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**BMB TECHNICAL BULLETIN**  
**No. 2020 - 05**

**SUBJECT : GUIDELINES ON THE PROTECTION OF MARINE TURTLE  
NESTING HABITATS**

Pursuant to Republic Act No. 9147 (Wildlife Resources Conservation and Protection Act of 2001) and in pursuit of the objectives of DAO 2016-12 (Adopting the Philippine Biodiversity Strategy and Action Plan), and DAO 2019-09 (Updated National List of Threatened Species), the following guidelines on the management of nesting habitats of marine turtles is hereby issued for guidance of all concern.

**I. Introduction and Rationale**

Five of the seven species of marine turtles of the world are found in the Philippines. These are the green turtle (*Chelonia mydas*), hawksbill turtle (*Eretmochelys imbricata*), olive ridley turtle (*Lepidochelys olivacea*), leatherback turtle (*Dermochelys coriacea*) and loggerhead turtle (*Caretta caretta*). The green turtle, hawksbill turtle, olive ridley turtle and leatherback turtle have nesting grounds throughout the country. The loggerhead turtle on the other hand feeds on the country's rich marine resources. All the five species of marine turtles are threatened with extinction.

Marine turtles are known to have nesting fidelity throughout their reproductive years. Successful reproduction is therefore dependent on the availability of suitable nesting beaches. However, nesting beaches are threatened by incessant developments and increased human activities. This may lead to physical loss of the nesting beach itself or decline in suitability due to introduction of solid waste, noise and light pollution, and other forms of disturbances. Such anthropogenic disturbances can be exacerbated by the effects of climate change such as sea level rise and storm surges leading to coastal beach erosion. Thus, active intervention to maintain the integrity of nesting beaches is crucial to arrest further decline of marine turtle nesting habitats.

**II. Objectives**

This Technical Bulletin intends to provide the following:

- a) Guidelines on the validation of reported nesting beaches for priority protection;
- b) Modalities in the conservation of marine turtle nesting sites in accordance with existing policies, rule and regulations; and
- c) Recommended basic activities for managed nesting sites, including pointers for managing the risks of common disturbances of marine turtle nesting beaches.



### **III. Identification and validation of nesting sites for priority management**

1. Reported marine turtle nesting sites should be validated by the concerned DENR Field Offices through habitat survey and Key Informant interviews, using the attached Habitat Survey form “**Annex A and A.1**”. For this purpose, the initial list of marine turtle nesting sites per region is attached as “**Annex B**” for reference in the conduct of site validation, as necessary;
2. Beaches with documented nesting incidence for at least 3 successive years shall be considered for site management to maximize use of limited resources available for conservation.

### **IV. Management options for nesting sites**

Nesting beaches are generally located within the salvage zone/easement of 20 meters (in agricultural areas) or 40 meters (in forest lands) from the highest tide mark, and those by default are within public domain as stipulated under Republic Act 9275 (Water Code of the Philippines). However, to provide on-site interventions, the following options for management can be implemented:

#### **1. Critical Habitat Establishment**

Nesting sites outside Protect Areas under the NIPAS (RA 7586) as amended by Expanded Nipas (RA 11038), may be designated by the DENR Secretary as a Critical Habitat Pursuant to the RA 9147. The Procedure in the designation of a critical habitat is provided under Department Memorandum Circular 2007-02. Critical habitats may be co-managed by the DENR and concerned local government, Peoples Organizations, Civil Society Organizations, IPs and other concerned groups. A Memorandum of Agreement (MOA) shall be executed between the DENR and partner agency/organization for the purpose. The MOA should include the institutional arrangements for managing the sites, including the creation of management council and provision or designation of staff or volunteers for on-site management.

#### **2. Locally-Managed Marine Protected Area**

Marine turtle nesting sites may be managed as part of locally-managed marine protected area in accordance with DAO 2016-26 or the Coastal Marine Ecosystems Management Program (CMEMP). Marine turtle protection activities should be included in the management plans of locally-managed marine protected areas.

#### **3. Partnership Agreement with Private Institutions**

Nesting sites, especially those fronting/adjacent to private properties, can be managed as part of business corporate social responsibility. A partnership agreement engaging the business/private entity can be established for the purpose.

The DENR may also promote the engagement of private resort owners in the management of marine turtle nesting beaches through the Adopt-A-Wildlife Species-Program in accordance with DENR Administrative Order Number 2010-16



(Establishing the "Adopt-a-Wildlife Species Program" and Providing the Guidelines Governing the Implementation thereof).

#### 4. Nesting Sites in Protected Areas

Protection and monitoring of nesting sites within Protected Areas as described under Section IV and Section V shall be undertaken as part of the regular implementation of the Biodiversity Monitoring System (BMS). As such, the annual work plan of Protected Areas where nesting sites are located, shall include marine turtle nesting site monitoring and protection as among the work indicators.

