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Description and Level of Degradation of Sea Sea Based Ecosystems in The Coastal Area of Uwedikan Village, East Luwuk District, Banggai District

Deskripsi dan Tingkat Degradasi Ekosistem Padang Lamun di Kawasan Pesisir Desa Uwedikan, Kecamatan Luwuk Timur, Kabupaten Banggai

Oktavianingsi A. H. Yantu, Ramli Utina, Ilyas Husain

Faculty of Mathematics and Natural Sciences, Gorontalo State University

Jendral Sudirman Street, Number 6, Dulalowo Timur, Gorontalo City, 96128

*Coresponding author: mitayantu38@gmail.com

ABSTRACT

The seagrass ecosystem is an ecosystem that is very important to support the sustainability of the biota that take shelter in it. The seagrass ecosystem is known as one of the areas that is vulnerable to damage. Various human activities, such as fishing and industrial activities can trigger this damage. This study aims to provide information regarding the description and level of degradation of the seagrass meadow ecosystem in Uwedikan Village. The method used is random sampling method. The results showed that there were 5 species of seagrass found, namely *Enhalus acoroides, Thalassia hemprichii, Cymodocea Serullata, Cymodocea rotundata* and *Halophila ovalis*. Seagrass cover averaged 40.60% at Tanjung Balean and 33.1% at the Tambatan Perahu. This is included in the moderate/less rich category. The highest seagrass cover was for *Thalassia hemprichii* with a total of 2,169 individuals at Tanjung Balean and 1,453 at the Boat Mooring. The relationship of water parameters, namely temperature, degree of acidity (pH) and brightness greatly affect the growth of seagrass ecosystems. In particular, the temperature at the two locations obtained different values, namely 29--30.5°C at Tanjung Balean and 30-35.3°C at the Tambatan Perahu.

ABSTRAK

Ekosistem lamun merupakan ekosistem yang sangat penting untuk mendukung keberlangsungan biota-biota yang bernaung di dalamnya. Ekosistem lamun dikenal sebagai salah satu teritori yang rentan terhadap kerusakan. Berbagai aktivitas manusia, seperti aktivitas perikanan maupun industri dapat memicu kerusakan tersebut. Penelitian ini bertujuan untuk memberikan informasi mengenai deskripsi dan tingkat degradasi ekosistem padang lamun di Desa Uwedikan. Metode yang digunakan metode random sampling. Penelitian ini dilakukan pada bulan Februari-April 2022, di Desa Uwedikan, Kecamatan Luwuk Timur, Kabupaten Banggai. Penelitian ini menggunakan metode random

sampling. Lokasi yang dijadikan obyek penelitian adalah Tanjung Balean (0˚89'36''LS 123˚08'47''BT) dan Tambatan Kapal (0˚89'32''LS 123˚05'97''BT) di Uwedikan Desa, Kec. Luwuk Timur, Kab. Banggai. Hasil penelitian menunjukkan bahwa terdapat 5 jenis lamun yang ditemukan, yaitu *Enhalus acoroides*, *Thalassia hemprichii*, *Cymodocea serullata*, *Cymodocea rotundata* dan *Halophila ovalis*. Tutupan lamun rata-rata sebesar 40,60% pada Tanjung Balean dan 33,1% pada Tambatan Perahu. Hal ini termasuk dalam kategori sedang/kurang kaya. Penutupan lamun tertinggi oleh jenis *Thalassia hemprichii* dengan total individu 2.169 pada Tanjung Balean dan 1.453 pada Tambatan Perahu. Hubungan parameter perairan yaitu suhu, derajat keasaman (pH) dan kecerahan sangat mempengaruhi pertumbuhan ekosistem lamun. Khususnya suhu dikedua lokasi, diperoleh nilai yang berbeda yaitu 29-30.5°C di Tanjung Balean dan 30-35.3°C di Tambatan Perahu. Kesimpulan pada penelitian ini adalah jenis lamun di lokasi Tanjung Balean dan Tambatan Perahu ditemukan *Enhalus acoroides, Thalassia hemprichii, Cymodocea rotundata, Cymodocea Serullata* dan *Halophila ovalis. Cymodocea rotundata* dan *Halophila ovalis* tidak ditemukan di lokasi tambat, sedangkan *Enhalus acoroides*, *Cymodocea Serullata* dan *Thalassia hemprichii* ditemukan di kedua lokasi.

Kata Kunci	*Degradasi, Ekosistem Lamun, Tutupan Lamun*
Keywords	*Degradation, Seagrass Ecosystem, Seagrass Cover*
Tracebility	Tanggal diterima : 6/4/2023. Tanggal dipublikasi : 29/5/2023
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INTRODUCTION

Ecologically, the existence of seagrass ecosystems in coastal areas makes a significant contribution, especially as a contributor of nutrients that are important for the fertility of the coastal and marine waters environment. Seagrass ecosystems in coastal areas have high biological productivity, function as primary producers, nutrient recyclers, water base stabilizers, sediment retainers, and erosion control (Dwintasari, 2009). The many benefits of seagrass for the ecosystem are not matched by the fragile condition of the seagrass ecosystem. The existence of human and industrial activities greatly impact the seagrass ecosystem, the entry of waste or sediment from the land and oil pollution can damage seagrass beds. According to Cabac et al. (2007) in their research stated that industrial waste can make sea water cloudy thereby limiting the entry of sunlight into the water which is useful for the photosynthesis process.

