



Republic of the Philippines  
**Department of Environment and Natural Resources**  
Visayas Avenue, Diliman, Quezon City 1116  
Tel Nos. 9296626 to 29 ; 9296633 to 35  
Website <http://www.denr.gov.ph/> Email [web@denr.gov.ph](mailto:web@denr.gov.ph)

## MEMORANDUM

TO : **REGIONAL EXECUTIVE DIRECTORS**  
4A, 4B, 6, 7, and 13

FROM : **THE UNDERSECRETARY**  
Field Operations Luzon, Visayas and Environment  
Field Operations Mindanao

SUBJECT : **INPUTS ON THE PROPOSED REHABILITATION OF ECO-TOURISM SITES ( 5 GEMs AND BORACAY )**

DATE : **21 JUL 2023**

With reference to the abovementioned subject, your Office is hereby directed to provide inputs using the attached template on issues and concerns (e.g., solid waste management, water quality and illegal settlements) of the identified ecotourism sites under the 5 GEMs and Boracay Island. Please see attached template.

We would appreciate receiving your inputs on the said template through email at [officeofuseccuna@denr.gov.ph](mailto:officeofuseccuna@denr.gov.ph) and [usec.fom@denr.gov.ph](mailto:usec.fom@denr.gov.ph) on or before July 25, 2023.

For information and compliance.

  
ATTY. JUAN MIGUEL T. CUNA, *CESO I*

  
JOSELIN MARCUS E. FRAGADA, *CESO III*

Annex A – 5 GEMS and Boracay Island

Area	Issues and Concerns	Proposed Strategy	Responsible Party/ies	Timelines
El Nido	Solid Waste Management			
	Water Quality Management			
	Illegal Settlements			

**Highlights of the Boracay and 5 GEMS Meeting**  
**July 18, 2023**  
**3:00 p.m-5:30 p.m.**

Agenda :

1. Directives of SENR, SPWH, SILG, DOT on Ecotourism Rehabilitation
2. Briefing of the following:
  - Boracay Carrying Capacity and Karst Study
  - 5 Green Economy Models (GEMs)
3. Ways Forward

Meeting Highlights

1. The meeting-workshop started at 3:00 p.m and facilitated by DENR Undersecretary Carlos Primo David and Director Cherly Leal of PPS. Among the attendees of the meeting were representatives from DOT, DPWH and DILG and DENR CO, MGB, BMB, PPS and Region VI.

**I. Directives of SENR, SPWH, SILG, DOT on Ecotourism Rehabilitation**

Director Leal informed the body that last July 3, 2023 an interagency-meeting was conducted among the DENR, DPWH, DILG and DOH to discuss the rehabilitation of selected eco-tourism in the country namely; El Nido, Coron, Panglao, Puerto Galera and Siargao or the 5 GEMs to boost ecotourism in the country.

**II. Briefing on the following:**

**a. Boracay Carrying Capacity and Karst Study**

DENR Region VI Regional Executive Director presented the Boracay Carrying Capacity and Karst Study conducted by their region. Their study recommendations for the carrying capacity in Boracay and Karst study conducted.

Actions to be taken:

*Based on the study and the recommendations presented DENR MGB mentioned that there is still a need to verify the findings to the study and further conduct study and assessment of the area especially to on the Karst study that was conducted.*

### **b. 5 Green Economy Models (GEMs)**

The DENR PPS presented the 5 Green Economy Model waterbodies to the group as well as the recommendations and ways forward.

Actions to be taken:

- *All presentations will be shared to all the attendees of the meeting for reference.*

### **III. Ways Forward and Next Steps**

DENR Undersecretary David presented the next course of action needed to address the issues in the 5 GEMs especially in El Nido . Among the next actions to be undertaken are as follows:

- Clarify with DOT and DILG their JMC on the issuance of Permit to Operate and accreditation of DOT and check which one must be issued first to hotels and establishments operating in tourism areas.

Actions taken:

- *DOT and DILG must provide the DENR the clarification within one week*
- Come up with a Joint Memorandum Circular (JMC) or Executive Order (EO ) to conduct a survey of all commercial establishments operating in the identified areas without ECC and to direct the rehabilitation of these areas.

Actions taken:

- *DENR will draft the proposed JMC or EP*
- Conduct a consultative meeting with Local Government Units (LGUs) to discuss LGU compliance with solid waste management and water quality management.

Actions taken:

- *DENR will seek the assistance of DILG to conduct a consultative meeting with LGUs*
- The DPWH to draft an IRR incorporating Krast study on the Building Code and assist the LGUs in implementing the National Sewerage and Septage Master Plan

Actions taken:

- *A draft bill on the building code is pending in Congress*

- Creation of a TWG for the 5 GEMs
- Revival of the National Eco-tourism Council
- The Office of Field Operations to discuss with Regions concerns their issues and concerns including permitting issues and strategic communication plans if possible by July 25, 2023 on the 5 GEMs using the template below :

Area	Issues/Concerns	Proposed Strategy	Responsible Party/ies	Timelines
El Nido	Water Quality SWM Illegal Settlement			

2. With no other matters the meeting was adjourned at 5:30 p.m.

Submitted by :



**Maria Cristina A. Francisco**  
Supervising Environmental Management  
Specialist



Print Date: Thursday, July 20, 2023

Date/Time Received: 07/20/2023 12:36:00 PM

Recvd. 7.21.77

BR



# Green Economy Model Sites

Siargao – Panglao – El Nido – Coron –  
Puerto Galera

Updates as of July 2023





# GREEN ECONOMY MODEL

## Overview

### DENR Administrative Order No. 2017-08, Sec. 1

- Transform DENR programs and projects into GEM where household members **create sustainable goods and services for the rehabilitation of degraded ecosystems**
- **Create viable community enterprises** where households are the focal members and players in creating **value-added environmental products and services**
- **Accelerate rehabilitation of degraded ecosystems** and promote the protection of the environment through **creation of green jobs**



