39464		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
17	Malaysia	Nesting	09/04/1997		MY47991	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
18	Malaysia	Nesting	09/04/1997		MYS47991	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
19	Malaysia	Nesting	09/04/1997		MYS47991	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
20	Malaysia	Nesting	12/04/1997		MY32868	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
21	Malaysia	Nesting	12/04/1997		MYS32868	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
22	Malaysia	Nesting	27/04/1997		MYS38378	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
23	Malaysia	Nesting	27/04/1997		MY38378	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
24	Malaysia	Nesting	24/05/1997		MY48473	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
25	Malaysia	Nesting	28/05/1997		MY49082	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
26	Malaysia	Unknown	05/08/1997		MY39014	Green		Turtle Islands	Tawi-Tawi	ARMM
27	Malaysia	Unknown	05/08/1997		MY49338	Green		Turtle Islands	Tawi-Tawi	ARMM
28	Malaysia	Nesting	05/08/1997		MY49338	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM

No	Country of Origin	Encounter	Date Encountered	Left Tag #	Right Tag #	Species	Barangay	Municipality	Province	Region
29	Malaysia	Nesting	07/06/1998	MY01575		Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
30	Malaysia	Unknown	18/05/1999	MY56665	MY56666	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
31	Malaysia	Unknown	20/05/1999	MY57021	MY56108	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
32	Malaysia	Unknown	20/05/1999	MYS56305	MYS56306	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
33	Malaysia	Unknown	20/05/1999		MY55758	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
34	Malaysia	Unknown	21/05/1999	MYS56767	MYS56768	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
35	Malaysia	Unknown	22/05/1999		MYS55530	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
36	Malaysia	Unknown	22/05/1999	MYS55933		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
37	Malaysia	Unknown	23/05/1999	MYS56074	MYS56074	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
38	Malaysia	Unknown	24/05/1999	MYS57297	MYS57298	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
39	Malaysia	Unknown	01/06/1999	MYS56435	MYS56436	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
40	Malaysia	Unknown	10/06/1999	MY55186	MY55871	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
41	Malaysia	Unknown	13/06/1999	MYS55949		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
42	Malaysia	Unknown	13/06/1999	MYS56037		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
43	Malaysia	Unknown	13/06/1999	MYS58251	MYS58252	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
44	Malaysia	Unknown	14/06/1999	MYS56073	MYS56074	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
45	Malaysia	Unknown	22/06/1999	MYS57431		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
46	Malaysia	Unknown	23/06/1999	MYS05660		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
47	Malaysia	Unknown	24/06/1999	MYS58251	MYS58252	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
48	Malaysia	Unknown	28/06/1999	MYS57395		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
49	Malaysia	Unknown	28/06/1999	MYS57459	MYS57460	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
50	Malaysia	Unknown	29/06/1999	MYS57093	MYS57094	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
51	Malaysia	Unknown	30/06/1999	MYS51887	MYS51888	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
52	Malaysia	Unknown	01/07/1999	MYS56365	MYS56366	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
53	Malaysia	Unknown	02/07/1999	MYS57357	MYS57358	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
54	Malaysia	Unknown	02/07/1999	MYS57737		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
55	Malaysia	Unknown	04/07/1999	MYS56607		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
56	Malaysia	Unknown	04/07/1999	MYS57088	MYS57087	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
57	Malaysia	Unknown	05/07/1999	MYS58989	MYS05890	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
58	Malaysia	Unknown	06/07/1999	MYS37609		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
59	Malaysia	Unknown	08/07/1999	MYS56561	MYS56562	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM

No	Country of Origin	Encounter	Date Encountered	Left Tag #	Right Tag #	Species	Barangay	Municipality	Province	Region
60	Malaysia	Unknown	08/07/1999	MYS57893	MYS57894	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
61	Malaysia	Unknown	09/07/1999	MY57522	MYS57523	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
62	Malaysia	Unknown	10/07/1999	MYS55969	MYS55970	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
63	Malaysia	Unknown	12/07/1999	MYS56351	MYS56352	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
64	Malaysia	Unknown	12/07/1999		MYS05339	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
65	Malaysia	Unknown	13/07/1999	MYS56760	MYS56759	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
66	Malaysia	Unknown	15/07/1999	MYS45223		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
67	Malaysia	Unknown	15/07/1999	MYS58532	MYS58531	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
68	Malaysia	Unknown	18/07/1999	MYS57459	MYS57460	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
69	Malaysia	Unknown	18/07/1999		MYS57695	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
70	Malaysia	Unknown	18/07/1999	MYS56261	MYS56262	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
71	Malaysia	Unknown	20/07/1999	MYS56769	MYS56770	Unknown	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
72	Malaysia	Unknown	20/07/1999	MYS58308	MYS58307	Unknown	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
73	Malaysia	Unknown	23/07/1999	MYS45229		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
74	Malaysia	Unknown	29/07/1999	MYS58413	MYS58414	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
75	Malaysia	Unknown	30/07/1999	MYS57813	MYS57814	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
76	Malaysia	Unknown	01/08/1999	MYS55770	MYS55969	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
77	Malaysia	Unknown	03/08/1999	MYS57289	MYS57290	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
78	Malaysia	Unknown	03/08/1999	MYS59137	MYS59138	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
79	Malaysia	Nesting	04/08/1999	MYS58415		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
80	Malaysia	Nesting	04/08/1999	MYS05963	MYS59264	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
81	Malaysia	Nesting	04/08/1999	MYS59151	MYS59152	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
82	Malaysia	Nesting	04/08/1999	MYS59783	MYS59784	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
83	Malaysia	Nesting	06/08/1999	MYS00101	MYS00102	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
84	Malaysia	Unknown	06/08/1999	MYS59719	MYS59720	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
85	Malaysia	Nesting	09/08/1999	MYS00101	MYS00102	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
86	Malaysia	Unknown	10/08/1999	MYS57893	MYS57894	Unknown	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
87	Malaysia	Unknown	17/08/1999	MYS57329		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
88	Malaysia	Unknown	17/08/1999	MYS59282	MYS59283	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
89	Malaysia	Unknown	17/08/1999	MYS59201	MYS59202	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
90	Malaysia	Unknown	17/08/1999	MYS58479	MYS58478	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM

No	Country of Origin	Encounter	Date Encountered	Left Tag #	Right Tag #	Species	Barangay	Municipality	Province	Region
91	Malaysia	Unknown	18/08/1999	MYS59283		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
92	Malaysia	Unknown	18/08/1999	MYS05671		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
93	Malaysia	Nesting	19/08/1999	MYS00175	MYS00176	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
94	Malaysia	Unknown	24/08/1999	MYS59362	MYS59362	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
95	Malaysia	Nesting	28/08/1999	MY59299	MY59300	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
96	Malaysia	Nesting	05/09/1999	MYS59395	MYS59396	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
97	Malaysia	Nesting	05/09/1999	MYS57814	MYS57813	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
98	Malaysia	Nesting	05/09/1999	MYS59719	MYS59718	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
99	Malaysia	Unknown	06/09/1999	MYS56461	MYS56462	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
100	Malaysia	Nesting	08/09/1999	MYS58651	MYS58652	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
101	Malaysia	Nesting	10/09/1999	MYS59395	MYS59396	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
102	Malaysia	Unknown	10/09/1999	MYS58867	MYS58868	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
103	Malaysia	Nesting	10/09/1999	MYS57814	MYS57813	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
104	Malaysia	Nesting	12/09/1999	MYS00462	MYS00461	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
105	Malaysia	Nesting	12/09/1999	MYS58985	MYS58986	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
106	Malaysia	Nesting	14/09/1999	MYS00336	MYS00335	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
107	Malaysia	Nesting	14/09/1999	MYS59446	MYS59445	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
108	Malaysia	Nesting	14/09/1999	MYS00336	MYS00335	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
109	Malaysia	Nesting	16/09/1999	MYS00017	MYS00018	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
110	Malaysia	Nesting	16/09/1999	MYS00017	MYS00018	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
111	Malaysia	Unknown	17/09/1999	MYS59790	MYS59789	Unknown	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
112	Malaysia	Unknown	17/09/1999	MYS59151	MYS59152	Unknown	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
113	Malaysia	Unknown	25/10/1999	MYS60021	MYS60022	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
114	Malaysia	Unknown	05/11/1999	MYS60483		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
115	Malaysia	Unknown	09/11/1999	MYS63073	MYS63074	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
116	Malaysia	Nesting	22/09/2000	MYS02191	MYS02192	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
117	Malaysia	Nesting	25/11/2000	MYS02294	MYS02293	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
118	Malaysia	Nesting	05/12/2000	MYS52724		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
119	Malaysia	Nesting	10/01/2001	MYS02277	MYS02278	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
120	Malaysia	Nesting	25/01/2001	MYS02438	MYS02439	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
121	Malaysia	Nesting	30/11/2001	MYS08335	MYS08336	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM

No	Country of Origin	Encounter	Date Encountered	Left Tag #	Right Tag #	Species	Barangay	Municipality	Province	Region
122	Malaysia	Nesting	05/03/2002	MYS08750	MYS08682	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
123	Malaysia	Nesting	16/03/2002	MYS08819	MYS08820	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
124	Malaysia	Nesting	07/04/2002	MYS08915	MYS08916	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
125	Malaysia	Nesting	21/04/2002		MYS09026	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
126	Malaysia	Nesting	27/04/2002	MYS07727	MYS07728	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
127	Malaysia	Nesting	27/04/2002	MY57187		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
128	Malaysia	Nesting	16/05/2002	MYS10539	MYS10540	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
129	Malaysia	Nesting	22/05/2002		MYS10592	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
130	Malaysia	Nesting	30/05/2002		MYS07942	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
131	Malaysia	Nesting	28/06/2002	MYS09671	MYS09672	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
132	Malaysia	Nesting	28/06/2002	MYS07913	MYS07914	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
133	Malaysia	Nesting	14/08/2002	MYS16757	MYS16758	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
134	Malaysia	Nesting	02/11/2002	MYS17685	MYS17686	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
135	Malaysia	Nesting	02/11/2002	MYS17685	MYS17686	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
136	Malaysia	Nesting	29/05/2003		MYS02040	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
137	Malaysia	Nesting	16/09/2003		MYS20834	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
138	Malaysia	Nesting	13/10/2003	MYS02107	MYS02108	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
139	Malaysia	Nesting	14/10/2003	MYS01557	MYS19329	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
140	Malaysia	Nesting	14/10/2003	MYS02213		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
141	Malaysia	Nesting	25/10/2003	MYS01861	MYS01862	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
142	Malaysia	Nesting	29/10/2003	MYS02121	MYS02122	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
143	Malaysia	Nesting	30/10/2003	MYS19484		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
144	Malaysia	Nesting	07/11/2003	MYS02121	MYS02122	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
145	Malaysia	Unknown	09/11/2003		MYS05446	Hawksbill	Dapia Igacos	Davao City	Davao del Sur	11
146	Malaysia	Nesting	22/11/2003	MYS21177	MYS21178	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
147	Malaysia	Nesting	25/11/2003	MYS19399	MYS19400	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
148	Malaysia	Nesting	25/11/2003		MYS01346	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
149	Malaysia	Nesting	20/02/2004	MYS22877	MYS22878	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
150	Malaysia	Nesting	12/04/2004	MYS25031	MYS25032	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
151	Malaysia	Unknown	21/04/2004		MYS75101	Hawksbill	Sta. Cruz	Davao City	Davao del Sur	11

No	Country of Origin	Encounter	Date Encountered	Left Tag #	Right Tag #	Species	Barangay	Municipality	Province	Region
152	Malaysia	Nesting	27/05/2004	MYS06661	MYS06662	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
153	Malaysia	Nesting	24/06/2004	MYS24609	MYS24610	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
154	Malaysia	Nesting	27/06/2004	MYS06661	MYS06662	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
155	Malaysia	Nesting	27/06/2004	MYS26793	MYS26794	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
156	Malaysia	Fishery interaction	13/08/2004	MYS68877		Loggerhead	Daan-Lungsod	Gingoog City	Misamis Oriental	10
157	Malaysia	Nesting	26/08/2004	MYS00231	MYS00232	Green	Taganak Dambilah	Turtle Islands	Tawi-Tawi	ARMM
158	Malaysia	Nesting	03/11/2004	MYS25629	MYS25630	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
159	Malaysia	Nesting	06/11/2004	MYS28628	MYS28627	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
160	Malaysia	Nesting	06/11/2004	MYS27207	MYS27208	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
161	Malaysia	Nesting	28/11/2004	MYS28589	MYS28590	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
162	Malaysia	Nesting	28/11/2004	MYS28589	MYS28590	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
163	Malaysia	Nesting	02/12/2004	MYS28585	MYS28586	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
164	Malaysia	Nesting	12/04/2005	MYS05047	MYS05043	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
165	Malaysia	Nesting	04/05/2005		MYS02457	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
166	Malaysia	Nesting	04/05/2005		MYS02457	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
167	Malaysia	Nesting	09/05/2005	MYS29291	MYS29292	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
168	Malaysia	Nesting	12/05/2005	MYS27441	MYS27442	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
169	Malaysia	Nesting	12/05/2005	MYS27441	MYS27442	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
170	Malaysia	Nesting	17/05/2005	MYS16383	MYS16384	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
171	Malaysia	Nesting	18/05/2005	MYS29411	MYS29412	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
172	Malaysia	Nesting	18/05/2005	MYS29411	MYS29412	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
173	Malaysia	Nesting	22/05/2005	MYS10678	MYS10677	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
174	Malaysia	Nesting	22/05/2005	MYS27441	MYS27442	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
175	Malaysia	Nesting	22/05/2005		MYS29456	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
176	Malaysia	Nesting	22/05/2005	MYS29315	MYS29316	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
177	Malaysia	Nesting	23/05/2005	MYS29435		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
178	Malaysia	Nesting	23/05/2005	MYS29435		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
179	Malaysia	Nesting	29/05/2005		MYS29606	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
180	Malaysia	Nesting	29/05/2005		MYS29606	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
181	Malaysia	Nesting	29/05/2005	MYS27550	MYS27549	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM

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182	Malaysia	Nesting	06/06/2005		MYS10697	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
183	Malaysia	Nesting	06/06/2005		MYS10697	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
184	Malaysia	Nesting	09/06/2005	MYS29223	MYS29224	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
185	Malaysia	Nesting	25/06/2005	MYS21904	MYS27128	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
186	Malaysia	Nesting	26/06/2005	MYS29224	MYS29223	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
187	Malaysia	Nesting	27/06/2005	MYS31734	MYS31733	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
188	Malaysia	Nesting	29/06/2005	MYS07128	MYS24904	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
189	Malaysia	Nesting	26/07/2005	MYS50070		Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
190	Malaysia	Nesting	09/09/2005	MYS31306	MYS31305	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
191	Malaysia	Nesting	28/09/2005	MYS130393	MYS130394	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
192	Malaysia	Nesting	29/09/2005	MYS30361	MYS30360	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
193	Malaysia	Nesting	09/10/2005	MYS31306	MYS31305	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
194	Malaysia	Nesting	28/10/2005	MYS130393	MYS130394	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
195	Malaysia	Nesting	29/10/2005	MYS30361	MYS30360	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
196	Malaysia	Nesting	29/01/2006	MYS05137	MYS05138	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
197	Malaysia	Nesting	06/05/2006	MYS03300	MYS01864	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
198	Malaysia	Nesting	07/05/2006	MYS35531	MYS35532	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
199	Malaysia	Nesting	12/05/2006	MYS33665	MYS33666	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
200	Malaysia	Nesting	12/05/2006	MYS33665	MYS33666	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
201	Malaysia	Nesting	18/05/2006	MYS03551	MYS03552	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
202	Malaysia	Nesting	21/05/2006	MYS10195	MYS10196	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
203	Malaysia	Nesting	07/06/2006	MYS33272		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
204	Malaysia	Nesting	07/06/2006		MYS33272	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
205	Malaysia	Nesting	11/06/2006	MYS02468	MYS02469	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
206	Malaysia	Nesting	05/07/2006	MYS34737	MYS34738	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
207	Malaysia	Nesting	05/07/2006	MYS06905	MYS03461	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
208	Malaysia	Nesting	05/07/2006	MYS06905	MYS03461	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
209	Malaysia	Nesting	05/07/2006	MYS34737	MYS34738	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
210	Malaysia	Nesting	07/07/2006	MYS33539	MYS33540	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
211	Malaysia	Nesting	07/07/2006	MYS35873	MYS35874	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
212	Malaysia	Nesting	17/07/2006		MYS03474	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM

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213	Malaysia	Nesting	17/07/2006	MYS04703	MYS04704	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
214	Malaysia	Nesting	18/07/2006	MYS35551	MYS03552	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
215	Malaysia	Nesting	18/07/2006	MYS04703	MYS04704	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
216	Malaysia	Nesting	19/07/2006	MYS20563		Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
217	Malaysia	Nesting	06/08/2006	MYS20963	MYS20964	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
218	Malaysia	Nesting	06/08/2006	MYS35897	MYS35898	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
219	Malaysia	Nesting	08/08/2006	MYS34299	MYS34300	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
220	Malaysia	Nesting	22/08/2006	MYS34890	MYS34851	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
221	Malaysia	Nesting	22/08/2006	MYS34890	MYS34851	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
222	Malaysia	Nesting	14/01/2008		MYS01265	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
223	Malaysia	Nesting	19/03/2008	MYS44585	MYS44584	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
224	Malaysia	Nesting	19/03/2008	MYS44585	MYS44584	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
225	Malaysia	Nesting	22/03/2008		MYS29342	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
226	Malaysia	Nesting	22/03/2008		MYS29342	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
227	Malaysia	Nesting	28/03/2008	MYS04019	MYS04018	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
228	Malaysia	Nesting	28/03/2008	MYS39597	MYS39598	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
229	Malaysia	Nesting	08/04/2008		MYS12102	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
230	Malaysia	Nesting	13/04/2008		MYS04336	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
231	Malaysia	Nesting	13/04/2008		MYS43895	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
232	Malaysia	Nesting	14/04/2008	MYS26413	MYS26414	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
233	Malaysia	Nesting	17/05/2008	MYS43895		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
234	Malaysia	Nesting	18/05/2008	MYS27569	MYS17570	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
235	Malaysia	Nesting	24/05/2008	MYS44055	MYS43992	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
236	Malaysia	Nesting	28/05/2008	MYS44099	MYS44100	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
237	Malaysia	Nesting	28/05/2008	MYS43895		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
238	Malaysia	Nesting	04/06/2008	MYS04655	MYS04156	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
239	Malaysia	Nesting	07/06/2008	MYS29613	MYS29614	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
240	Malaysia	Nesting	12/06/2008	MYS46651	MYS24615	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
241	Malaysia	Nesting	15/06/2008	MYS20847	MYS20848	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
242	Malaysia	Nesting	19/06/2008		MYS44155	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
243	Malaysia	Nesting	19/06/2008		MYS44155	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM

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244	Malaysia	Nesting	19/06/2008	MYS44155	RECAP	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
245	Malaysia	Nesting	07/07/2008	MYS46425	MYS46426	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
246	Malaysia	Nesting	15/07/2008	MYS19387	MYS19388	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
247	Malaysia	Nesting	15/07/2008	MYS50002	MYS50001	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
248	Malaysia	Nesting	16/07/2008	MYS46819	MYS46820	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
249	Malaysia	Nesting	16/07/2008	MYS30079	MYS46897	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
250	Malaysia	Nesting	16/07/2008	MYS46395	MYS46396	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
251	Malaysia	Nesting	21/07/2008	MYS50077	MYS50078	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
252	Malaysia	Nesting	21/07/2008	MYS01265	RECAP	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
253	Malaysia	Nesting	21/07/2008		MYS01265	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
254	Malaysia	Nesting	25/07/2008	MYS27881	MYS27882	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
255	Malaysia	Nesting	27/07/2008		MYS50006	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
256	Malaysia	Nesting	04/08/2008	MYS46725	MYS46726	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
257	Malaysia	Nesting	04/08/2008	MYS50219	MYS50220	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
258	Malaysia	Nesting	06/08/2008	MYS50231		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
259	Malaysia	Nesting	09/08/2008	MYS46425	MYS46426	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
260	Malaysia	Nesting	09/08/2008		MYS30460	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
261	Malaysia	Nesting	14/08/2008	MYS30079	MYS46897	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
262	Malaysia	Nesting	14/08/2008	MYS19387	MYS19388	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
263	Malaysia	Nesting	16/08/2008	MYS47385	MYS47386	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
264	Malaysia	Nesting	18/08/2008	MYS05086	MYS06548	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
265	Malaysia	Nesting	22/08/2008	MYS19111		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
266	Malaysia	Unknown	19/09/2008	MYS44355	MYS44356	Green	Dancalan	Donsol	Sorsogon	5
267	Malaysia	Nesting	24/09/2008	MYS03453	MYS03454	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
268	Malaysia	Nesting	04/10/2008	MYS30761		Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
269	Malaysia	Nesting	19/10/2008	MYS47771	MYS47772	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
270	Malaysia	Nesting	30/10/2008	MYS27201	MYS27202	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
271	Malaysia	Nesting	22/11/2008	MYS01741	MYS01742	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
272	Malaysia	Nesting	22/11/2008	MYS01741	MYS01742	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
273	Malaysia	Nesting	02/12/2008	MYS60503	MYS60504	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
274	Malaysia	Nesting	20/01/2009	MYS54963	MYS54962	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM

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275	Malaysia	Nesting	20/01/2009	MYS54963	MYS54962	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
276	Malaysia	Nesting	31/01/2009		MYS48902	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
277	Malaysia	Nesting	11/02/2009		MYS05138	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
278	Malaysia	Nesting	11/02/2009		MYS05138	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
279	Malaysia	Nesting	11/02/2009	MYS05138	RECAP	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
280	Malaysia	Nesting	11/02/2009		MYS05138	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
281	Malaysia	Nesting	11/02/2009		MYS48902	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
282	Malaysia	Nesting	16/02/2009	MYS50764	MYS50763	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
283	Malaysia	Nesting	16/02/2009	MYS50764	MYS50763	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
284	Malaysia	Nesting	18/02/2009	MYS05894	RECAP	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
285	Malaysia	Nesting	18/02/2009		MYS05894	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
286	Malaysia	Nesting	18/02/2009		MYS08594	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
287	Malaysia	Nesting	18/02/2009		MYS08594	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
288	Malaysia	Nesting	03/03/2009	MYS50764	MYS50763	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
289	Malaysia	Nesting	03/03/2009	MYS50764	MYS50763	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
290	Malaysia	Nesting	04/03/2009	MYS35494	MYS35493	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
291	Malaysia	Nesting	04/03/2009	MYS35494	MYS35493	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
292	Malaysia	Nesting	01/04/2009	MYS48987	MYS48988	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
293	Malaysia	Nesting	01/04/2009	MYS48987	MYS48988	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
294	Malaysia	Nesting	06/04/2009	MYS35839	MYS35840	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
295	Malaysia	Nesting	08/04/2009	MYS04187		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
296	Malaysia	Nesting	08/04/2009	MYS33543	MYS36040	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
297	Malaysia	Nesting	09/04/2009	MYS03025		Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
298	Malaysia	Nesting	09/04/2009	MYS03025		Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
299	Malaysia	Nesting	17/04/2009	MYS49903	MYS49904	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
300	Malaysia	Nesting	19/04/2009	MYS54243	MYS54244	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
301	Malaysia	Nesting	20/04/2009	MYS54077	MYS54078	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
302	Malaysia	Nesting	20/04/2009	MYS10047	MYS10048	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
303	Malaysia	Nesting	22/04/2009	MYS54265	MYS54266	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
304	Malaysia	Nesting	22/04/2009	MYS09115	MYS09116	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
305	Malaysia	Nesting	24/04/2009	MYS56045	MYS56044	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM

No	Country of Origin	Encounter	Date Encountered	Left Tag #	Right Tag #	Species	Barangay	Municipality	Province	Region
306	Malaysia	Nesting	27/04/2009	MYS36115		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
307	Malaysia	Nesting	30/04/2009	MYS33510		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
308	Malaysia	Nesting	01/05/2009	MYS36005	MYS36006	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
309	Malaysia	Nesting	01/05/2009	MYS56199	MYS56000	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
310	Malaysia	Nesting	02/05/2009	MYS36005	MYS36006	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
311	Malaysia	Nesting	03/05/2009	MYS97115	MYS97116	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
312	Malaysia	Nesting	06/05/2009	MYS00196		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
313	Malaysia	Nesting	06/05/2009	MYS05446	MYS01905	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
314	Malaysia	Nesting	07/05/2009	MYS26037	MYS51046	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
315	Malaysia	Nesting	08/05/2009	MYS03554	MYS05481	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
316	Malaysia	Nesting	10/05/2009	MYS05482	MYS33510	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
317	Malaysia	Nesting	13/05/2009	MYS54530	MYS54527	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
318	Malaysia	Nesting	13/05/2009	MYS56075	MYS56076	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
319	Malaysia	Nesting	13/05/2009	MYS14045	MYS54424	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
320	Malaysia	Nesting	13/05/2009	MYS56199	MYS15200	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
321	Malaysia	Nesting	17/05/2009	MYS01853	MYS01854	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
322	Malaysia	Nesting	18/05/2009	MYS56432	MYS56433	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
323	Malaysia	Nesting	18/05/2009	MYS54231	MYS54232	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
324	Malaysia	Nesting	19/05/2009		MYS01231	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
325	Malaysia	Nesting	19/05/2009	MYS54705	MYS54706	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
326	Malaysia	Nesting	20/05/2009	MYS54815	MYS54814	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
327	Malaysia	Nesting	20/05/2009		MYS13382	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
328	Malaysia	Nesting	21/05/2009		MYS33500	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
329	Malaysia	Nesting	21/05/2009	MYS14902	MYS54324	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
330	Malaysia	Nesting	24/05/2009	MYS56329	MYS56330	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
331	Malaysia	Nesting	24/05/2009	MYS56329	MYS56330	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
332	Malaysia	Nesting	25/05/2009	MYS54424-54709	MYS54708	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
333	Malaysia	Nesting	25/05/2009	MYS29303	MYS29304	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
334	Malaysia	Nesting	25/05/2009	MYS07823	MYS07824	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
335	Malaysia	Nesting	25/05/2009	MYS54795		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
336	Malaysia	Nesting	25/05/2009	MYS54795		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM

No	Country of Origin	Encounter	Date Encountered	Left Tag #	Right Tag #	Species	Barangay	Municipality	Province	Region
337	Malaysia	Nesting	25/05/2009	MYS54797	MYS54798	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
338	Malaysia	Nesting	25/05/2009	MYS54797	MYS54798	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
339	Malaysia	Nesting	28/05/2009	MYS27631	MYS27632	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
340	Malaysia	Nesting	28/05/2009	MYS27631	MYS27632	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
341	Malaysia	Nesting	30/05/2009	MYS54746	MYS54745	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
342	Malaysia	Nesting	30/05/2009	MYS26759	MYS26760	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
343	Malaysia	Nesting	30/05/2009	MYS26169	MYS26170	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
344	Malaysia	Nesting	30/05/2009	MYS54746	MYS54745	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
345	Malaysia	Nesting	30/05/2009	MYS26759	MYS26760	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
346	Malaysia	Nesting	30/05/2009	MYS26169	MYS26170	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
347	Malaysia	Nesting	31/05/2009	MYS51414	MYS51413	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
348	Malaysia	Nesting	31/05/2009	MYS51414	MYS51413	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
349	Malaysia	Nesting	04/06/2009	MYS51441	MYS51442	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
350	Malaysia	Nesting	04/06/2009	MYS29303	MYS29304	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
351	Malaysia	Nesting	04/06/2009	MYS56419	MYS56420	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
352	Malaysia	Nesting	04/06/2009		MYS08296	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
353	Malaysia	Nesting	06/06/2009	MYS56303	MYS56304	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
354	Malaysia	Nesting	07/06/2009	MYS10048	MYS26768	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
355	Malaysia	Nesting	07/06/2009	MYS05052	MYS05051	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
356	Malaysia	Nesting	12/06/2009	MYS01318B	MYS01319B	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
357	Malaysia	Nesting	12/06/2009	MYS33794	MYS33793	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
358	Malaysia	Nesting	13/06/2009	MYS52483	MYS52482	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
359	Malaysia	Nesting	14/06/2009	MYS56332	MYS56331	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
360	Malaysia	Nesting	14/06/2009	MYS54921	MYS54023	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
361	Malaysia	Nesting	15/06/2009	MYS56418	MYS56419	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
362	Malaysia	Nesting	15/06/2009	MYS10741	MYS10742	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
363	Malaysia	Nesting	18/06/2009	MYS04229	MYS04230	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
364	Malaysia	Nesting	18/06/2009	MYS51229	MYS51230	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
365	Malaysia	Nesting	20/06/2009	MYS54829	MYS54830	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
366	Malaysia	Nesting	20/06/2009	MYS54829	MYS54890	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
367	Malaysia	Nesting	22/06/2009	MYS02265	MYS02266	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM

No	Country of Origin	Encounter	Date Encountered	Left Tag #	Right Tag #	Species	Barangay	Municipality	Province	Region
368	Malaysia	Nesting	27/06/2009		MYS04236	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
369	Malaysia	Nesting	30/06/2009	MYS05533	MYS05534	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
370	Malaysia	Nesting	30/06/2009	MYS07712	MYS07711	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
371	Malaysia	Nesting	01/07/2009	MYS55886	RECAP	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
372	Malaysia	Nesting	01/07/2009		MYS55886	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
373	Malaysia	Nesting	01/07/2009		MYS55886	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
374	Malaysia	Nesting	03/07/2009	MYS55326	MYS55325	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
375	Malaysia	Nesting	03/07/2009	MYS56709	MYS56710	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
376	Malaysia	Nesting	03/07/2009	MYS56709	MYS56710	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
377	Malaysia	Nesting	09/07/2009	MYS54797	MYS54798	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
378	Malaysia	Nesting	09/07/2009	MYS54797	MYS54798	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
379	Malaysia	Nesting	13/07/2009	MYS37728	RECAP	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
380	Malaysia	Nesting	13/07/2009	MYS30269	MYS30270	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
381	Malaysia	Nesting	13/07/2009		MYS29776	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
382	Malaysia	Nesting	13/07/2009		MYS37728	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
383	Malaysia	Nesting	13/07/2009	MYS27652	MYS27651	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
384	Malaysia	Nesting	13/07/2009		MYS37728	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
385	Malaysia	Nesting	13/07/2009	MYS27652	MYS27651	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
386	Malaysia	Nesting	20/07/2009	MYS18195	MYS55140	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
387	Malaysia	Nesting	20/07/2009	MYS18195	MYS55140	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
388	Malaysia	Nesting	23/07/2009	MYS20563		Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
389	Malaysia	Nesting	23/07/2009		MYS20563	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
390	Malaysia	Nesting	02/08/2009	MYS27650	MYS27649	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
391	Malaysia	Nesting	02/08/2009	MYS27650	MYS27649	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
392	Malaysia	Nesting	04/08/2009	MYS56542	MYS24941	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
393	Malaysia	Nesting	07/08/2009	MYS55995	MYS55996	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
394	Malaysia	Nesting	07/08/2009		MYS60034	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
395	Malaysia	Nesting	07/08/2009	MYS55361	MYS55362	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
396	Malaysia	Nesting	09/08/2009	MYS29413	MYS29414	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
397	Malaysia	Nesting	10/08/2009	MYS55339	MYS55340	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
398	Malaysia	Nesting	11/08/2009	MYS58461	MYS58462	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM

No	Country of Origin	Encounter	Date Encountered	Left Tag #	Right Tag #	Species	Barangay	Municipality	Province	Region
399	Malaysia	Nesting	12/08/2009	MYS58377	MYS58378	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
400	Malaysia	Nesting	20/08/2009	MYS36937		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
401	Malaysia	Nesting	21/08/2009	MYS58461	MYS05862	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
402	Malaysia	Nesting	24/08/2009	MYS30757	MYS30758	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
403	Malaysia	Nesting	03/09/2009		MYS57222	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
404	Malaysia	Nesting	05/09/2009	MYS36432	MYS36431	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
405	Malaysia	Nesting	05/09/2009	MYS55366	MYS55365	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
406	Malaysia	Nesting	09/09/2009	MYS31937	MYS31938	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
407	Malaysia	Nesting	12/09/2009	MYS51888	MYS51887	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
408	Malaysia	Nesting	13/09/2009	MYS58180	MYS58179	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
409	Malaysia	Nesting	26/09/2009	MYS37659	MYS60303	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
410	Malaysia	Nesting	26/09/2009	MYS57472		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
411	Malaysia	Nesting	28/09/2009	MYS60043	MYS60044	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
412	Malaysia	Nesting	08/10/2009	MYS60462	MYS60461	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
413	Malaysia	Nesting	29/10/2009	MYS57613		Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
414	Malaysia	Nesting	30/11/2009	MYS60663	MYS60664	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
415	Malaysia	Nesting	07/05/2010	MYS60503	MYS60504	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
416	Malaysia	Nesting	17/05/2010	MYS60503	MYS60504	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
417	Malaysia	Nesting	20/05/2010	MYS59874	MYS59873	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
418	Malaysia	Nesting	20/05/2010	MYS59874	MYS59873	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
419	Malaysia	Nesting	16/06/2010	MYS62125	MYS62126	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
420	Malaysia	Nesting	28/07/2010	MYS61733	MYS61734	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
421	Malaysia	Nesting	28/07/2010	MYS61944	MYS61943	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
422	Malaysia	Nesting	01/08/2010	MYS59874	MYS59873	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
423	Malaysia	Nesting	01/08/2010	MYS59874	MYS59873	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
424	Malaysia	Nesting	02/08/2010	MYS60503	MYS60504	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
425	Malaysia	Nesting	02/08/2010	MYS60503	MYS60504	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
426	Malaysia	Nesting	19/08/2010	MYS59129	MYS59130	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
427	Malaysia	Nesting	19/08/2010	MYS59129	MYS59130	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
428	Malaysia	Nesting	24/08/2010	MYS63543	MYS63544	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
429	Malaysia	Nesting	29/08/2010	MYS59129	MYS59130	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM

No	Country of Origin	Encounter	Date Encountered	Left Tag #	Right Tag #	Species	Barangay	Municipality	Province	Region
430	Malaysia	Nesting	03/09/2010	MYS59878	MYS59877	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
431	Malaysia	Nesting	03/09/2010	MYS59878	MYS59877	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
432	Malaysia	Nesting	14/09/2010	MYS54829	MYS54830	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
433	Malaysia	Nesting	14/09/2010	MYS54829	MYS54830	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
434	Malaysia	Nesting	15/09/2010	MYS18871	MYS18870	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
435	Malaysia	Nesting	15/09/2010	MYS18871	MYS18870	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
436	Malaysia	Nesting	21/09/2010	MYS60514	MYS60513	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
437	Malaysia	Nesting	21/09/2010	MYS60514	MYS60513	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
438	Malaysia	Nesting	03/10/2010	MYS64385	MYS38054	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
439	Malaysia	Nesting	03/10/2010	MYS64385	MYS38054	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
440	Malaysia	Nesting	27/10/2010	MYS62052	MYS62053	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
441	Malaysia	Nesting	27/10/2010	MYS62052	MYS62053	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
442	Malaysia	Nesting	23/02/2011	MYS33319	MYS33320	Green	N/A	Turtle Islands	Tawi-Tawi	ARMM
443	Malaysia	Nesting	23/02/2011	MYS33319	MYS33320	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
444	Malaysia	Nesting	28/02/2011	MYS68105	MYS68106	Green	N/A	Turtle Islands	Tawi-Tawi	ARMM
445	Malaysia	Nesting	28/02/2011	MYS68105	MYS68106	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
446	Malaysia	Nesting	14/03/2011	MYS68105	MYS68106	Green	N/A	Turtle Islands	Tawi-Tawi	ARMM
447	Malaysia	Nesting	14/03/2011	MYS68105	MYS68106	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
448	Malaysia	Nesting	01/04/2011	MY66979	MY66980	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
449	Malaysia	Nesting	01/04/2011	MYS66979	MYS66980	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
450	Malaysia	Nesting	24/04/2011	MYS08891	MYS08892	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
451	Malaysia	Nesting	05/05/2011	MYS08891	MYS08892	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
452	Malaysia	Nesting	05/05/2011	MY08891	MY08892	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
453	Malaysia	Nesting	10/07/2011	MYS24615	MYS59945	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
454	Malaysia	Nesting	13/07/2011	MYS67695	MYS67694	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
455	Malaysia	Nesting	16/07/2011	MYS70816	MYS70815	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
456	Malaysia	Nesting	17/07/2011	MYS47731	MYS47732	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
457	Malaysia	Nesting	18/07/2011	MYS26230	MYS26229	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
458	Malaysia	Nesting	20/07/2011	MYS67657	MYS67658	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
459	Malaysia	Nesting	26/07/2011	MYS69740	MYS69737	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
460	Malaysia	Nesting	08/08/2011	MYS70791	MYS70792	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM

No	Country of Origin	Encounter	Date Encountered	Left Tag #	Right Tag #	Species	Barangay	Municipality	Province	Region
461	Malaysia	Nesting	26/08/2011	MYS70937	MYS70938	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
462	Malaysia	Nesting	14/09/2011	MY72419	MY72420	Hawksbill	Taganak	Turtle Islands	Tawi-Tawi	ARMM
463	Malaysia	Nesting	16/02/2012	MYS56659	MYS56660	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
464	Malaysia	Nesting	16/02/2012	MYS56659	MYS56660	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
465	Malaysia	Nesting	20/02/2012	MYS02209	MYS22310	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
466	Malaysia	Nesting	20/02/2012	MYS66979	MYS66980	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
467	Malaysia	Nesting	20/02/2012	MYS50907	MYS50908	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
468	Malaysia	Nesting	06/03/2012	MYS75223	MYS75224	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
469	Malaysia	Nesting	12/03/2012	MYS54829	MYS54830	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
470	Malaysia	Nesting	12/03/2012	MYS54829	MYS54830	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
471	Malaysia	Nesting	19/03/2012	MYS74455	MYS74456	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
472	Malaysia	Nesting	19/03/2012	MYS74455	MYS74456	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
473	Malaysia	Nesting	19/03/2012	MYS74455		Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
474	Malaysia	Nesting	04/04/2012	MYS50907	MYS50908	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
475	Malaysia	Nesting	04/04/2012	MYS50907	MYS50908	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
476	Malaysia	Nesting	05/04/2012	MYS59447	MYS59446	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
477	Malaysia	Nesting	05/04/2012	MYS59447	MYS59446	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
478	Malaysia	Nesting	06/04/2012	MYS22309	MYS22310	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
479	Malaysia	Nesting	06/04/2012	MYS22309	MYS22310	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
480	Malaysia	Nesting	08/04/2012	MYS75965	MYS75966	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
481	Malaysia	Nesting	08/04/2012	MYS54183	MYS54184	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
482	Malaysia	Nesting	08/04/2012	MYS75965	MYS75966	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
483	Malaysia	Nesting	13/04/2012	MYS75742	MYS75741	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
484	Malaysia	Nesting	13/04/2012	MYS51790	MYS51789	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
485	Malaysia	Nesting	13/04/2012	MYS51790	MYS51789	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
486	Malaysia	Nesting	13/04/2012	MYS75957	MYS75998	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
487	Malaysia	Nesting	14/04/2012	MYS75663	MYS75664	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
488	Malaysia	Nesting	16/04/2012		MYS05007	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
489	Malaysia	Nesting	26/04/2012	MYS29287		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
490	Malaysia	Nesting	06/05/2012		MYS78329	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
491	Malaysia	Nesting	10/05/2012	MYS21431	MYS14389	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM

No	Country of Origin	Encounter	Date Encountered	Left Tag #	Right Tag #	Species	Barangay	Municipality	Province	Region
492	Malaysia	Nesting	15/05/2012	MYS80079	MYS80172	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
493	Malaysia	Nesting	16/05/2012	MYS75997	MYS75998	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
494	Malaysia	Nesting	21/05/2012	MYS45955		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
495	Malaysia	Nesting	25/05/2012	MYS26329		Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
496	Malaysia	Nesting	31/05/2012	MYS80389	MYS80390	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
497	Malaysia	Nesting	02/06/2012		MYS04244	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
498	Malaysia	Nesting	03/06/2012	MYS27633	MYS27632	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
499	Malaysia	Nesting	03/06/2012	MYS57425	MYS57426	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
500	Malaysia	Nesting	03/06/2012	MYS27633	MYS27632	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
501	Malaysia	Nesting	04/06/2012	MYS80653	MYS80654	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
502	Malaysia	Nesting	07/06/2012	MYS44769		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
503	Malaysia	Nesting	07/06/2012	MYS46731	MYS46730	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
504	Malaysia	Nesting	07/06/2012	MYS80275	MYS80276	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
505	Malaysia	Nesting	10/06/2012	MYS81321	MYS81322	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
506	Malaysia	Nesting	11/06/2012	MYS80422	MYS80421	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
507	Malaysia	Nesting	13/06/2012		MYS07086	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
508	Malaysia	Nesting	15/06/2012	MYS55896	MYS81205	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
509	Malaysia	Nesting	17/06/2012	MYS78599	MYS78600	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
510	Malaysia	Nesting	17/06/2012	MYS78599	MYS78600	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
511	Malaysia	Nesting	21/06/2012	MYS81423	MYS81424	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
512	Malaysia	Nesting	21/06/2012	MYS80011	MYS80012	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
513	Malaysia	Nesting	21/06/2012	MYS80389	MYS80390	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
514	Malaysia	Nesting	26/06/2012	MYS36343		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
515	Malaysia	Nesting	16/07/2012	MYS50781		Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
516	Malaysia	Nesting	12/08/2012	MYS82273	MYS82274	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
517	Malaysia	Nesting	12/08/2012	MYS82399	MYS82400	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
518	Malaysia	Nesting	24/09/2012		MYS47655	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
519	Malaysia	Nesting	20/11/2012	MYS22609	MYS22310	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
520	Malaysia	Nesting	20/11/2012	MYS22309	MYS22310	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
521	Malaysia	Nesting	27/11/2012	MYS27201	MYS27202	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
522	Malaysia	Nesting	27/11/2012	MYS27201	MYS27202	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM

No	Country of Origin	Encounter	Date Encountered	Left Tag #	Right Tag #	Species	Barangay	Municipality	Province	Region
523	Malaysia	Unknown	29/11/2012		MYS30878	Green	Indalawan	Balabac	Palawan	4B
524	Malaysia	Unknown	29/11/2012		MYS07428	Green	Indalawan	Balabac	Palawan	4B
525	Malaysia	Nesting	08/12/2012	MYS48993	MYS24336	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
526	Malaysia	Nesting	08/12/2012	MYS48993	MYS24336	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
527	Malaysia	Nesting	08/12/2012	MYS48993	MYS24336	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
528	Malaysia	Nesting	20/12/2012	MYS22309	MYS22310	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
529	Malaysia	Nesting	04/02/2013	MYS83804	MYS83803	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
530	Malaysia	Nesting	04/02/2013	MYS83804	MYS83803	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
531	Malaysia	Nesting	22/02/2013		MYS03078	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
532	Malaysia	Nesting	28/02/2013	MYS85307	MYS85308	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
533	Malaysia	Nesting	07/03/2013	MYS85307	MYS85308	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
534	Malaysia	Nesting	23/03/2013	MYS13405	MYS13404	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
535	Malaysia	Fishery interaction	04/04/2013		MYS65628	Green	Punang	Sofronio Espanola	Palawan	4B
536	Malaysia	Nesting	18/04/2013	MYS28066	MYS28065	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
537	Malaysia	Nesting	19/04/2013	MYS78066	MYS78065	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
538	Malaysia	Nesting	04/05/2013	MYS51790	MYS51789	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
539	Malaysia	Nesting	04/05/2013	MYS51790	MYS51789	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
540	Malaysia	Nesting	08/05/2013	MYS31885	MYS31886	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
541	Malaysia	Nesting	08/05/2013	MYS31885	MYS31886	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
542	Malaysia	Nesting	08/05/2013	MYS31885	MYS31886	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
543	Malaysia	Nesting	14/05/2013	MYS59447	MYS59446	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
544	Malaysia	Nesting	14/05/2013	MYS59447	MYS59446	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
545	Malaysia	Nesting	14/05/2013	MYS59447	MYS59446	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
546	Malaysia	Nesting	21/05/2013	MYS54049	MYS54050	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
547	Malaysia	Nesting	21/05/2013	MYS54049	MYS54050	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
548	Malaysia	Nesting	21/05/2013	MYS54049	MYS54050	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
549	Malaysia	Nesting	27/05/2013		MYS00670	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
550	Malaysia	Nesting	27/05/2013	MYS00670		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
551	Malaysia	Nesting	27/05/2013	MYS00670		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
552	Malaysia	Nesting	27/05/2013	MYS00670		Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
553	Malaysia	Nesting	05/06/2013	MYS88201		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM

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554	Malaysia	Nesting	22/06/2013		MYS62186	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
555	Malaysia	Nesting	22/06/2013		MYS62186	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
556	Malaysia	Nesting	03/07/2013	MYS26733	MYS27632	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
557	Malaysia	Nesting	22/07/2013	MYS88405	MYS88406	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
558	Malaysia	Nesting	23/07/2013	MYS86629	MYS86628	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
559	Malaysia	Nesting	23/07/2013	MYS08887	MYS08888	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
560	Malaysia	Nesting	24/07/2013	MYS08891	MYS08892	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
561	Malaysia	Nesting	26/07/2013	MYS08891	MYS08892	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
562	Malaysia	Nesting	21/08/2013	MYS88775	MYS88776	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
563	Malaysia	Nesting	25/08/2013	MYS08640		Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
564	Malaysia	Nesting	26/08/2013	MYS89917	MYS89918	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
565	Malaysia	Nesting	26/08/2013	MYS89917	MYS89918	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
566	Malaysia	Nesting	26/08/2013	MYS89917	MYS89918	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
567	Malaysia	Nesting	28/08/2013	MYS87475	MYS87476	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
568	Malaysia	Nesting	28/08/2013	MYS87475	MYS87476	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
569	Malaysia	Nesting	28/08/2013	MYS87475	MYS87476	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
570	Malaysia	Nesting	05/10/2013	MYS07713		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
571	Malaysia	Nesting	07/10/2013	MYS90097	MYS90098	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
572	Malaysia	Nesting	07/10/2013	MYS90097	MYS90098	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
573	Malaysia	Nesting	09/10/2013	MYS59049	MYS59050	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
574	Malaysia	Nesting	09/10/2013	MYS61659	MYS61660	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
575	Malaysia	Nesting	09/10/2013	MYS42965	MYS42966	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
576	Malaysia	Nesting	09/10/2013	MYS59049	MYS59050	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
577	Malaysia	Nesting	09/10/2013	MYS90389	MYS90390	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
578	Malaysia	Nesting	09/10/2013	MYS42965	MYS42966	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
579	Malaysia	Nesting	10/10/2013	MYS42033	MYS42034	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
580	Malaysia	Nesting	10/10/2013	MYS87475	MYS87476	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
581	Malaysia	Nesting	10/10/2013	MYS87475	MYS87476	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
582	Malaysia	Nesting	11/10/2013	MYS58781	MYS58782	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
583	Malaysia	Nesting	13/10/2013	MYS92021	MYS92022	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
584	Malaysia	Nesting	13/10/2013	MYS86633	MYS86634	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM

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585	Malaysia	Nesting	18/10/2013	MYS90199	MYS90200	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
586	Malaysia	Nesting	18/10/2013	MYS58555	MYS58556	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
587	Malaysia	Nesting	19/10/2013		MYS30758	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
588	Malaysia	Nesting	19/10/2013		MYS89910	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
589	Malaysia	Nesting	20/10/2013	MYS86927		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
590	Malaysia	Nesting	20/10/2013	MYS90163	MYS90164	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
591	Malaysia	Nesting	20/10/2013	MYS27316	MYS27315	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
592	Malaysia	Nesting	21/10/2013	MYS00038	MYS90309	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
593	Malaysia	Nesting	24/10/2013	MYS19399		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
594	Malaysia	Nesting	24/10/2013	MYS37877		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
595	Malaysia	Nesting	26/10/2013		MYS89910	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
596	Malaysia	Nesting	27/10/2013	MYS92033		Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
597	Malaysia	Nesting	30/10/2013	MYS90221	MYS90222	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
598	Malaysia	Unknown	09/12/2013	MYS56851	MYS56852	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
599	Malaysia	Unknown	10/12/2013	MYS90035	MYS90036	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
600	Malaysia	Nesting	31/01/2014	MYS67091		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
601	Malaysia	Nesting	27/02/2014	MYS92244	MYS92243	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
602	Malaysia	Fishery interaction	28/02/2014		MYS03508	Green	Ramos	Balabac	Palawan	4B
603	Malaysia	Nesting	28/02/2014		MYS03508	Green		Balabac	Palawan	4B
604	Malaysia	Unknown	01/07/2014		MYS50435	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
605	Malaysia	Nesting	01/11/2014	MYS75223	MYS75224	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
606	Malaysia	Nesting	01/11/2014	MYS75223	MYS75224	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
607	Malaysia	Nesting	08/01/2015	MYS22309	MYS22310	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
608	Malaysia	Nesting	17/03/2015	MYS69711	MYS69710	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
609	Malaysia	Nesting	18/03/2015	MYS04199	MYS04200	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
610	Malaysia	Nesting	29/03/2015	MYS95464	MYS95463	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
611	Malaysia	Nesting	31/03/2015	MYS18189	MYS18190	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
612	Malaysia	Nesting	23/04/2015		MYS49955	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
613	Malaysia	Nesting	23/04/2015	MYS29613	MYS29614	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
614	Malaysia	Nesting	27/04/2015	MYS31623	MYS31624	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
615	Malaysia	Unknown	29/04/2015	MYS18190	MYS18189	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM

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616	Malaysia	Nesting	12/05/2015	MYS58785	MYS58786	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
617	Malaysia	Nesting	14/05/2015	MYS27419	TAG SCAR	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
618	Malaysia	Nesting	16/05/2015	MYS05767	MYS05768	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
619	Malaysia	Nesting	20/05/2015	MYS59341	MYS59342	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
620	Malaysia	Nesting	07/06/2015	MYS87475	MYS87476	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
621	Malaysia	Nesting	08/06/2015	MYS86633	MYS86634	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
622	Malaysia	Nesting	10/06/2015	MYS90097	MYS90098	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
623	Malaysia	Nesting	17/06/2015	MYS55663		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
624	Malaysia	Nesting	24/06/2015	MYS26925	MYS26926	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
625	Malaysia	Nesting	11/07/2015	MYS31623	MYS31624	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
626	Malaysia	Nesting	18/07/2015	MYS18189	MYS18190	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
627	Malaysia	Nesting	20/07/2015	MYS95464	MYS95463	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
628	Malaysia	Nesting	23/07/2015		MYS29614	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
629	Malaysia	Nesting	27/07/2015	MYS05767	MYS05768	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
630	Malaysia	Nesting	28/07/2015	MYS90097	MYS90098	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
631	Malaysia	Nesting	04/08/2015	MYS04199	MYS04200	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
632	Malaysia	Nesting	11/08/2015	MYS31623	MYS31624	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
633	Malaysia	Nesting	17/08/2015	MYS59341	MYS59342	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
634	Malaysia	Nesting	25/08/2015		MYS76771	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
635	Malaysia	Nesting	28/08/2015	MYS57765	MYS57766	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
636	Malaysia	Nesting	05/10/2015	MYS74023		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
637	Malaysia	Nesting	07/10/2015	MYS01431	MYS01432	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
638	Malaysia	Nesting	13/10/2015	MYS08449		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
639	Malaysia	Nesting	13/10/2015	MYS42264		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
640	Malaysia	Nesting	18/10/2015	MYS85456		Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
641	Malaysia	Nesting	19/10/2015	MYS98663	MYS98664	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
642	Malaysia	Nesting	22/10/2015	MYS99235	MYS99236	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
643	Malaysia	Nesting	07/11/2015	MYS48375		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
644	Malaysia	Nesting	14/11/2015	MYS72258	MYS72257	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
645	Malaysia	Nesting	24/11/2015	MYS72258	MYS72257	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
646	Malaysia	Nesting	16/02/2016	MYS28232	MYS58983	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM

No	Country of Origin	Encounter	Date Encountered	Left Tag #	Right Tag #	Species	Barangay	Municipality	Province	Region
647	Malaysia	Nesting	20/02/2016	MYS67216	MYS67215	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
648	Malaysia	Nesting	28/02/2016	MYS28232	MYS58983	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
649	Malaysia	Stranding	09/03/2016	MYS02206		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
650	Malaysia	Nesting	27/03/2016	MYS45921		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
651	Malaysia	Nesting	27/03/2016	MYS96895	MYS96896	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
652	Malaysia	Nesting	08/04/2016		MYS78344	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
653	Malaysia	Nesting	12/04/2016	MYS88516	MYS88517	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
654	Malaysia	Nesting	17/04/2016	MYS96991	MYS96992	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
655	Malaysia	Nesting	22/04/2016	MYS62327	MYS62383	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
656	Malaysia	Nesting	08/05/2016		MYS08093	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
657	Malaysia	Nesting	19/05/2016		MYS02196	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
658	Malaysia	Nesting	28/05/2016	MYS100151	MYS100152	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
659	Malaysia	Nesting	30/05/2016	MYS102563		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
660	Malaysia	Nesting	01/06/2016	MYS102621	MYS102622	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
661	Malaysia	Nesting	02/06/2016	MYS47337		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
662	Malaysia	Nesting	04/06/2016	MYS100155	MYS100156	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
663	Malaysia	Nesting	04/06/2016	MYS82973	MYS10014	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
664	Malaysia	Nesting	10/06/2016		MYS09485	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
665	Malaysia	Nesting	16/06/2016		MYS55750	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
666	Malaysia	Nesting	17/06/2016	MYS102621	MYS102622	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
667	Malaysia	Nesting	28/06/2016	MYS103128	MYS59024	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
668	Malaysia	Nesting	29/06/2016	MYS103093	MYS103094	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
669	Malaysia	Nesting	02/07/2016	MYS103309	MYS103310	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
670	Malaysia	Nesting	22/07/2016	MYS43492	MYS43491	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
671	Malaysia	Nesting	23/07/2016	MYS00016		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
672	Malaysia	Nesting	25/07/2016	MYS02965	MYS58346	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
673	Malaysia	Nesting	28/07/2016	MYS100545	MYS100546	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
674	Malaysia	Nesting	31/07/2016	MYS103345	MYS103346	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
675	Malaysia	Nesting	01/08/2016	MYS87193	MYS102951	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
676	Malaysia	Nesting	07/08/2016	MYS100801	MYS100802	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
677	Malaysia	Nesting	19/08/2016	MYS104096	MYS103358	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM

No	Country of Origin	Encounter	Date Encountered	Left Tag #	Right Tag #	Species	Barangay	Municipality	Province	Region
678	Malaysia	Nesting	22/08/2016		MYS103274	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
679	Malaysia	Nesting	23/08/2016	MYS103053	MYS103054	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
680	Malaysia	Nesting	29/08/2016	MYS103703		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
681	Malaysia	Nesting	31/08/2016	MYS82563		Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
682	Malaysia	Nesting	18/10/2016	MYS101277	MYS101278	Green	Taganak	Turtle Islands	Tawi-Tawi	ARMM
683	Malaysia	Unknown		MYS00123		Unknown				
684	Malaysia	Unknown		MYS26143		Unknown				
685	Malaysia	Unknown		MYS00434		Unknown				
686	Malaysia	Unknown			MYS06938	Unknown				
687	Malaysia	Unknown		MYS78329		Unknown				
688	Malaysia	Unknown		MYS05105		Unknown				
689	Malaysia	Nesting		MY05137	MY05138	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
690	Malaysia	Unknown		MYS57613		Unknown				
691	Malaysia	Nesting		MYS05137	MYS05138	Green	Likud Bakkao	Turtle Islands	Tawi-Tawi	ARMM
692	Malaysia	Unknown		MYS02180		Unknown				

Appendix 5: Sites Where Green, Hawksbill, and Olive Ridley Turtles Occur Together.

Site ID	Municipalities Included	Provinces Included
13	Hinigaran, Pontevedra, Pulupandan, San Enrique, Valladolid	Negros Occidental
21	Kalamansig, Palimbang	Sultan Kudarat
27	Bongabong, Mansalay, Roxas	Oriental Mindoro
37	Lobo, San Juan	Batangas
38	Lupi, Ragay	Camarines Sur
43	Himamaylan City, Kabankalan City	Negros Occidental
46	San Esteban, Santa Maria, Santiago	Ilocos Sur
54	Calintaan, Rizal, Sablayan	Occidental Mindoro
57	Looc	Romblon
60	Bato, Virac	Catanduanes
61	Mauban	Quezon
142	Baler, Dipaculao	Aurora
152	Anda, Bani, Bolinao	Pangasinan
167	Maasin City, Macrohon	Southern Leyte
180	Santa Cruz	Marinduque
182	Batangas City	Batangas
193	Aringay, Bacnotan, Balaoan, Bauang, Caba, Luna, San Fernando City, San Juan	La Union
204	Iligan City	Lanao del Norte
207	Carmen, Davao City, Panabo City, Samal City	Davao del Norte, Davao del Sur

Site ID	Municipalities Included	Provinces Included
240	Legazpi City, Manito	Albay
250	Alabat, Perez, Quezon	Quezon
261	Dasol	Pangasinan
273	Gloria, Naujan, Pinamalayan, Pola	Oriental Mindoro
275	Cebu City, Cordoba, Lapu-Lapu City, Mandaue City	Cebu
296	Kiamba, Maitum	Sarangani
304	Bacacay, Malilipot, Malinao, Santo Domingo, Tabaco City, Tiwi	Albay
308	Candelaria, Masinloc, Palauig	Zambales
319	Babatngon, Basey, Dulag, Palo, Santa Rita, Tacloban City, Tanauan, Tolosa	Leyte, Samar
326	Abucay, Bagac, Limay, Mariveles, Morong, Olongapo City, Orion, Subic	Bataan, Zambales
336	Gingoog City, Magsaysay	Misamis Oriental
338	Cauayan, Hinoba-An, Sipalay City	Negros Occidental
339	Puerto Princesa City	Palawan
343	Culasi, Sebaste, Tibiao	Antique
347	Alcantara, Ferrol, Looc, Odiongan, San Agustin, San Andres, Santa Maria	Romblon
348	Monreal, San Jacinto	Masbate
351	Donsol, Pilar	Sorsogon
355	Calabanga	Camarines Sur
361	Bacoor, Bulacan, Cavite City, Kawit, Las Piñas, Malabon, Manila, Navotas, Obando, Parañaque, Pasay City	Bulacan, Cavite, Metropolitan Manila

Site ID	Municipalities Included	Provinces Included
366	Alubijid, Cagayan de Oro City, El Salvador City, Jasaan, Laguindingan, Opol, Tagoloan, Villanueva	Misamis Oriental
377	Alaminos City, Anda, Sual	Pangasinan
394	Basud, Mercedes	Camarines Norte
396	Isabela City	Basilan
444	Cauayan	Negros Occidental
449	Quezon	Palawan
450	General Luna, Gumaca, Macalelon, Pitogo, Plaridel, Unisan	Quezon
489	Boac, Buenavista, Gasan, Mogpog	Marinduque
546	Baco, Calapan City	Oriental Mindoro
585	Buenavista, Guimbal, Iloilo City, Jordan, Leganes, Miagao, Nueva Valencia, Oton, San Lorenzo, Sibunag, Tigbauan, Zarraga	Guimaras, Iloilo
672	Motiong, Paranas	Samar
674	Maasim	Sarangani
679	Kolambugan, Ozamis City	Lanao del Norte, Misamis Occidental
722	Sablayan	Occidental Mindoro
731	Batangas City, Bauan, San Pascual	Batangas
835	Barobo, Hinatuan	Surigao del Sur
836	Dapitan City, Dipolog City, Sibutad	Zamboanga del Norte
837	Aborlan, Puerto Princesa City	Palawan