### V. Recommended activities in managed nesting habitats

#### A. Nest monitoring

Nesting incidence monitoring should be undertaken during the nesting season. Nesting season may vary from species to species and location. Managers should therefore be familiar with such information gathered from the nest site validation survey undertaken under Section II.2. Nesting incidence monitoring is undertaken as follows:

1. Visit areas where marine turtles are known to nest identified during Key Informant interviews. Map the nesting site using GPS to get the area (in hectares) utilized by marine turtles. This would define the nesting site;
2. Trained people or volunteers shall be assigned to regularly traverse or walk the known nesting beaches during the nesting season. As necessary, patrolling of the beach should be conducted at night and early morning;
3. Observe along the latest high tide line;
4. Record all crawls observed and indicate if the crawl is fresh or not. If possible, identify the species based on the crawl marks. Also record presence and frequency of the crawls. Fill out the nesting incidents monitoring form, "**Annex C**";
5. If a nest is found, acquire the GPS location of the nest;
6. Observe location of nest – if nest is in a secure spot, leave it as it is;
7. However, if nest and eggs would be reached/inundated by high tide or storm surges, collect the eggs following standard protocol and transfer to a higher location. The nest should be protected by placing a plastic mesh around it, approximately 60cm in diameter and 60cm in height. Carefully dig a trench around the nest and bury about 20cm of the plastic mesh for stability. A second layer of fence may be placed 1 meter around the smaller plastic mesh. **Annex D** provides an illustration of this procedure;
8. Indigenous materials shall only be used in protecting the nest, i.e. bamboo, wood, etc. The use of any material made of metal is strongly discouraged as this may affect the development of the hatchlings in the nest;



9. The nest shall be monitored for a minimum of 45 days and a maximum of 70 days after laying. Daily monitoring of the nest should be conducted at day 30 after laying. Hatchlings would usually emerge during the cooler times of the day and not all at the same time. Hatchling emergence takes about 3 to 5 days. The nest should be monitored daily after hatchlings start to emerge;
10. The hatchlings should be released as soon as they emerge. If such is not feasible, the hatchlings should be placed in a tub with wet sand or cloth (not water!) and covered with a soft, damp cloth until the time of release. Release of the hatchlings is preferred during dusk or dawn;
11. Assisting the emergence of the hatchlings by excavation is strongly discouraged. Hatchlings in the nest vary in development and exposing them to the elements may have detrimental effects;
12. Five days after the first emergence of the hatchlings, the nest may be excavated to evaluate the contents and possibly assist trapped hatchlings;
13. Nesting incidence monitoring, including release should be properly documented in the nesting incidence monitoring form (**Annex C**) and submitted to the DENR field officer overseeing the activity or to the DENR CENRO/PENRO concerned.

## **VI. Managing Threats of Marine Turtle Nesting Habitats**

- A. **Sound Pollution:** Noise should be reduced/minimized within nesting grounds especially during the nesting seasons. Nesting marine turtles easily get startled with noise and abandon/discontinue the nesting process on site.
- B. **Light Pollution:** Excessive artificial lights along the beach can disorient nesting marine turtles, abandon the nesting process and relocate. These can also be fatal to hatchlings as they tend to move towards the lights leading them away from the ocean.

Lights near or along nesting beach are placed low if cannot be totally turned off. Motion-activated lights and low pressure sodium vapor lights (yellow lights) are recommended to replace high-intensity lights. Light only the intended object or area and kept close to the ground, directed and shielded. Suggested installation of lights along or near the beach that are friendly to nesting marine turtles and hatchlings is illustrated in **Annex E**.

Consideration should also be given to blocking light spill from buildings near nesting beaches. This should include block-out blinds or shutters for transparent portions of a building, like glass windows and balconies, to reduce visible light transmittance values.

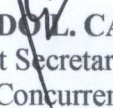
- C. **Marine Debris:** Logs may be washed ashore during natural calamities like typhoons and heavy rain storms which can block the path of nesting marine turtles and hatchlings. Discarded fishing nets, nylon ropes and the like, can entangle marine turtles coming up the beach to lay their eggs or returning back to the sea after nesting. Nesting beaches should be free from these debris and should regularly be removed.



## VII. Supervision, Monitoring and Reporting

1. In any of the management modalities described in Section III which may be adopted for a particular managed nesting site, a MOA/Partnership Agreement shall be executed between the DENR and the partner LGU, or NGO/PO or private/business entity;
2. An annual program of activities shall be agreed upon with the partner LGU/ NGO or PO/private business that integrates the recommended management activities under Section IV and V hereof. The initial work program which shall be updated annually should form an integral part of the MOA/Partnership Agreement;
3. Support for activities under the work program of managed nesting site including monitoring shall be included in the corresponding work and financial plan and budgetary request of DENR Field Offices;
4. The DENR Field Office concerned shall undertake supervision and monitoring of site management activities at least on a quarterly basis;
5. A quarterly report on activities undertaken in the managed marine turtle nesting habitat, including accomplished standard data forms shall be submitted by DENR Field Offices to their respective Regional Office which in turn shall form part of the consolidated regional report on wildlife conservation submitted quarterly to BMB.

For guidance and compliance.

  
**RICARDO L. CALDERON, CESO III**  
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## ANNEX A. INTERVIEW FORM

(Habitat survey, nesting/sighting verification, pressure-state-response)

1. Petsa ng Interview: \_\_\_\_\_
2. Lugar: \_\_\_\_\_
3. Tagatugon (respondent)
4. Pangalan \_\_\_\_\_ Edad \_\_\_\_\_
5. Kasarian ( ) Lalaki ( ) Babae Status ( ) single ( ) may asawa {bilang ng anak \_\_\_\_\_}
6. Angkan (pinagmulan ng lahi) \_\_\_\_\_
7. Hanap buhay \_\_\_\_\_
8. Tirahan \_\_\_\_\_
9. May sariling bangka ( ) meron ( ) wala ( ) nagrerenta
10. Klase ng bangka ( ) de-motor ( ) de-sagwan ( ) iba pa \_\_\_\_\_
11. Laki ng bangka (metro?) \_\_\_\_\_ Bilang ng taong pwedeng sumakay \_\_\_\_\_
12. Uri/klase ng pangangisda (fishing operation) \_\_\_\_\_
13. Oras/panahon ng pangangisda \_\_\_\_\_
14. Lugar kung saan nangangisda \_\_\_\_\_
15. Nakakita na po ba kayo ng pawikan? ( ) oo ( ) hindi
16. Sa buong taon, tuwing kailan kayo nakakakita ng pawikan?