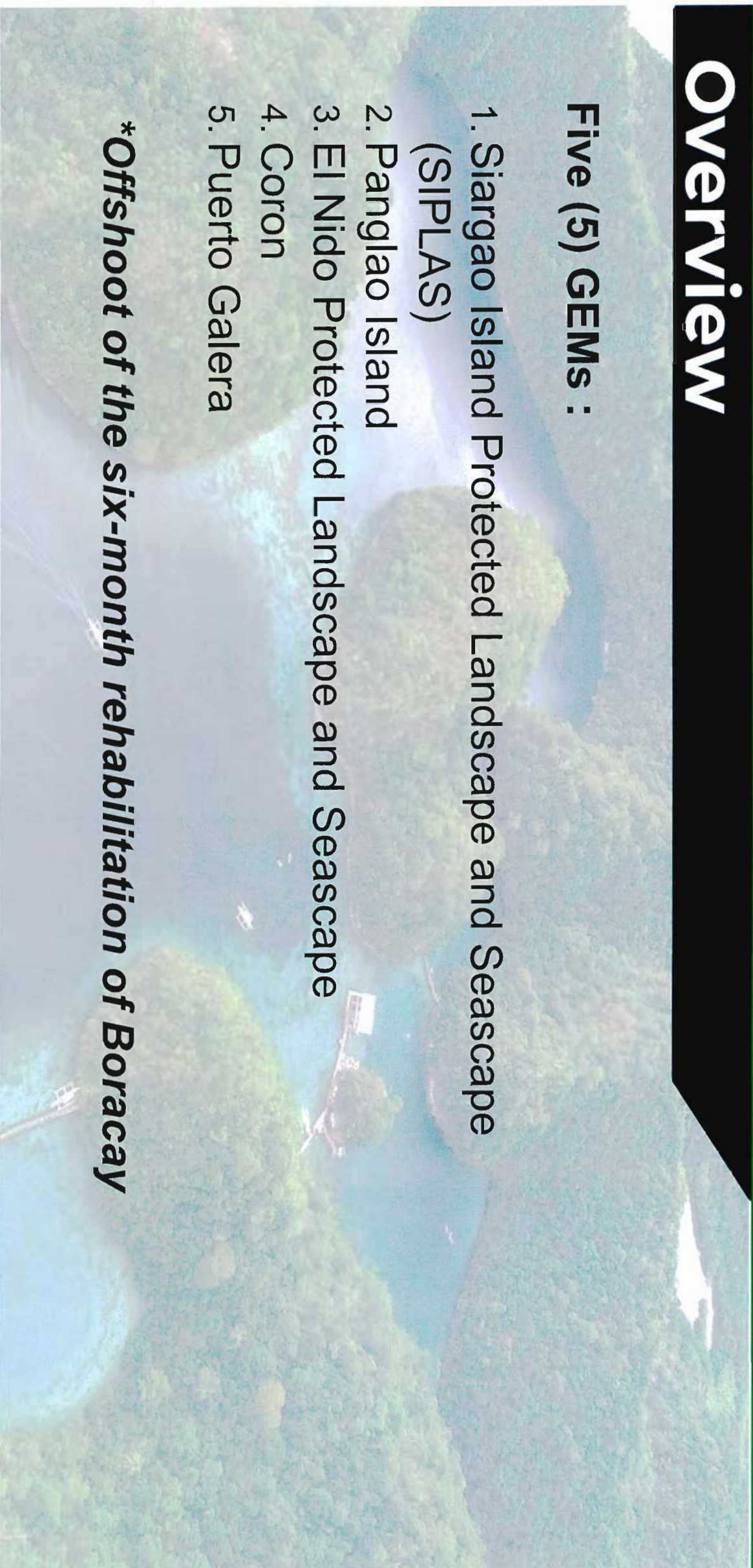
# GREEN ECONOMY MODELS

## Overview

### Five (5) GEMs :

1. Siargao Island Protected Landscape and Seascape (SIPLAS)
2. Panglao Island
3. El Nido Protected Landscape and Seascape
4. Coron
5. Puerto Galera

***\*Offshoot of the six-month rehabilitation of Boracay***





# SIARGAO

## Brief Ecological Profile

### SIARGAO ISLAND PROTECTED LANDSCAPE AND SEASCAPE (SIPLAS)

#### BACKGROUND



Source: PSA Census CY 2020



Municipality	Total Establishments assessed/monitored
General Luna	1,298
Dapa	2,380
Del Carmen	2,223
Burgos	95
Pilar	2,300
San Benito	738
San Isidro	242
Sta. Monica	439
Socorro	1,326

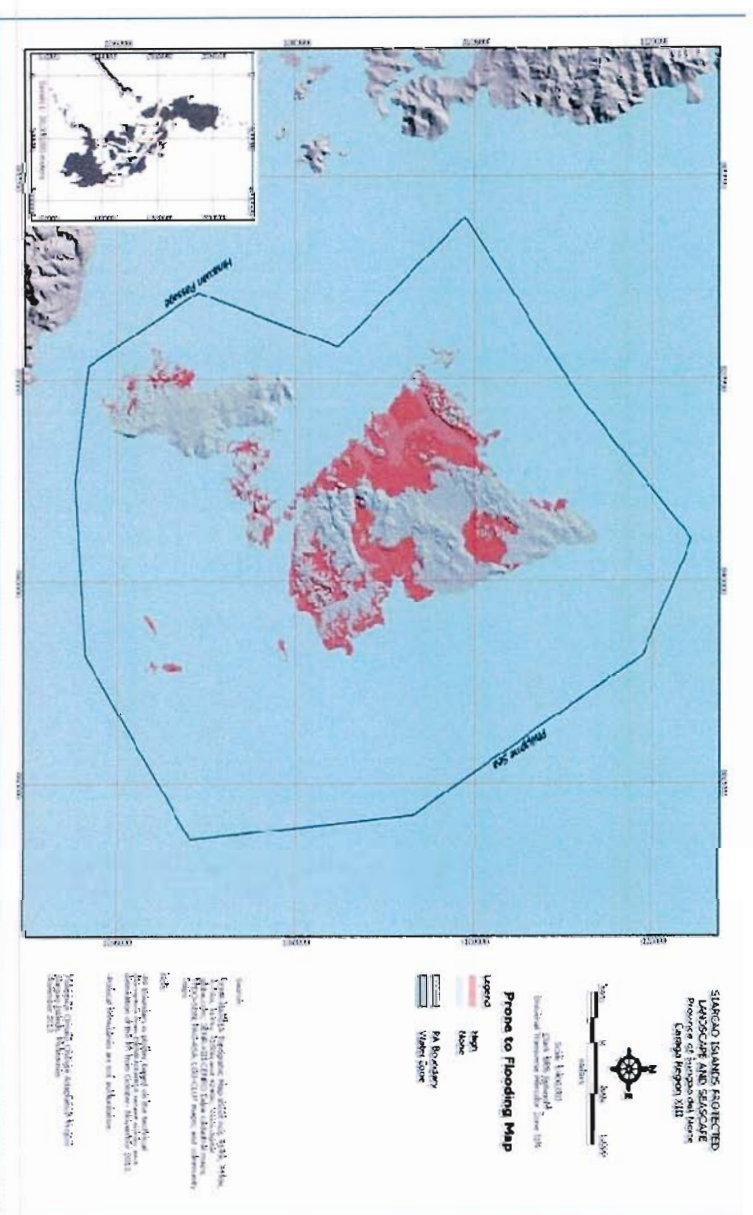


# SIARGAO

## Situation

## Climate and Disaster Risks

- Vulnerable to flooding, rain-induced landslides
- The areas mostly affected by flood are San Isidro, San Benito, Del Carmen, Pilar, Dapa and Gen. Luna.
- The types of flooding in Siargao are mostly due to swells and surge in estuaries and coastal areas.





### Increasing Coastal Developments for Settlement

- **Housing and settlement** occupies 2,496 hectares that spread across 132 barangays. The bulk of the larger settlements are clustered along the coast. many houses or settlements are built inside and adjacent to the coastal water which causes other threats such as siltation and improper solid wastes management.
- **Reclamation in coastal areas** is carried out to cater establishments and infrastructure projects. On-going filling of land in the intertidal zones.

# SIARGAO

## Situation

## Illegal Commercial/Tourism-related Establishments

Status of Environmental Compliance Certificate (ECC) on Commercial/Tourism-related Establishments in Siargao Island Protected Landscape and Seascape as of 2022

NAME OF LGU	No. of Commercial/ Tourism-related Establishments	No. of Commercial/ TREs with ECC	No. of Commercial/ TREs without ECC
Burgos	8	1	7
Dapa	415	9	406
Del Carmen	5	1	4
General Luna	671	161	510
Pilar	1		1
San Benito	1		1
San Isidro	8	8	
Socorro	4	4	
Sta. Monica	4	2	2
TOTAL	1108	192	916



Source: Task Force Siargao Report CY 2019-2021; and DENR-EMB 13 on ECC Issued within SIPLAS as of CY 2022



