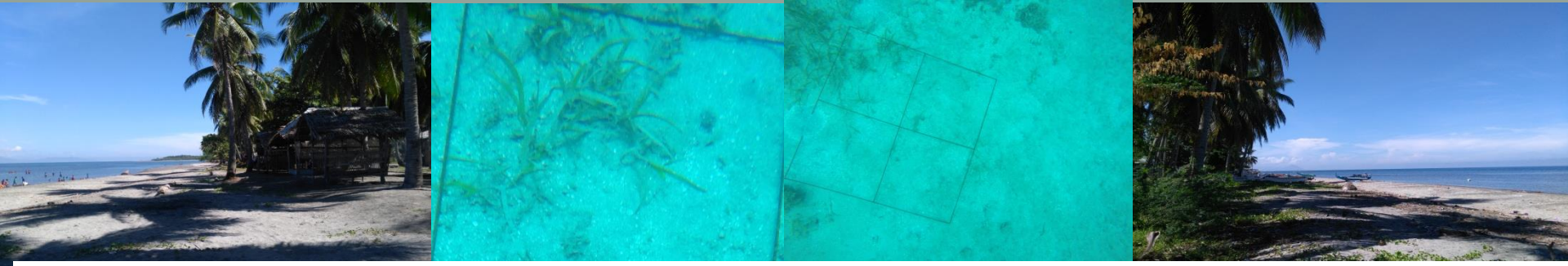

THE SEAGRASS LANDSCAPE OF BUNDAS MARINE PROTECTED AREA, BARANGAY BAGUMBAYAN, LUPON, DAVAO ORIENTAL, PHILIPPINES

Presented by:

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INTRODUCTION

- Seagrass is one natural marine resource in Bundas, Barangay Bagumbayan, Lupon, Davao Oriental.
- Herbivores fishes that thrive on seagrass have provided food as well as income to the residents.
- As part of maintaining the productivity of the habitat, a 10 ha. of the seagrass area was declared as Marine Protected Area in 1998 by the Local Government Unit of Brgy. Bagumbayan.
- An assessment of the area in November 2014, however, revealed that the seagrass is in poor condition and low in diversity.