Buwan (month/s of the year)	Bilang ng pawikan na nakikita	Lugar saan nakikita		Laki ng pawikan na nakikita	Ginagawa ng pawikan nung nakita	Uri ng pawikan na nakikita (species)	Iba pang komento
		Pangalan ng beach	Pangalan ng dagat				

17. Sa inyong palagay, ang dalas po ba ng mga nakikitang pawikan ay:  
( ) dumadami ( ) umu-unti ( ) di nagbago



18. Sa inyong palagay, ano kaya ang dahilan nito?

\_\_\_\_\_

19. Kapag may nakikitang pawikan, ano po ang ginagawa ninyo?

- hinahayaan lang
- hinuhuli at ...  kinakatay  ginagawang alaga  inirereport o dinadala sa awtoridad
- iba pa \_\_\_\_\_

20. May pagkakataon na po ba na may nahuli kayong pawikan sa inyong pangingisda?

- meron  wala

21. Sa anong paraan ng pangingisda mas may nahuhuling pawikan?

\_\_\_\_\_

22. Sa buong taon, tuwing kailan kayo nakakahuli ng pawikan?

Buwan ( <i>month/s of the year</i> )	Bilang ng pawikan na nahuhuli	Lugar saan nahuhuli		Laki ng pawikan na nahuhuli	Ginagawa ng pawikan nung nahuli	Uri ng pawikan na nahuhuli ( <i>species</i> )	Iba pang komento
		Pangalan ng beach	Pangalan ng dagat				

23. Kapag may nahuhuling pawikan, ano ang ginagawa ditto?

- pinapakawalan
- dinadala sa pampang para...  katayin ... { } lutuin { } ibenta [presyo { } pang regalo
- gawing alaga
- dalhin sa awtoridad
- iba pa \_\_\_\_\_

24. Alam po ba ninyo na ipinagbabawal ang paghuli at pagkatay ng pawikan?

- oo  hindi

25. Anong ahensiya po ang alam ninyong nagpapatupad ng mga batas na ito?

- DENR  Fisheries  Pulis/Militar  Mayor/LGU  iba pa

\_\_\_\_\_

26. Napapatupad ba ang mga batas dito tungkol sa pawikan?  oo  hindi



27. May alam po ba kayo na nahuli at naparusahan dahil sa paglabag sa mga batas ukol sa pawikan?

meron  wala

28. Ano po ang nadinig/nalaman ninyong kaparusahang ipinataw?

29. Sa inyong palagay, mahalaga ba na ipagbawal ang pagkatay/paghuli/pagbenta ng mga pawikan?

oo  hindi

30. Bakit po kaya?

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## ANNEX A.1 HABITAT ASSESSMENT AND EVALUATION

1. Date of Assessment: \_\_\_\_\_
2. Location: \_\_\_\_\_
3. GPS Coordinates: \_\_\_\_\_
4. Description of Sand: ( ) black/gray ( ) white ( ) mixed ( ) others \_\_\_\_\_  
 ( ) fine ( ) coarse ( ) with coral rubble ( ) mixed with soil  
 Other findings: \_\_\_\_\_

5. Beach Vegetation (*list species in table below*):


6. Beach Measurements:

Details	Measurement (meters)	GPS Coordinates
Beach length* <i>(measure perpendicular length of marine turtle nest to the highest tide mark)</i>		
Beach width <i>(measure parallel length of beach on two points, noting only areas as possible nesting ground)</i>		

\* NOTE: Add more rows if more than one nest was reported along same beach

7. Nesting Abundance:
8. Marine turtle tracks seen during visit: ( ) yes ( ) no
9. Number of complete track/s (*tracks coming up the beach & going down*): \_\_\_\_\_
10. Number of incomplete track/s (*tracks either coming up the beach only or going down only*): \_\_\_\_\_
11. Marine turtle track details: Outer track width (cm): \_\_\_\_\_  
 Inner track width (cm): \_\_\_\_\_
12. Marine turtle nest/s seen during visit: ( ) yes ( ) no  
 If yes, number of active nest/s: \_\_\_\_\_ number of inactive/old nest/s: \_\_\_\_\_
13. With signs of predation: ( ) yes ( ) no  
 If yes, identification of possible predator: \_\_\_\_\_
14. Marine turtle hatchling tracks seen during visit: ( ) yes ( ) none
15. Marine turtle eggs seen: ( ) yes ( ) yes, but no signs of development ( ) none
16. Marine turtle egg shells seen: ( ) yes ( ) none

Other Observations during visit:

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## ANNEX B. REPORTED MARINE TURTLE NESTING SITES IN THE PHILIPPINES

Region 1	
	Barangay Baruyen, Bangui, Ilocos Norte
	Barangay San Lorenzo, Bangui, Ilocos Norte
	Barangay Namruangan, Cabugao, Ilocos Sur
	Barangay Fuerte, Caoayan, Ilocos Sur
	Barangay Bia-o, Santa Maria, Ilocos Sur
	Barangay Cabangtalan, Sinait, Ilocos Sur
	Pagsanahan Norte, Badoc, Ilocos Norte
	Barangay Bacuit Norte, Bauang, La Union
	Barangay Dalumpinas Oeste, San Fernando, La Union
	Sitio Tawi-tawi, Barangay Poro, San Fernando, La Union
	Purok 3, Barangay San Francisco, San Fernando, La Union
	Barangay Ili Norte, San Juan, La Union
	Barangay Panicsican, San Juan, La Union
	Sitio Cabungaoan, Barangay Ilio-ilio, Burgos, Pangasinan
	Mindoro, Vigan City, Ilocos Sur
	Barangay Urbiztondo, San Juan, La Union
	Bolos Point, Gattaran, Cagayan
Region 2	
	Mahatao, Basco, Batanes
	D. Leano, Claveria, Cagayan
	Disvayangan Beach, Hanib, Mahatao, Batanes
	Barangay Nagatatan, Pamplona, Cagayan
	Barangay Biduang, Pamplona, Cagayan
	Barangay Allasitan, Pamplona, Cagayan
	Barangay Nagtupacan, Pamplona, Cagayan
	Barangay Centro 1, Claveria, Cagayan
	Barangay Centro 5, Claveria, Cagayan
	Barangay Taggat Sur, Claveria, Cagayan
	Barangay Dagueray, Sanchez Mira, Cagayan
	Barangay Marzan, Sanchez Mira, Cagayan
Region 3	
	Pinanuktukan, Cozo, Casiguran, Aurora
	Anawangin Bay, Pundaquit, San Antonio, Zambales
	Barangay Nagbalayong, Morong, Bataan
	Sitio Aniasan, Barangay Qiunawan, Bagac, Bataan
	Barangay Quinawan Beach, Bagac, Bataan
	Batangas II, Mariveles, Bataan
	Ipag Mauakis, Mariveles, Bataan
	Sitio Sampaloc, Barangay Cawag, Subic, Zambales
	Paysawan Beach, Bagac, Bataan
	Cabayo Beach, Banawang, Bagac, Bataan
	Barangay Pag-asa, Bagac, Bataan
	Acuzar Beach, Barangay Pag-asa, Bagac, Bataan



	Barangay Saysain, Bagac, Bataan
	Barangay Cabayo, Bagac, Bataan
	Barangay Paysawan, Caybobo, Bagac, Bataan
	Luz, Kitang II, Limay, Bataan
	Sitio Wain, Barangay Biaan, Mariveles, Bataan
	Sitio Talain, Barangay Biaan, Mariveles, Bataan
	Townsite, Pina-apugan, Mariveles, Bataan
	Sitio Matiku, Barangay Sabang, Morong, Bataan
	Anvaya Cove, Barangay Mabayo, Morong, Bataan
	Sitio Fuerte, Barangay Poblacion, Morong, Bataan
	Botolan Point, Zambales
	Binuclutan, Botolan, Zambales
	Taltug, Panan, Botolan, Zambales
	Porac, Botolan, Zambales
	Barangay Sinabacan, Candelaria, Zambales
	All Hands Beach Resort, Olongapo City, Zambales
	Baloy Beach, Barreto, Olongapo City, Zambales
	Waterfront Resort, Olongapo City, Zambales
	Caarusipan, Barangay San Miguel, San Antonio, Zambales
	Capones Island, Pundaquit, San Antonio, Zambales
	Nagsasa Beach, San Antonio, Zambales
	Talisayen, San Antonio, Zambales
	Sinanbuangan, San Agustin, Iba, Zambales
	Barangay Dela Paz, San Narciso, Zambales
	Camayan Beach, Subic Bay Freeport Zone, Zambales
	Dungaree Beach, Subic Bay Freeport Zone, Zambales
	Grande Island Beach, Subic Bay Freeport Zone, Zambales
	Sitio Agasuhin, Barangay Cawag, Subic, Zambales
<b>CALABARZON</b>	
	Barangay Lumaniag, Lian, Batangas,
	Fortune Island, Nasugbu, Batangas,
	Sitio Matuod, Barangay Binubusan, Lian, Batangas
	Sitio Biga, Barangay Hugom, San Juan, Batangas
	Barangay Balaytigue, Punta Fuego, Nasugbu, Batangas
	Batangas City, Sta. Clara, Purok 1
	Sitio Castro, Sta. Rita Aplaya, Batangas City
	Barangay Camastilisan, Calaca, Batangas
	Salong, Calaca, Batangas
	Nonong Casto, Lemery, Batangas,
	Barangay San Diego, Lian, Batangas
	Barangay Bucana, Nasugbu, Batangas
	Munting Buhangin Beach, Barangay Natipuan, Nasugbu, Batangas
	Barangay Wawa, Nasugbu, Batangas
	Barangay Abung, San Juan, Batangas,
	Barangay Calubcub II, San Juan, Batangas
	Barangay Laiya Aplaya, San Juan, Batangas