# PANGLAO ISLAND

## Brief Ecological Profile

**9031.55 ha**  
Total area

**50.64 km**  
Coastal length

**59,100**  
Population

**2 (Panglao & Daus)**  
No. of LGU

**19**  
Barangays





# PANGGLAO ISLAND

## Situation

### Carrying Capacity

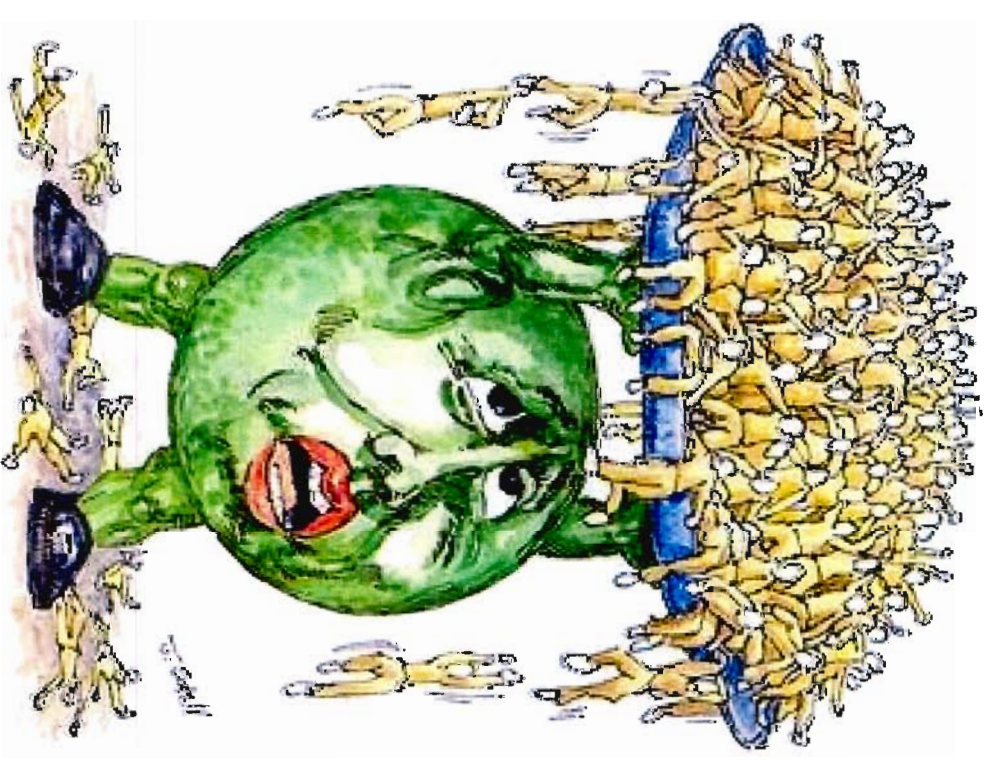
Total population capacity: **66,333**

Daily solid waste collection of LGU: **around 2000-3000 kg** and can still be accommodated by the MRF which can hold up to 14,000 kg/day of waste.

Projected waste generation (66,333 population capacity): around **48,423.09 kg/day or 48.42 tons/day**

The MRF will be overloaded for almost 34,423.09 kg/ day or 34.42 tons/day

(Source: CRERDEC, 2020)



# PANGLAO ISLAND

## Situation

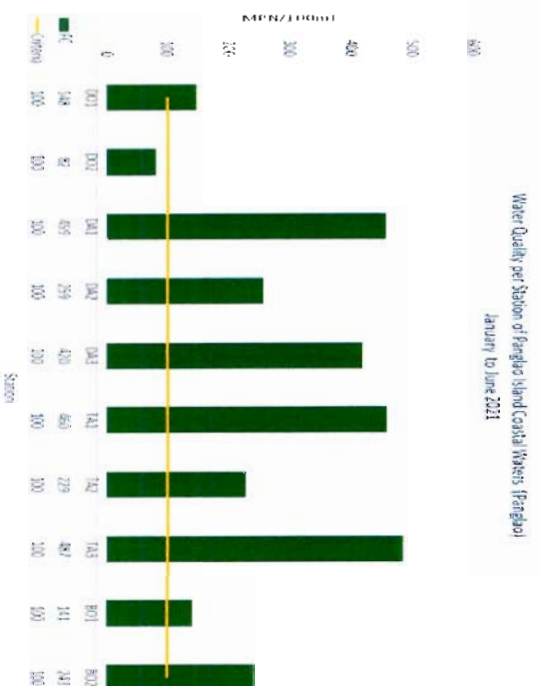
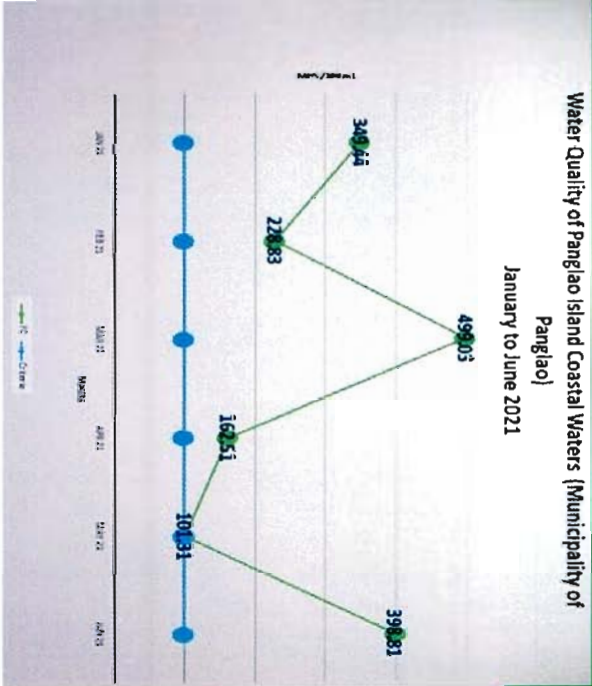
### Water Quality

2018: high fecal coliform values were noted exceeding the acceptable values for Class SB (100MPN/100ML)

2019 – 2020: some areas still yielded fecal coliform values above the acceptable limit even with the considerable decrease of the tourists due to COVID 19 pandemic

2021: high fecal coliform level was observed in the Month of January to June 2021

Source: Environmental Management Bureau



Water Quality of Panglao Island from January to June 2021



# PANGLAO ISLAND

## Situation

### Structures within Legal Easement

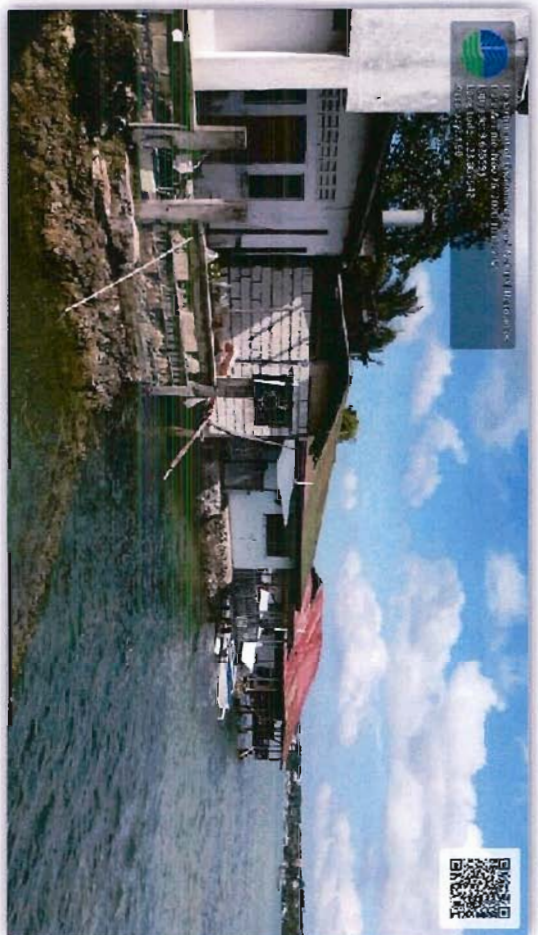
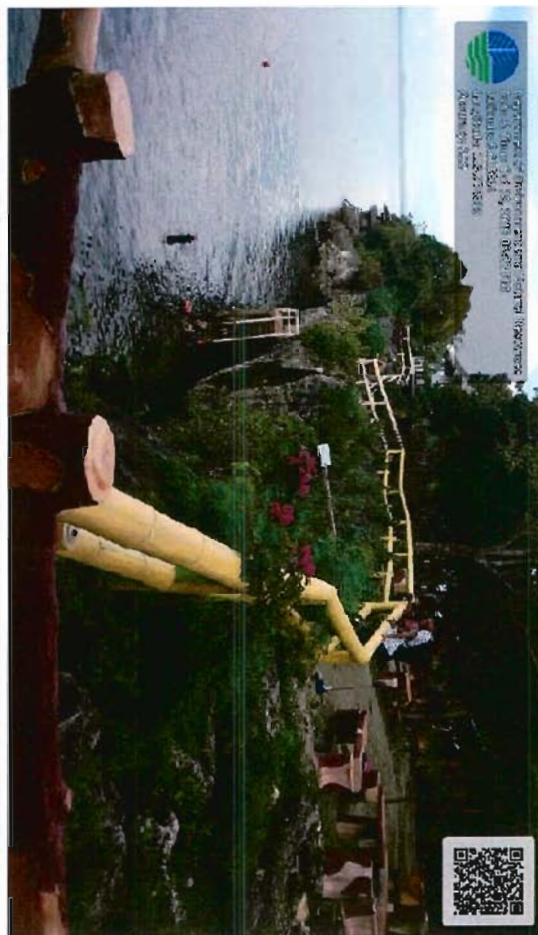
**1,051** structures within legal easement: **497** in