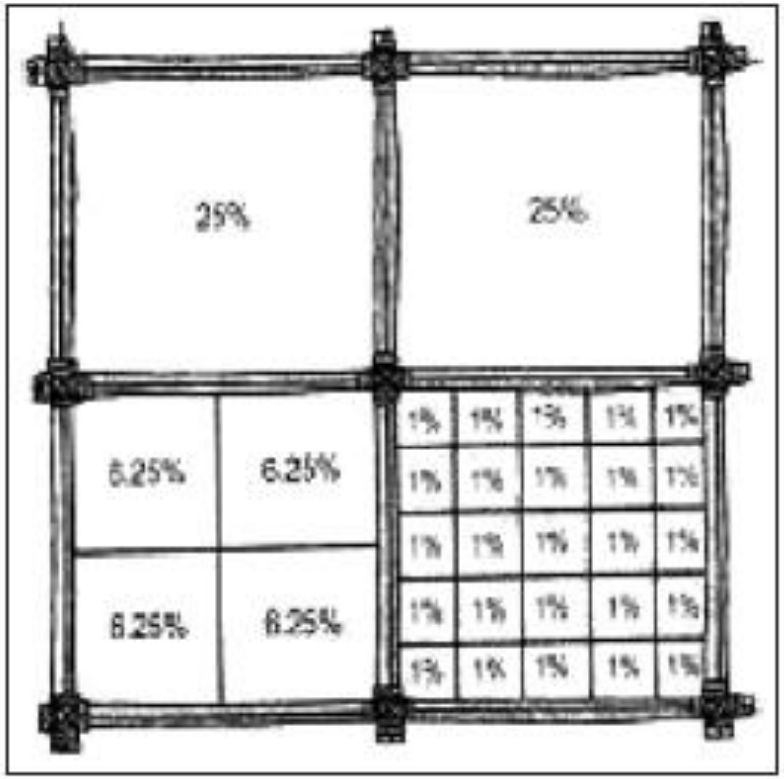
Objectives of the study

- This study aims to assess the seagrass landscape of Bundas marine protected area, Brgy. Bagumbayan, Lupon, Davao Oriental, Philippines. It specifically aims to:
  - 1. Identify the different seagrass species thriving on the area;
  - 2. Determine the density, abundance, diversity and percent cover of seagrass species;
  - 3. Measure some of environmental parameters like salinity, substrates, temperature, and water depth.

Significance of the study

- Identify the seagrass species (In selected Area of MPA);
- Food source for macrofauna; some commercially important fish (Food and Livelihood).
- Examine the effect of habitat loss and fragmentation;
- Diverse and richness of seagrass
  - can create a possibility toward high sustainability of food in marine habitat.
- The importance of seagrass on ecosystem dynamics and the lack of background information
  - lead the creation of baseline research.
- This study may aid in establishing a possible solution for
  - conservation, protection of biodiversity and sustainable marine resources.

Laying of transect



Quadrat method.

(Ame & Ayson, 2009)

Collection of Environmental Parameters

- **Salinity-** Using hand refractometer
- **Substrate type –** Sediment Profiling
- **Temperature-** Thermometer
- **Water depth-** Transect tape

Data Analysis

- The following data was analyzed:
  - Abundance and Population density, Percent cover.
  - Biodiversity –
    - Shannon Wiener Index
    - Simpson diversity index

RESULTS AND DISCUSSION

Seagrass Composition

- Five Species of Seagrass were found inhabiting the area namely;

Observed specimen

Reference picture (Fortes, n.d.)

Halophila minor

Observed specimen

Reference picture (Ame & Ayson, 2009)

Syringodium isoetifolium

Observed specimen

Reference picture (Fortes, n.d.)

Thalassia hemprichii

Observed specimen

Reference picture (Fortes, n.d.)

Halodule uninervis

Observed specimen

Reference picture (Ame & Ayson, 2009)

Cymodocea serrulata

Table 1. The seagrass landscape of MPA of Bagumbayan, Bundas, Lupon, Davao Oriental.

Seagrass species	Total density (ind./100m²)	Population Density (ind./m²)	Abundance (%)	*Shannon-Weiner Diversity Index*	Average Percent cover
Thalassia hemprichii	1,636	0.1636	42 %	-	-
Cymodocea rotundata	723	0.0723	18 %	-	-
Halodule uninervis	682	0.0682	17 %		
Halophila minor	300	0.016	8 %		
Syringodium isoetifolium	590	0.0562	15 %		-
Total	3931	0.3763	100 %	1.46	7.342

Low Percent cover

Low diversity

Environmental factors

Station	Temperature (°C)	Salinity (ppt)	Water depth (cm)	Substrate type
1	27	36	111	Muddy
2	27	35	130	Muddy
3	26	36	149	Muddy
4	28	34	161	Muddy
5	28	35	200	Muddy

CONCLUSION

- The results of the study show that the condition of seagrasses in MPA of Barangay Bagumbayan, Sitio Bundas, Lupon, Davao Oriental is in poor condition and low diversity.
- Based on this, it is recommended that the LGU must evaluate the effectivity of the implementation of conservational management strategies or choose an appropriate management strategy for the rehabilitation of the seagrasses.

Cont.

- The muddy substrate could contribute to the low seagrass diversity as not all seagrass species prefer this type of substrate.
- On the other hand, anthropogenic activities like swimming could also influence the seagrass population structure in the area.
- Furthermore, there is also a need to examine in details the effects of anthropogenic activities within the vicinity of the seagrass, to guide the leaders and manager on what is the most effective management strategies to be applied for the conservation of seagrass resource in the area.

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