	Barangay Pinagbayanan, San Juan, Batangas
	Barangay Ticalan, San Juan, Batangas
	Laiya Ibabaw, San Juan, Batangas
	Labac, Naic, Cavite
	Julugan VII, Tanza, Cavite
	Barangay Bucana, Ternate, Cavite
	San Juan 1, Ternate, Cavite
	San Roque, Tayabas Bay, Sariaya, Quezon
	Barangay Ibabang Kalilayan, Unisan, Quezon
	Barangay Castanas, Sariaya, Quezon
	Barangay Caridad, Ilaya, Atimonan, Quezon
<b>MIMAROPA</b>	
	Barangay Masiga, Gasan, Marinduque
	Barangay Mompong, Sta. Cruz, Marinduque
	Barangay Lupac, Boac, Marinduque
	Poctoy White Beach, Torrijos, Marinduque
	Apo Reef, Sablayan, Occidental Mindoro
	Pandan Island, Sablayan, Occidental Mindoro
	Punta Poblacion, Sablayan, Occidental Mindoro
	Purok Malvar, Barangay Pag-asa, San Jose, Occidental Mindoro
	Sito Tabuk, Buenavista, Sablayan, Occidental Mindoro
	Gloria, Guimbonan, Oriental Mindoro
	Las Villas de Natividad Resort, Aninuan, Puerto Galera, Oriental Mindoro
	Barangay Gloria, Mansalay, Oriental Mindoro
	Barangay San Isidro, Roxas, Oriental Mindoro
	Anahaw Island View Resort, Barangay Balete, Calapan, Oriental Mindoro
	Barangay Sugui, Calapan, Oriental Mindoro
	Sunset Beach, Cadlao Island, Buena Suerte, El Nido, Palawan
	Sitio Cagbatang, Pasadeña, El Nido, Palawan
	Kalayaan/Pag-asa Island, Palawan
	Tanobon Island, Busuanga, Palawan
	Dimakya Island, Busuanga, Palawan
	Kota Cay, Kalayaan, Palawan
	Panata Cay, Kalayaan, Palawan
	Tubbataha Reef Natural Park, Cagayancillo, Palawan
	Banwa Island, Tumarbong, Roxas, Palawan
	Cudugnon Beach, Bebeladan, El Nido, Palawan
	Sitio Pacalsada, Corong-corong, El Nido, Palawan
	Entalula Island, Bacuit Bay, El Nido, Palawan
	Sitio Cagbatang, Pasadeña, El Nido, Palawan
	Arena Island, Narra, Palawan
	Purok Pag-asa, Panacan, Narra, Palawan
	Purok Pagkakaisa, Panacan, Narra, Palawan
	Nagtabon Beach, Bacungan, Puerto Princesa, Palawan
	Sitio Tagminatay, Barangay Bacungan, Puerto Princesa, Palawan
	Miniloc Island, El Nido, Palawan



	Barangay Simpokan, Puerto Princesa, Palawan
	Daluyon Beach, Cabayugan, Sabang, Puerto Princesa, Palawan
	Berong, Quezon, Palawan
	Tagkawayan, Bacungan, Puerto Princesa, Palawan
	Taladyong, Bacungan, Puerto Princesa, Palawan
	Cabuyao, Napsan, Puerto Princesa, Palawan
	Labtay, Napsan, Puerto Princesa, Palawan
	Little Boracay, Napsan, Puerto Princesa, Palawan
	Sto. Nino, Napsan, Puerto Princesa, Palawan
	Kaibigan Soul Camp beach area, Napsan, Puerto Princesa, Palawan
	Bantolino, Bagumbayan, Puerto Princesa, Palawan
	Lalawigan, Simpokan, Puerto Princesa, Palawan
	Bualbualan, Simpokan, Puerto Princesa, Palawan
	Glory Beach resort area, Simpokan, Puerto Princesa, Palawan
	Caliagan, Culandanum, Aborlan, Palawan
	Cabwangan, Culandanum, Aborlan, Palawan
	Bubusawen, Apurawan, Aborlan, Palawan
	Secret Paradise, Port Barton, San Vicente, Palawan
	Coconut Island Garden Resort, Port Barton, San Vicente, Palawan
	Modessa Island Resort, Tumarbong, Roxas, Palawan
	Cabalian, Tablas Island, Agmanic, Sta. Fe, Romblon
	Suli, Tablas Island, Agmanic, Sta. Fe, Romblon
	Sibuyan Island, Marigondon, Cajidiocan, Romblon
	Simara Island, Ilijan, Corcuera, Romblon
	Simara Island, Tacasan, Corcuera, Romblon
	Barangay Batiano, Odiongan, Romblon
	Barangay Budiong, Odiongan, Romblon
	Barangay Gabawan, Odiongan, Romblon
	Barangay Tumingad, Odiongan, Romblon
	Barangay Cobrador, Romblon, Romblon
	Barangay Dubduban, San Agustin, Romblon
	Barangay Hinugasan, San Agustin, Romblon
	Barangay Bachawan, San Agustin, Romblon
	Barangay Cabolutan, San Agustin, Romblon
	Barangay Sugod, San Agustin, Romblon
	Centro Long Beach, San Agustin, Romblon
	Barangay Lanas, Carabao Island, San Jose, Romblon
	Barangay Bonga, Sta. Maria, Romblon
	Barangay Concepcion Sur, Sta. Maria, Romblon
	Barangay Sto. Niño, Sta. Maria, Romblon
	Barangay Agpanabat, Romblon, Romblon
	Barangay San Roque, Calatrava, Romblon
	Sitio Uno, Buangan, Torrijos, Marinduque
	Barangay Ligaya Public Beach, Odiongan, Romblon
<b>Region 5</b>	
	Paniman, Caramoan, Camarines Sur