Panglao and **554** in Dauis

- Residential, 382 (36.34%)
- Commercial, 334 (31.78%)
- Others structures, 335 (31.87%)

**80** structures were demolished as of June 2021

**971** structures which are subject for removal and provisions of relocation site for residential houses





# EL NIDO

## Brief Ecological Profile

**90,321 ha**  
Total area

**36,018 ha**  
Terrestrial

**54,303 ha**  
Marine

**50,494**  
Population

**21**  
Barangays

*Proclamation No. 32, s.1998 – Declared El Nido-Taytay  
Managed Resource Protected Area (ENTMRPA)*

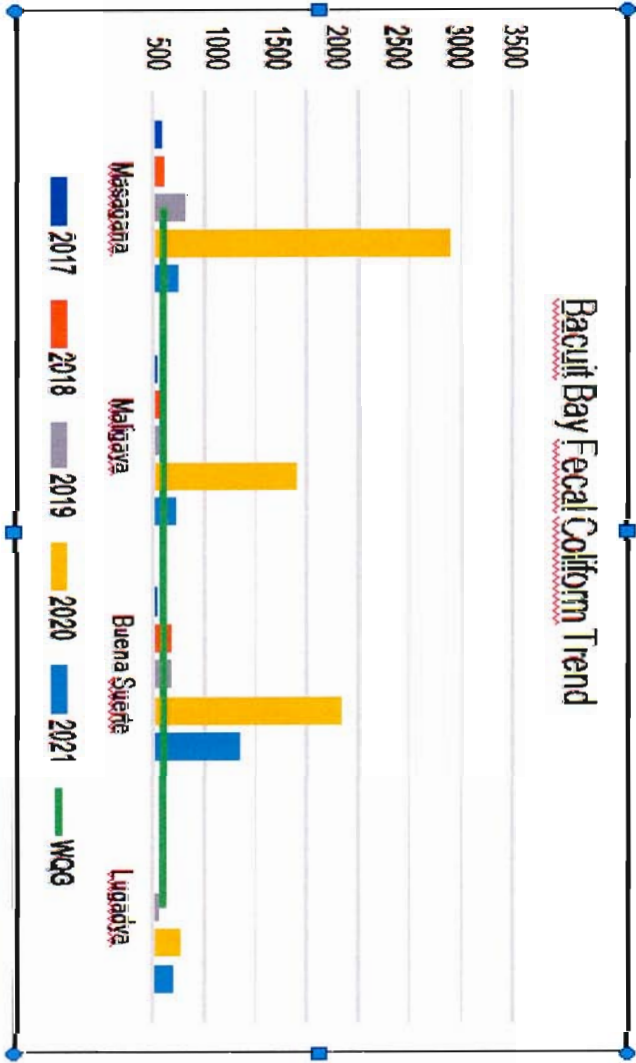


# EL NIDO

## Situation

### Water Quality

- High levels of coliform have been recorded since 2013 up to present affecting water potability and sanitation in the areas
- High number of wastes generated and improperly discharged by the establishments, and lack of sewage treatment facilities
- DENR AO 2021-44: Designation of Bacuit El Nido Bay as Water Quality Management Area and the Creation of its Governing Board



Source: Environmental Management Bureau, 2023



# EL NIDO

## Situation

### Structures within Legal Easement

- proliferation of commercial establishments and households illegally occupying easement zones, mangroves and timberland and overcrowding of boats and tourists
- A total of 2,846 structures had encroached legal easement and forestland.
  - 86 structures were demolished
  - 24 households were relocated
  - 887 Notices to Vacate
  - 253 Notices of Violation
  - 16 Cease and Desist Orders



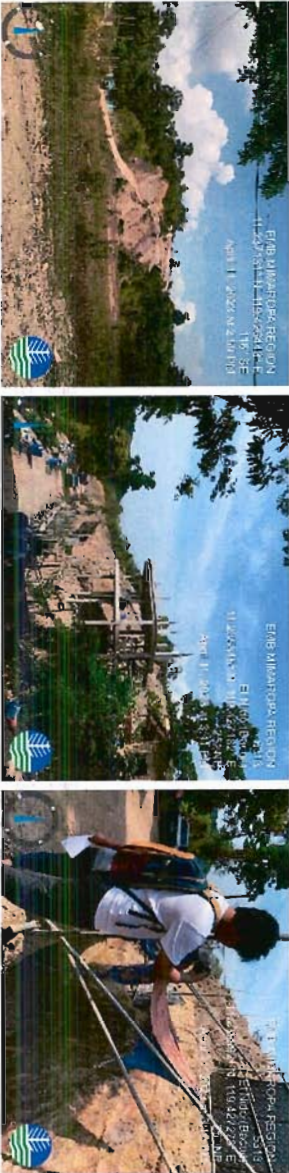


# EL NIDO

## Situation

### 20 Commercial/Tourism-related Establishments without ECC issued with Notice of Violation

ATALAYA RESORT located at Sitio Lamoro, Brgy. Pasadena, El Nido, Palawan



Location of the project and its access road

On-going construction of Villa and retaining walls

Source: EMB MIMAROPA, 2023

KUBLIHAN FARM ECO CAMP INC., located at Sitio Pangaycayan, San Fernando, El Nido, Palawan



During the inspection activity

Structures built with light materials within the area

HAYAG LOUNGE – LIHIM RESORT located at Sitio Sabang, Cadiao Island, Brgy. Buena Suerte, El Nido, Palawan



Beach huts in beachfront area

Amenities within the project (pool, VIP area, comfort room, bar/kitchen)

Villas that are under construction in the beachfront area



# EL NIDO

## Situation

### **Solid Waste in Water Bodies**

- 1 four-hectare sanitary landfill (SLF) located in Barangay Villa Libertad
- Limited capacity of the Material Recovery Facility (MRF) and composting facility
- Other barangays not served by the SLF and MRF are still practicing the open pit and burning system.