	Canlubi, Sioron, Gigmoto, Catanduanes
	Sibanban Saday, Sioron, Gigmoto, Catanduanes
	Ilawod, Sioron, Gigmoto, Catanduanes
	Sawa, Sioron, Gigmoto, Catanduanes
	Badian, Oas, Albay
	Misibis (Cagraray Island), Mosboron, Bacacay, Albay
	Barangay Rawis, Legazpi City, Albay
	Sagurong, San Miguel Island, Tabaco, Albay
	Barangay Maramba, Oas, Albay
	Barangay Pang-pang, Donsol, Sorsogon
	Barangay Guijalo, Caramoan, Camarines Sur
	Barangay Tinalmud Viejo, Libmanan, Ragay Gulf, Camarines Sur
	Barangay Balogo, Pasacao, Camrines Sur
	Barangay Talisoy, Virac, Catanduanes
	Magnesia del Sur, Virac, Catanduanes
	Barangay Dariao, Caramoran, Catanduanes
	Sitio Palumbanes, Barangay Toytoy, Caramoran, Catanduanes
	Quidolog, Basud, Prieto Diaz, Sorsogon
	Sitio Calagoto, Barangay Bangate, Barcelona, Sorsogon
	Barangay Buhang, Bulusan, Sorsogon
	Barangay Rawis, Legazpi City, Albay
	Pinitan, Caramoan, Camarines Sur
	Sitio Labanay, Barangay Magnesia, Virac, Catanduanes
	Sitio Imacoto, Barangay Cagmanaba, Oas, Albay
	Bahao, Libmanan, Camarines Sur
	Barangay Caranan, Pasacao, Camarines Sur
<b>Region 6</b>	
	Aring / Cadajug, Laua-an, Antique
	Sitio Aring, Barangay Bagumbayan, Laua-an, Antique
	Barangay Madrangca, San Jose, Antique
	Barangay Arobo, Tobias Fornier, Antique
	Barangay Crossing Dapuyan, San Joaquin, Iloilo
	Barangay Nauhang, Sipalay, Negros Occidental
	Barangay Bulata, Cauayan, Negros Occidental
	Danjungan Island, Cauayan, Negros Occidental
	Barangay Manoc-manoc (Boracay Island), Malay, Aklan
	Panagatan Island (Caluya), Antique
	Barangay Lipata, Culasi, Antique
	Malalison Island, Culasi, Antique
	Ave. Maria Islet, Punta Lawi, Jordan, Guimaras
	Sitio Guisi, Barangay Dolores, Nueva Valencia, Guimaras
	Sitio Panganawan, Barangay Sangke, Hinobaan, Negros Occidental
	Tabuk-suba, Barangay 1, Hinobaan, Negros Occidental
	Barangay Patria, Pandan, Antique
	Barangay Dionela, Pandan, Antique
	Barangay Dumrog, Pandan, Antique



	Calumpang, Poblacion, Cauayan, Negros Occidental
	Poblacion 3, Dauin, Negros Oriental
<b>Region 7</b>	
	Apo Island, Dauin, Negros Oriental
	Sandugan, Larena, Siquijor
	Basdaku, Barangay Saavedra, Moalboal, Cebu
	Alejawan, Jagna, Bohol
	Hilantagaan Island, Sta. Fe, Cebu
	Barangay Lipayo, Dauin, Negros Oriental
	Barangay Maayong Tubig, Dauin, Negros Oriental
	Candanay Sur, Siquijor
	Solangon, San Juan, Siquijor
	Barangay Danjugan Island, Cauayan , Negros Occidental
<b>Region 8</b>	
	Poblacion, Barangay 13, Dolores, Eastern Samar
	Barangay Punta Maria, Borongan City, Eastern Samar
	Napantao, San Francisco, Southern Leyte
	Barangay Santa Sofia, Padre Burgos, Southern Leyte
<b>Region 9</b>	
	Bangaan Island, Tungawaan, Zamboanga Sibugay
	Buluan Island, Ipil, Zamboanga Sibugay
	Baguan Island, Turtle Islands Wildlife Sanctuary, Tawi-tawi
	Langaan Island, Turtle Islands, Wildlife Sanctuary, Tawi-tawi
	Lihiman Island, Turtle Islands Wildlife Sanctuary, Tawi-tawi
	Taganak Island, Turtle Islands Wildlife Sanctuary, Tawi-tawi
	Bancauan Island, Mapun, Tawi-tawi
	Sta. Cruz Island, Zamboanga City
	Little Sta. Cruz Island, Zamboanga City
	Panikian Island, Pitogo, Zamboanga del Sur
	Triton Island, Pitogo, Zamboanga del Sur
	Sitio Bohol, Barangay Linguisan, Tungawan, Zamboanga Sibugay
	Bacungan Island, Locomo, Zamboanga City
	Sibakya, Sanito, Zamboanga Sibugay
	Ipil, Sanito, Zamboanga Sibugay
	Buluan Island, R.T. Lim, Zamboanga Sibugay
	Pandilusan Island, Payao, Zamboanga Sibugay
	Buluan Island, Barangay Buluan, Ipil, Zamboanga Sibugay
	Osukan, Labason, Zamboanga del Norte
	Poblacion East, Salug, Zamboanga del Norte
	Barangay Maras, Sindangan, Zamboanga del Norte
	Banigan, Liloy, Zamboanga del Norte
	Patawag, Liloy, Zamboanga del Norte
	Murcielagos Island, Labason, Zamboanga del Norte
	Malintubuan, Labason, Zamboanga del Norte
	Barangay Kayok, Liloy, Zamboanga del Norte
	Barangay Linay, Manukan, Zamboanga del Norte



	Sunset Boulevard, Dipolog City, Zamboanga del Norte
	Purok Ofisco, Olingan, Dipolog City, Zamboanga del Norte
	Mamad, Zamboanga del Norte
	Purok 4, Barangay Dos, Katipunan, Zamboanga del Norte
	Barangay Bibilik, Dumalinao, Zamboanga del Sur
	Sitio Tadlao, Barangay Bagong Silang, Dumalinao, Zamboanga del Sur
	Purok Malasugi, Barangay Balanit, Zamboanga del Sur
	Barangay Lower Bayao, Tukuran, Zamboanga del Sur
	Barangay Danan, Vincenzo Sagun, Zamboanga del Sur
	Barangay Alindahaw, Tukuran, Zamboanga del Sur
	Barangay Bulanit, Labangan, Zamboanga del Sur
	Upper Calarian, Zamboanga City
	Sitio San Juan, Barangay Don Jose Aguirre, Manukan, Zamboanga del Norte
	Barangay Alegria, Baliguian, Zamboanga del Norte
	Brgy. Lawis, Sindangan, Zamboanga del Norte
	Barangay San Pedro, Dapitan City, Zamboanga del Norte
	Sitio Dequiz, Barangay Poblacion, Zamboanga del Norte
	Barangay Sicayab, Dipolog City, Zamboanga del Norte
	Recodo, Zamboanga City
	Purok Lourdez, Barangay Don Jose Aguirre, Manukan, Zamboanga del Norte
	Dohinob, President Manuel Roxas, Zamboanga del Norte
	San Antonio, Manukan, Zamboanga del Norte
	Sitio Dolongin, Barangay Matiag, Siocon, Zamboanga del Norte
<b>Region 10</b>	
	Sitio Kibela, Barangay Cantaan, Guinsiliban, Camiguin
	Loguilo, Alubijid, Misamis Oriental
	Purok 7, Inobulan, Misamis Oriental
	Capcum Beach, Duka Bay, Medina, Misamis Oriental
	Zone 5, Barangay Bayabas, Cagayan de Oro City
	Barangay Bonbon, Cagayan de Oro City
	Barangay San Roque, Mantigue Island, Mahinog, Camiguin
	Sitio Cabua-an, Poblacion, Mambajao, Camiguin
	Barangay Poblacion, Linamon, Lanao del Norte
	Sitio Tambaling, Purok 2 Baculio, Barangay Pedrosa, El Salvador, Misamis Oriental
	Barangay Pagahan, Initao, Misamis Oriental
	Tabok, Bobontugan, Jasaan, Misamis Oriental
	Minsalag, Bonifacio Aquino, Magsaysay, Misamis Oriental
	Purok 1, Barangay Damayuhan, Magsaysay, Misamis Oriental
	Barangay Kandiis, Magsaysay, Misamis Oriental
	Barangay San Isidro, Magsaysay, Misamis Oriental
	Poblacion, Naawan, Misamis Oriental
	Barangay Barra, Opol, Misamis Oriental
	Jingle Bell Beach, Tabuk Sur, Oroquieta City, Misamis Oriental
	Sitio Kibila, Cantaan, Guinsiliban, Camiguin



	Barangay Poblacion, Mambajao, Camiguin
	Pedro sa Baculio, El Salvador City, Misamis Oriental
	Sinaloc, El Salvador City, Misamis Oriental
	Burnay, Gigatum, Misamis Oriental
	Pangayawan, Gigatum, Misamis Oriental
	Baluarte, Tagoloan, Misamis Oriental
	Casulog, Salay Misamis Oriental
	Ampenican, Salay, Misamis Oriental
	Baybay, Alubijid, Misamis Oriental
	Poblacion, Initao, Misamis Oriental
	Gimaylan, Libertad, Misamis Oriental
	Boyogon, Medina, Misamis Oriental
<b>Region 11</b>	
	Punta Dumalag, Matina Aplaya, Davao City
	Binugao, Toril, Davao City
	Canibad, Barangay Aundanao, IGACOS, Davao del Norte
	Dumlao Resort, Kaputian, San Remigio, IGACOS, Davao del Norte
	Isla Cristina Beach, Cogon, Talikud, IGACOS, Davao del Norte
	Babusanta Beach Resort, Barangay Dadatan, Talikud Island, IGACOS, Davao del Norte
	Lawigan, Mati, Davao Oriental
	Sitio Cabilon 1, Kinanga, Don Marcelino, Davao del Sur
	Malita, Davao del Sur
	Guang-guang, Dahican, Mati City, Davao Oriental
<b>Region 12</b>	
	Pinol, Maitum, Saranggani
	Sitio Lobo, Barangay Lumasal, Maasim, Saranggani
	Barangay Ladol, Alabel, Saranggani
	Sitio Kapayapaan, Lower Sangay, Kalamansig, Sultan Kudarat
	Barangay Suli, Kiamba, Saranggani
	Linek, Barangay Nalus, Kiamba, Saranggani
	Purok Ipil-ipil, Barangay Nalus, Kiamba, Saranggani
	Barangay Glan Padidu, Glan, Saranggani
	Barangay Old Poblacion, Maitum, Saranggani
	Barangay Mabay, Maitum, Saranggani
<b>Region 13</b>	
	San Agustin, Carmen, Agusan del Norte
	Vinapor, Carmen, Agusan del Norte
	Singoroy Island, Baculin, Hinatuan, Surigao del Sur
	Barangay Lapinigan, Claver, Surigao del Norte
	Lagaylay, Cahayagan, Carmen, Agusan del Norte
<b>ARMM</b>	
	Langil Island, Tuburan, Basilan
	Bongo Island, Limbayan, Parang, Maguindanao
	Barangay Sambulawan, Sultan Kudarat, Maguindanao
	San Miguel Island, Bancauan, Mapun, Tawi-tawi



## ANNEX C. MARINE TURTLE NESTING INCIDENCE MONITORING FORM

Location/Site (Indicate Sitio/Purok, Barangay, Municipality, Province/City): \_\_\_\_\_