# CORON, PALAWAN

# Situation

## BACKGROUND



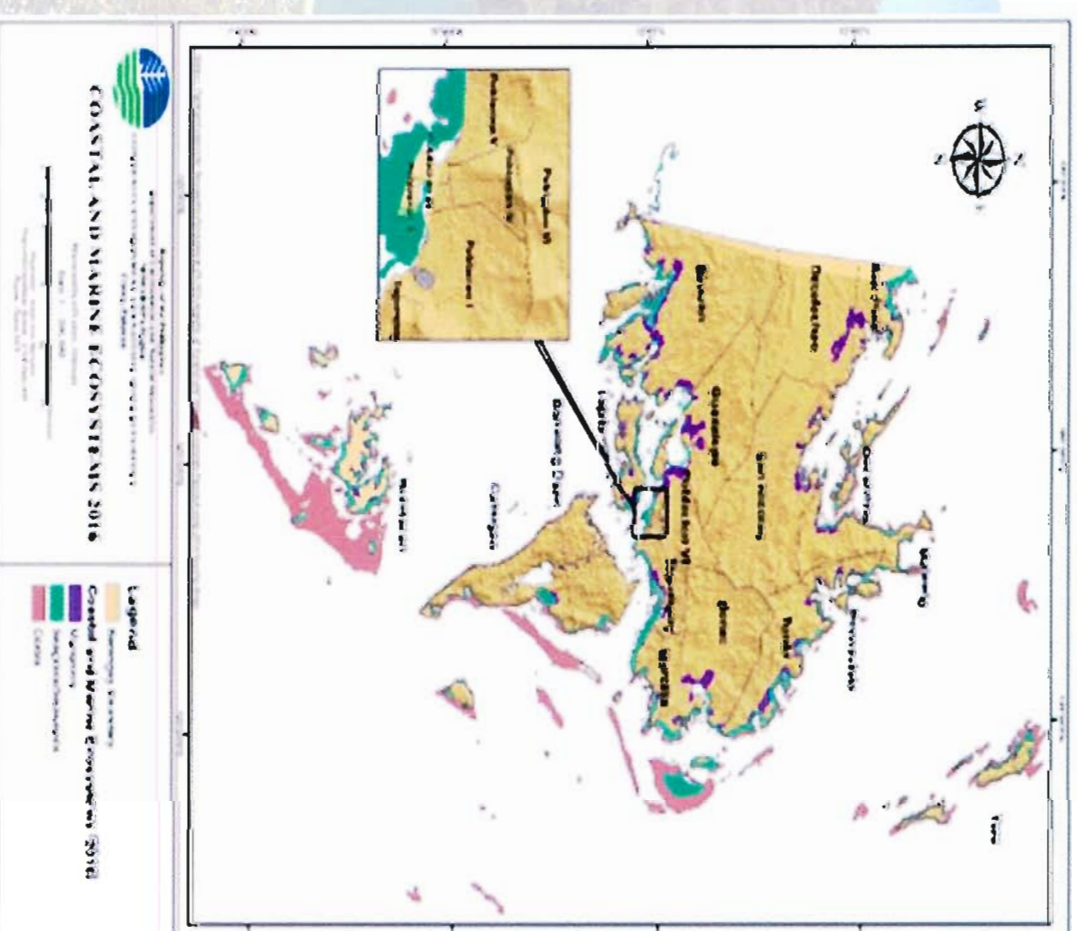
**71,731.93 has**  
Total area

**64,592.88 has**  
**Forestland**

**65,855**  
**Population**

**7,139.05** has  
A and D

23  
Barangays





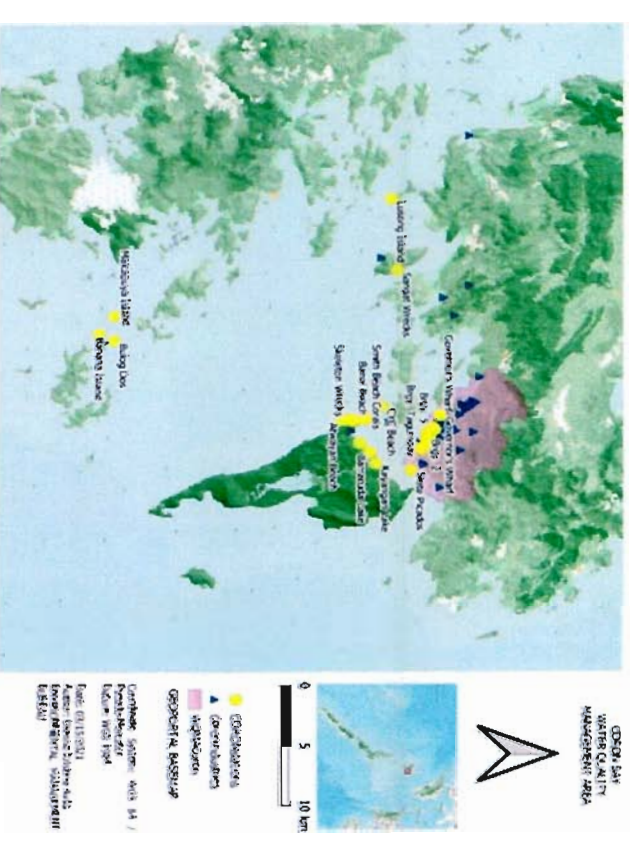
# CORON, PALAWAN

# Situation

In order to improve the water quality of Coron Bay, it was officially designated as a Water Quality Management Area (WQMA) by EMB-MIMAROPA in 2016.

In 2018, the DENR MIMAROPA formed Task Force Coron pursuant to Regional S.O. No. 2018-097 to further help in addressing the water quality issues of the area through the delineation of easement zones, relocation of informal settlers and inspection of compliance to existing regulations on wastewater, solid waste disposal, land tenure and easement zones.

**CORON BAY  
WATER QUALITY MANAGEMENT AREA**



# CORON, PALAWAN

## Situation

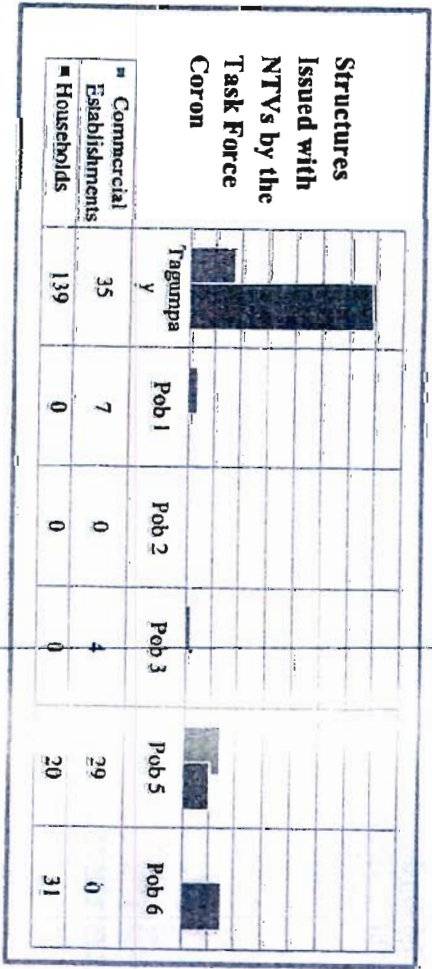
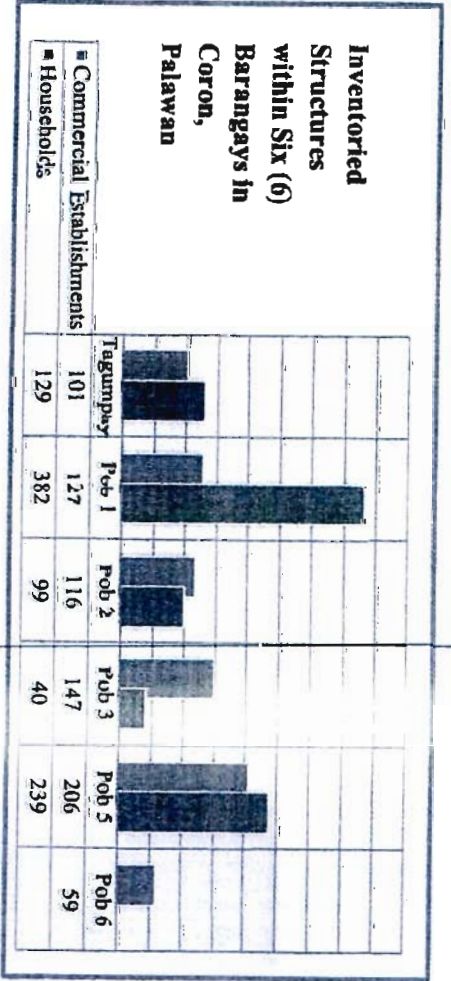
### INVENTORY OF STRUCTURES WITHIN EASEMENT ZONES AND TIMBERLAND (2018)

- 1,645 total structure comprising of 756 commercial establishment and 889 households

### ISSUANCE OF NOTICE TO VACATE (2018)

- 265 (16%) were issued Notice to Vacate (NTV)
- 96% of establishments issued with NTV are within timberland

However, to date, there was no establishment demolished. In 2018, the Task Force formally turned over the matter of demolition to the mayor at that time pursuant to Book 3, Chapter 3, Article 1, Section 444 of RA 7160.



# ENVIRONMENTAL COMPLIANCE

Situation

ECC Universe in Coron	136
No. of Projects without ECC issued with Notice of Violation from CY 2020-2023	8



# CORON, PALAWAN

## Major Environmental Challenges

### Deteriorating Water Quality

The positive effects of the tourism boom on the municipality were accompanied by numerous consequences for the natural environment of Coron. In recent years, high concentrations of fecal coliform have been identified on the waterbodies of the municipality, since hotels and other establishments have discharged their wastewater directly to the sea.

Trend in WQM monitoring results in important parameters had been observed to increase exponentially especially the in terms of fecal coliform concentration in the water.

Results also show that during the height of the pandemic (2020-2021), where number of tourist has significantly declined due to restrictions, water quality of Coron Bay has been observed to be improving. Thus, supports the conclusion that tourism were the primary contributor to the deteriorating water quality.

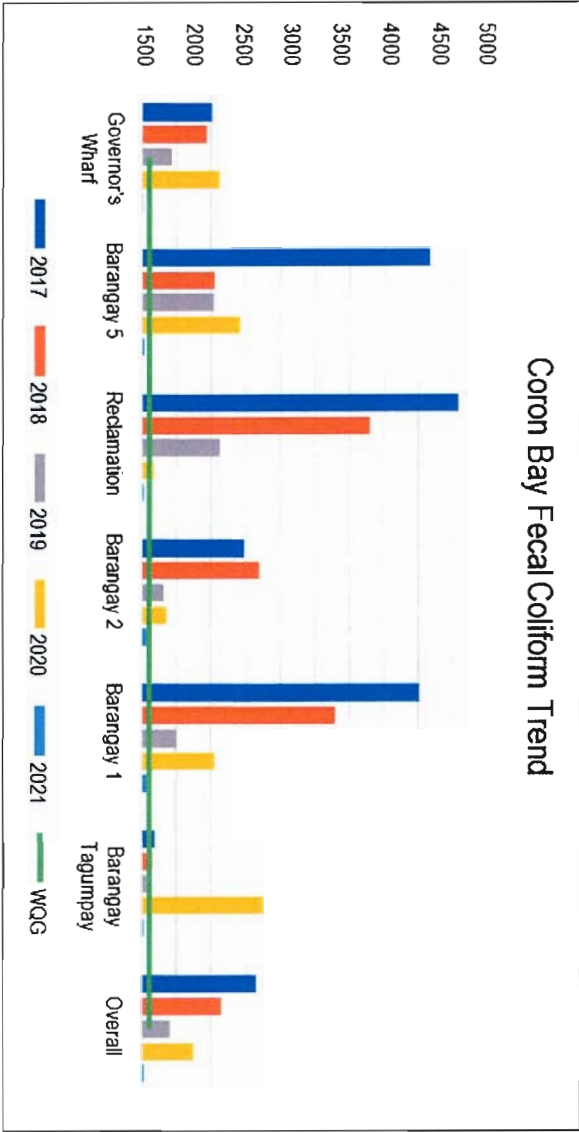


Figure 10. Trend of fecal coliform levels in Coron Bay, from years 2017 to 2021.

# CORON, PALAWAN

## Major Environmental Challenges

### **Presence of encroachers along the easement zone**

The presence of encroachers along the easement zone can mainly be attributed to the high tourism potential of the municipality. Because of the numerous livelihood opportunities available, many people immigrate to the municipality. In turn, this led to higher demands for settlement areas. Further, the high rates of tourist arrivals resulted in higher demands for facilities (e.g. lodging, recreation). The arrival of tourists in the municipality remains unregulated to this day since the carrying capacity study conducted for Coron, Palawan focuses only on the tourist spots and does not include the commercial and residential aspects, which contributes mainly to the deteriorating water quality.

In addition to this, the weak enforcement and information dissemination of easement laws and relevant policies also add to this problem. This is brought by insufficient human resources (especially capacitated technical personnel) and lack of technical training.

# CORON, PALAWAN

## Major Environmental Challenges

### Land Use/ Land Classification

Per official land classification, only ten (10%) of the total land cover of the municipality of Coron were classified as A&D, remaining 90% falls under forestland classification and Unclassified Public Forest (UPF). Given the limited space for development, many opt to expand their development activities in the forestlands leading to the disturbance and degradation of our natural resources in the upland.

Further, said unregulated and illegal development activities proliferated in forestland and UPF were commercial and residential establishments to cater for the growing demand for tourism related activities such as construction of hotels and transient houses without necessary permit and environmental compliances.

Land Classification	Area (hectares)	Percentage Base
Alienable and Disposable	7, 139.05	10%
Forestland	17, 058.78	23.7%
Unclassified Public Forest	47, 534.10	66.3%
Total	71, 731.93	100%



# CORON, PALAWAN

## Major Environmental Challenges

In addition to the problem of *E. coli*, siltation and land conversion are also seen as major environmental challenges in Coron. One specific concern is land reclamation. An initial 10-hectare reclamation project in the Coron town has started in 2007 by Provincial Local Government Unit. Another ECC was granted for the 40 hectares in 2009. As to date, a total of 21 hectares were reclaimed during the pandemic time. However, in 2022, the ECC was cancelled due to failure to comply with the required compliance monitoring report such as no tree cutting permit, quarry permit. To date, this unresolved issue on reclamation has become a source of siltation in Coron Bay since the project has been stopped without retaining walls.