Date of Monitoring: \_\_\_\_\_

Marine turtle tracks seen: ( ) yes ( ) no

Number of complete track/s (Fig. 1): \_\_\_\_\_

Number of incomplete track/s (Fig. 2): \_\_\_\_\_

Marine turtle track details (Fig 3): Outer track width (cm): \_\_\_\_\_

Inner track width (cm): \_\_\_\_\_

Marine turtle nester seen: ( ) yes ( ) no

If yes, indicate species: \_\_\_\_\_

Nest location (GPS Coordinates): \_\_\_\_\_

Translocated: ( ) yes ( ) no

If yes, indicate reason for transfer: \_\_\_\_\_

Indicate new location: \_\_\_\_\_

Date of Nesting	Number of Eggs (Clutch Size)	Number of Hatchling/s Emerged	Date of Emergence	Number of Hatchlings Released	Date of Release	Remarks

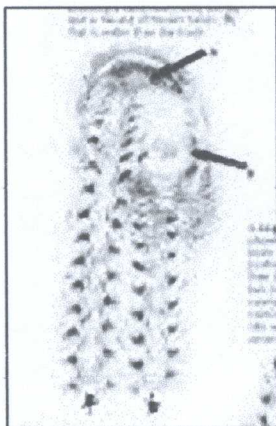


Figure 1. Complete nesting tracks

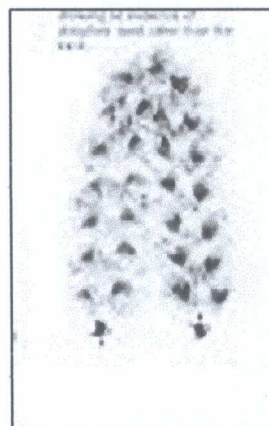


Figure 2. Non-nesting tracks

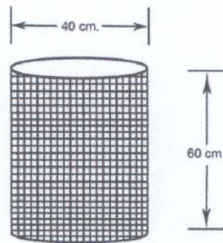


Figure 3. Nesting tracks of Different Marine Turtle Species

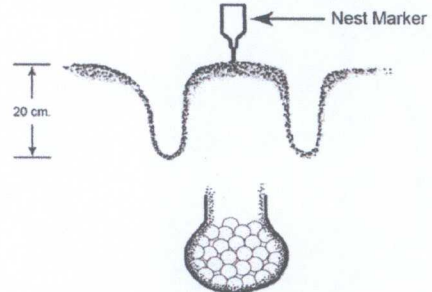


# ANNEX D. PROTECTION OF MARINE TURTLE EGGS

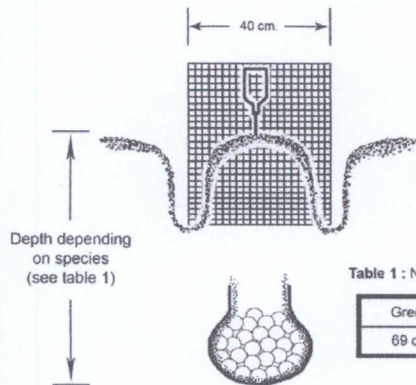
1. Dimension of wiremesh/plastic enclosure



2. Dig a trench 20 cm. deep around the nest



3. Place enclosure into the trench  
Cover trench w/ sand



4. Expect hatchling emergence after 45 to 70 days from laying. Monitor emergence for 3 to 5 days. Release immediately.

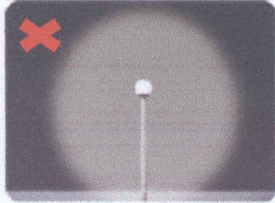
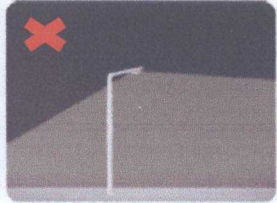
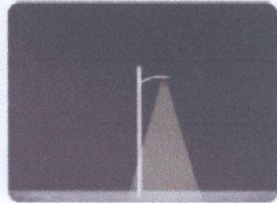


Table 1 : Natural Nest Depth of Different Sea turtles Species









Green	Hawksbill	Olive Ridley
69 cm.	45 cm.	49 cm.

Protection of nest during incubation process

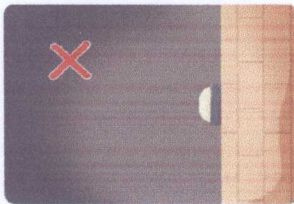
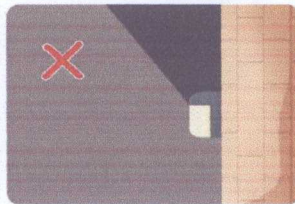
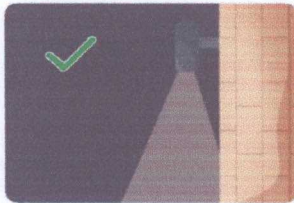
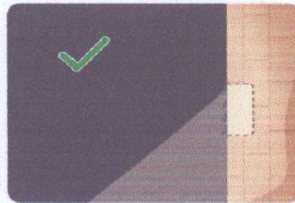
**ANNEX E. RECOMMENDATIONS TO MINIMIZE EXCESSIVE ARTIFICIAL LIGHTS IN NESTING BEACHES (Source: National Light Pollution Guidelines for Wildlife, Commonwealth of Australia 2020)**

		
Unshielded	Partially Shielded	Fully Shielded

Lights should be shielded to avoid lighting anything but the target area or object.  
(Witherington and Martin, 2003)

Walk way lighting should be mounted as low as possible and shielded  
(Witherington and Martin, 2003)

Lighting should be directed to ensure only the intended area is lit.  
(Witherington and Martin, 2003).