Busuanga Sea Dive Resort, 2005



Busuanga Sea Dive Resort, 2023



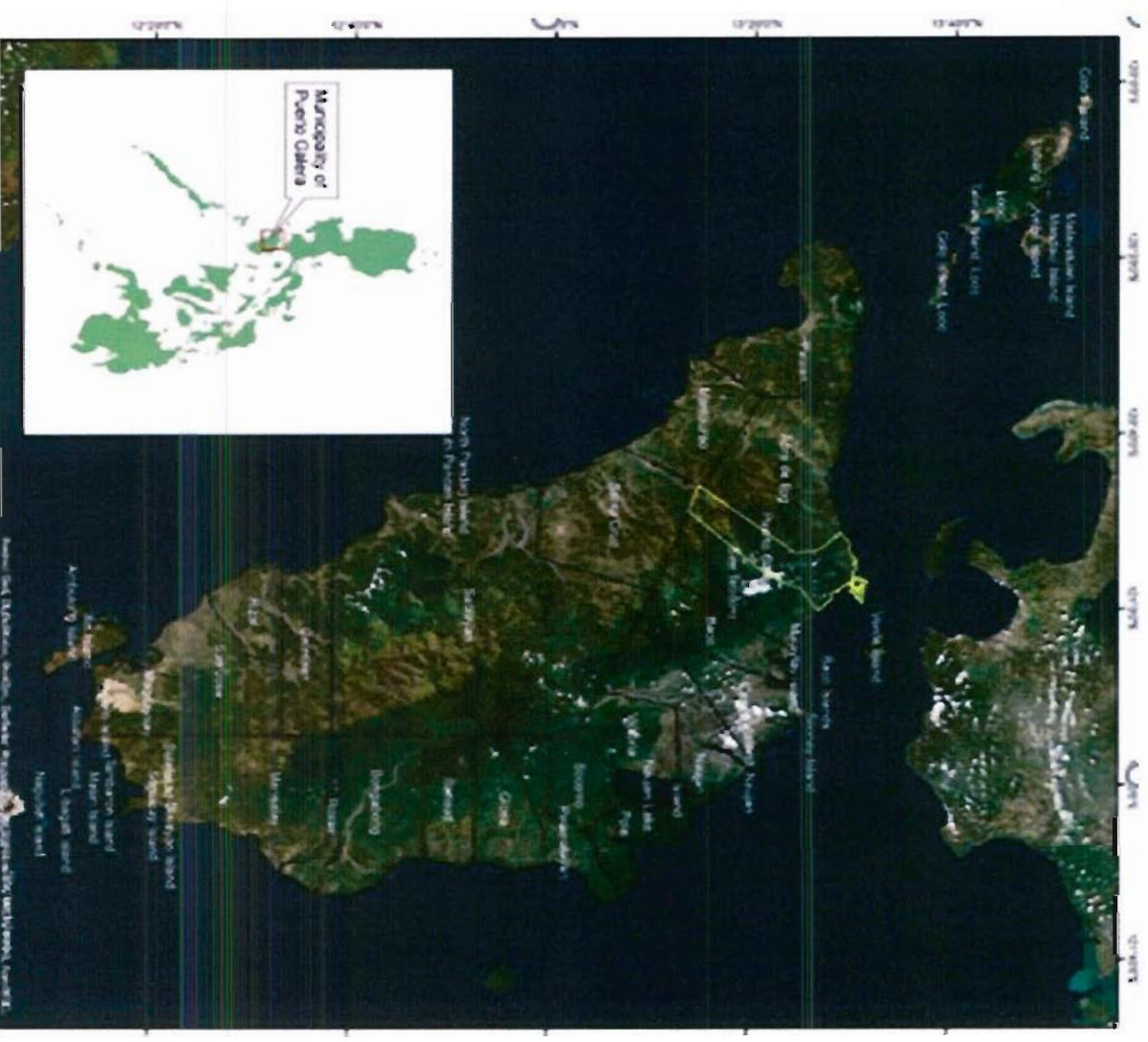
Reclamation site, 2023



# PUERTO GALERA

## Brief Ecological Profile

Situated in the northeast portion of Mindoro is Puerto Galera, a first class municipality in the province of Oriental Mindoro with an area of 25, 247.23 hectares and 42-kilometer irregular shoreline. It has also a population of 36,606 (NSCB, 2015). Since 1977, Puerto Galera's beauty were acclaimed as it has been declared as "Man and Biosphere Reserve of UNESCO" and listed as one of the most beautiful bays in the world by Paris-based Les Plus Belles Baies du Monde in 2005.



# PUERTO GALERA

## Situation

Sabang Beach and White Beach are among the popular beaches in Puerto Galera where a chain of bars and restaurants illegally occupying the easement can be found. Due to the rapid and uncontrolled development of tourism in Puerto Galera, environment and water quality has been degraded in some of these famous beaches. Along with the high tourist arrival, areas around Sabang Bay also recorded very alarming levels of total coliform as a result of indiscriminate disposal of water, garbage and even human feces into the rivers and coastal water and inadequate sewage facilities. Seeing the need to protect and conserve Puerto Galera, DENR Administrative Order No. 2016-06 was formed. Under this order, Sabang Bay was designated as Water Quality Management Area on May 03, 2016 and its Governing Board was created



Land Classification	Area (ha)	% of Total Land Area
Alienable and Disposable	6197.07	23.48
Forestland	12,702.71	48.13
Unclassified Public Forest	7,490.50	28.38
Unknown	1.20	0.005
Unaccounted	1.28	0.005
TOTAL	26,392.76	100.00





**End of Presentation**







# Coordination Meeting on Ecotourism Rehabilitation

18 July 2023 | 3:00 PM | EMB Conference Room  
DENR Central Office, Visayas Ave., Quezon City

# ORDER OF PRESENTATION



Presentation	Presenter
1. Background of the Ecotourism Rehabilitation Agenda	DENR - PPS
2. Boracay Carrying Capacity Study	DENR Region VI
3. Boracay Karst Study	DENR - MGB
4. Green Economy Models (GEMs): Siargao El Nido, Panglao, Coron, Puerto Galera	DENR - PPS
5. Way Forward	DENR - PPS



# OBJECTIVE OF THE MEETING



1. Discuss the directives, recommendations and immediate actions on the rehabilitation of select ecotourism sites: Boracay, Panglao, El Nido and Siargao; and
2. Discuss long term strategies for ecotourism rehabilitation

# BACKGROUND



- A meeting between the Secretaries of DENR, DILG, DPWH, and DOT was held last 03 July 2023 at DENR Central Office. The meeting was presided by DENR Secretary Maria Antonia Yulo Loyzaga.
- The meeting discussed the following:
  - Boracay Island Karst Study and Carrying Capacity Study
  - Updates of the Green Economy Models: Siargao, El Nido, Panglao

# DIRECTIVES



- The DENR to **convene a Technical Working Group** with the DPWH, DILG, and DOT to develop a strategy to address the pressing environmental concerns in Boracay Island, Siargao, El Nido, Panglao, and other ecotourism sites that may be identified by DOT, in consideration of related Carrying Capacity study, Karst Study and other related assessment and studies.



# DIRECTIVES



- The TWG to provide recommendations to address the following areas of concern:
  - Solid waste management - Assist the LGU with appropriate technology
  - Informal settlements and plan for resettlement
  - Water quality issues, including STP permits and ECCCs
- The TWG to examine the permitting and licensing requirements issued by the different Departments (i.e ECCC, building permit, DOT-certified tourism enterprise) and to develop a strategic communication plans for the affected LGUs.



# **Boracay Carrying Capacity and Karst Studies**







# Status of the Green Economy Models (GEMs)



# Open Discussion





# **WAY FORWARD**

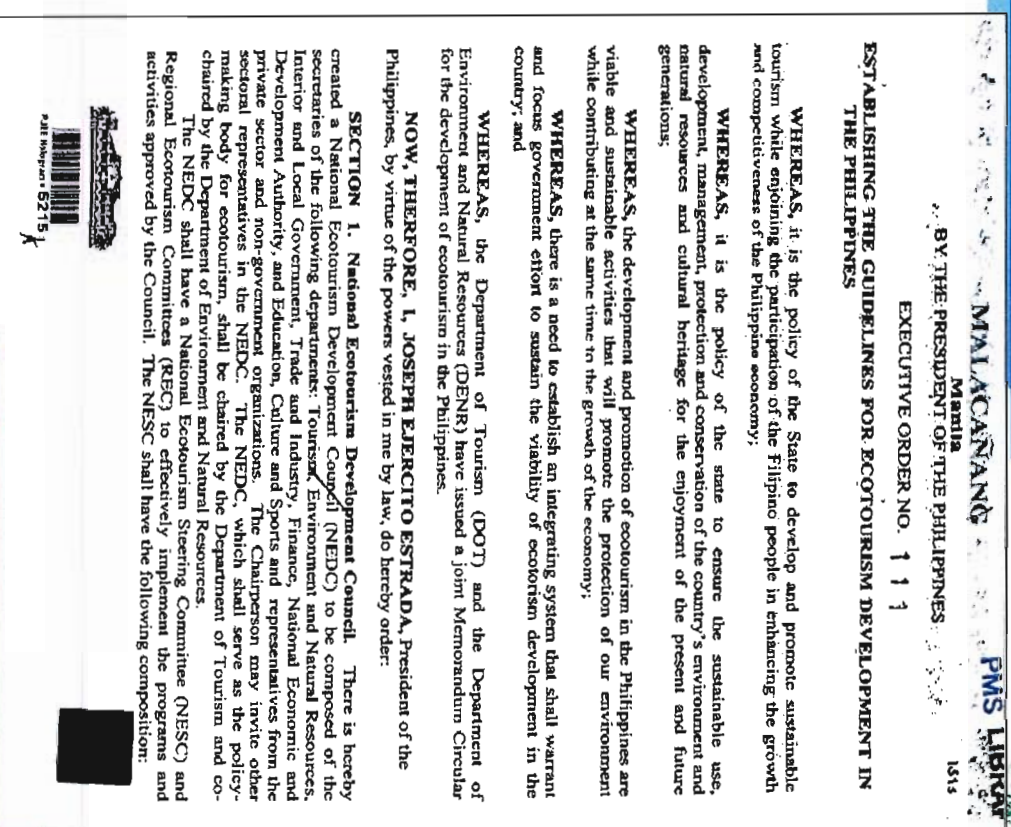
## **Immediate | Long-term**

# WAY FORWARD

## 1. Creation of Technical Working Group

### Legal Basis:

- EO 111 dtd June 1999: Establishing the Guidelines for Ecotourism Development in the Philippines
- Created the ecotourism Policy-making bodies:
  - National Ecotourism Development Council
  - National Ecotourism Steering Committee
  - Regional Ecotourism Committee

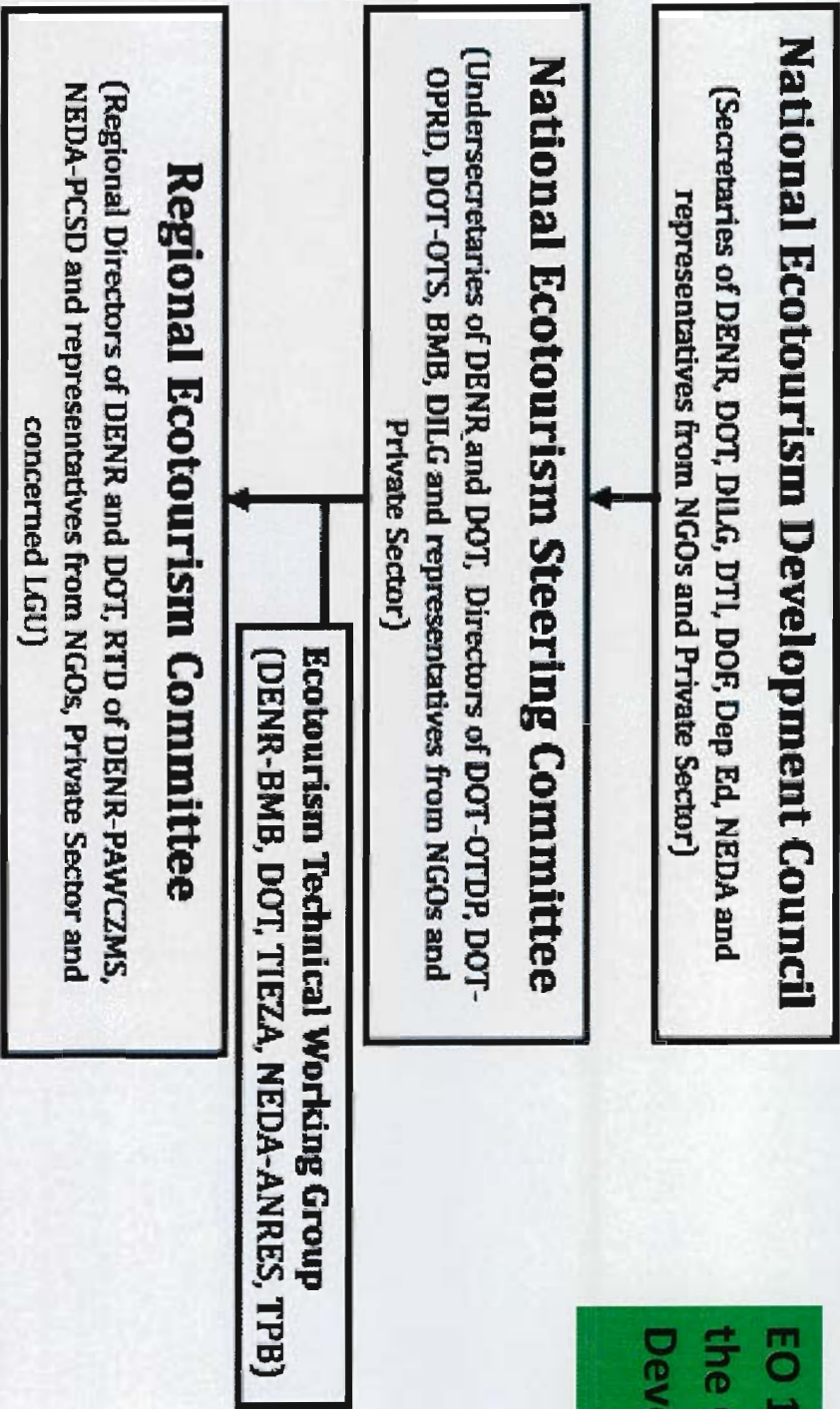




WAY FORWARD



EO 111 dtd June 1999: Establishing the Guidelines for Ecotourism Development in the Philippines



Chairmanship of Council and its Committees is on rotation basis between DENR & DOT every 3 years  
The current chair for the NESC is the DENR from 2021-2023

# WAY FORWARD



## 1. Creation of Technical Working Group

### Recommendation:

#### (Long-term)

- Reconstitution of the National Ecotourism Steering Committee (NESC) with proposed membership as follows:

Chair: DENR

Co-chair: DOT

Members: DOT-OTS, DOT-OTDP, DOT-OPRD, DENR-BMB, DILG-BLGD, NEDA-ANRES, **DENR-MGB, DENR-EMB, DENR-PPS, TIEZA, DPWH**

*Sec.3 of EO 111 – The NEDC may also request the services and support of other government agencies necessary in the development and implementation of ecotourism programs in the country.*



# WAY FORWARD



## 1. Creation of Technical Working Group

### **Recommendation: (Immediate)**

Submit primary and alternate focal persons to DENR for the TWG (Usec level for DENR and DOT, and at least Director level for members):

DENR and DOT – Usec level

Members: DILG, DPWH, DENR Bureaus and Offices

Date of submission: [ouppia@denr.gov.ph](mailto:ouppia@denr.gov.ph) and [cleal@denr.gov.ph](mailto:cleal@denr.gov.ph) on or before **25 July 2023**





2. On the **development of strategy** to address the pressing environmental concerns in Boracay Island, Siargao, El Nido, Panglao, and other ecotourism sites

## Legal Basis:

- Sec. 4 (EO 111 dtd June 1999): Formulation of National Ecotourism Strategy
- Review and Updating of the National Ecotourism Strategy Action Plan (NESAP) 2013 – 2022

## Recommendation:

- Integrate rehabilitation action plans in the **Formulation of National Ecotourism Strategy Action Plan 2023-2028** to ensure sustainability of ecotourism development strategies
- Priority ecotourism areas may be identified in the Strategy Action Plan for implementation and monitoring.

# WAY FORWARD



## 3. Provide recommendations to address the following areas of concern:

- Solid waste management - Assist the LGU with appropriate technology
- Informal settlements and plan for resettlement
- Water quality issues, including STP permits and ECCs

### **Legal Basis:**

- Solid waste management: RA 9003 or the Ecological Solid Waste Management Act of 2010, RA 11898 or Extended Producer Responsibility (EPR) Act of 2022
- Informal settlements and plan for resettlement: RA 7160 or Local Government Code of 1991, Local Ordinances / Legal Easement
- Water quality issues: RA 9275 or the Philippine Clean Water Act of 2004

# WAY FORWARD



## 3. Provide recommendations to address the following areas of concern:

- Solid waste management - Assist the LGU with appropriate technology
- Informal settlements and plan for resettlement
- Water quality issues, including STP permits and ECC

## Recommendation:

### (Immediate)

- DENR Field Operations Visayas and Mindanao to call a meeting with the concerned REDs and RDs and submit recommendations (immediate and long-term solutions) to address the above cited concerns **on or before 25 July 2023**.
- DOT, DILG and DPWH to submit proposed immediate and long term solutions to DENR **on or before 25 July 2023**.
- Submit your recommendations to: [cuppia@denr.gov.ph](mailto:cuppia@denr.gov.ph) and [cleal@denr.gov.ph](mailto:cleal@denr.gov.ph)



# WAY FORWARD



In the submission of immediate and long-term solutions, please consider the following:

- 1. permitting and licensing requirements** issued by the different Departments (i.e ECC, building permit, DOT-certified tourism enterprise)
- 2. strategic communication plans** for the affected LGUs



THANK YOU!