Uwedikan Village has its own characteristics, namely as a coastal village which was designated as a Regional Marine Protected Area by the Banggai Regency government in 2002 (Japesda, 2019). Seagrass beds in the coastal area of Uwedikan village are included in coastal ecosystems which are quite widely used for various human activities, one of which is fishing activity. Unknowingly, this will have an impact on the degradation of the seagrass ecosystem. In Uwedikan Village there is also a shrimp pond factory whose waste can channel directly into the sea. So that the waste produced will go directly to the sea, of course this will have an

impact on marine biota, one of which is sea grass. globally, the rate of damage to seagrass cannot be predicted, but the dominant cause of damage comes from anthropogenic activities (Dahuri, 2003).

The large number of activities that utilize fishery resources either directly or indirectly can put pressure on seagrass ecosystems, for this reason it is necessary to carry out further research and studies on this matter. Based on this background, this research was conducted to determine the description and level of degradation of seagrass beds in the coastal area of Uwedikan Village, East Luwuk District, Banggai Regency.

METHOD

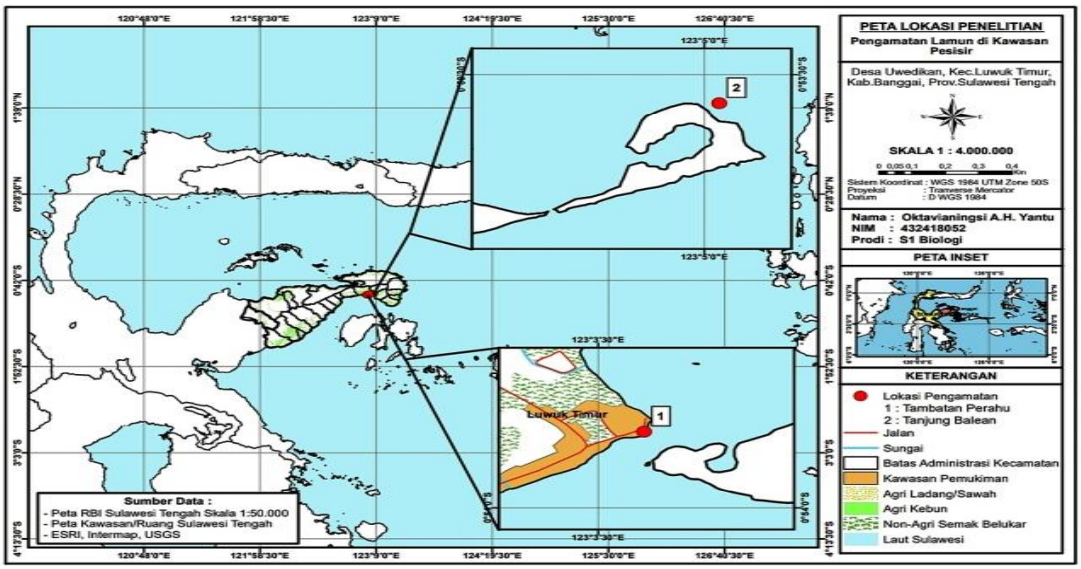
This research was conducted in February-April 2022, in Uwedikan Village, East Luwuk District, Banggai Regency.

Tools and materials

The tools used include: 1m x 1m quadrant frame with grid (20 cm x 20 cm), 100 m2 nylon rope, stationery, Global Positioning System (GPS), meter roll, camera, secchi disc, pH meter, thermometer, book identification, plastic samples and basic diving equipment. The materials used are seagrass samples as research objects.

Sampling Location Determination

This study used a random sampling method. The locations used as research objects are Tanjung Balean (0˚89'36''S 123˚08'47''E) and Boat Mooring (0˚89'32''S 123˚05'97''E) in Uwedikan Village, Kec. East Luwuk, Kab. Banggai. Tanjung Balean is one of the selected observation stations, because it is a white sand beach with seagrass ecosystems. Not only that, the condition of this location is still relatively clean because it is far from the activity area of the surrounding community. And along the coastline you can find extensive mangrove ecosystems, of course this functions as a barrier for sediment to enter the sea. Meanwhile, the Tambatan Perahu has very different environmental conditions from Tanjung Balean. This is because this location is in a community activity area and is used as a place for fishing boats to rest, and is directly adjacent to a shrimp pond factory. So that the waste from factories and oil from fishing boats is directly wasted into the sea. Of course this will make the seagrass ecosystem vulnerable to damage due to waste and sediment. This is the object of study as a comparison to determine the condition of the seagrass ecosystem at each location. Map of research locations can be seen in Figure 1:

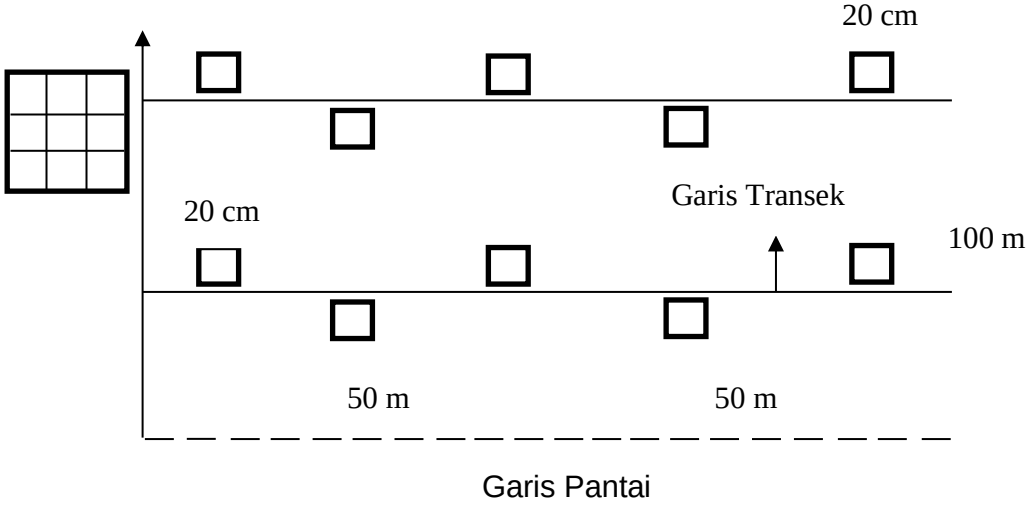


Gambar 1. Research Location Map

Research procedure

a. Installation of transect lines

Data collection at this stage uses the line transect method to determine the type and condition of seagrass beds. The transect method is a method of taking population samples from a community using a plot approach, namely on a line drawn through the ecosystem area (KepmenLH. No. 200, 2004).



b. Sampling

Data collection was based on the use of transect and sample plot methods. The transect plots for each transect line were placed in square plots with a size of 1 m x 1 m with a spacing of 5 m, and a transect length of 50 m with a spacing of 25 m (KepmenLH No. 200, 2004).

c. Seagrass identification

The types of seagrass found at the data collection location were observed directly on the spot, and their morphological parts were photographed. Identification using LIPI Seagrass

Identification book guidelines and Seagrass Identification Reference book in Indonesia KepmenLH No. 200 of 2004.

Measurement of environmental parameters

According to Marwanto (2017) measurement of environmental parameters by looking at temperature, currents, substrate, brightness, salinity, dissolved oxygen and degree of acidity.

a. Temperature

Temperature measurements are carried out in situ using a thermometer or pH meter. How to use this tool is to dip the glass electrode into the surface of the water.

b. Degree of Acidity (pH)

pH measurement using a Multi Tester. Use the Multi Tester by connecting the pH meter cable to the Multi Tester monitor then dipping the tip of the pH meter from the cable to the surface of the water. Look at the numbers printed on the monitor to see the final result.

c. Brightness

Measurement of water brightness is measured using a secchi disc which is lowered into the water slowly until it is not visible. After that, the length of the secchi disc rope was measured from the surface of the water until the depth of the secchi disc was not visible. Then the secchi disc is lowered to the bottom of the water and pulled up until the secchi disc is visible. Calculating brightness can use the formula:

$$\frac{(\text{Initial Distance lost} + \text{Visible Distance})}{2}$$

Information:

The visible distance is the distance from the water surface plus the distance from the researcher's eye to the water surface until the secchi disc plate is visible, while the lost distance is the distance between the water surface until the secchi disc plate is not visible.

a. Flow rate of funds

The speed of the current is calculated using a stopwatch by releasing the current kite until it stretches a certain distance, and the direction of the current is seen using a compass that points towards the current kite. The speed and direction of the current is known by calculating the time interval (t) required for the current kite to cover the distance (s).

Data analysis

a. Seagrass cover

The steps for obtaining seagrass cover data refer to the guidelines for seagrass cover according to Kepmen LH No. 200 (2004) as follows:

1. Using a quadrant frame measuring 1 x 1 m.
2. Record the number of each species in each sub-plot which is then included in the presence class. It is said that one seagrass stand is if there is a collection of several leaves whose bases are united, the number of stands is observed directly visually (Hartati et al, 2012). Then look at the value of seagrass presence class based on the following table:

Table 1. Presence of seagrass cover classes

Class	Coverage Area (%)	Area Closu (%)	Midpoint (M)
5	1/2- Penuh	50-100	75
4	1/4-1/2	25-50	37,5
3	1/8-1/4	12,5-25	18,75
2	1/16 – 1/8	6,25-12,5	9,38
1	<1/16	<6,25	3,13
0	Tidak Ada	0	0

Source: KepmenLH No. 200 (2004).

Seagrass cover is the area covered by a species - i. Type closure is calculated using the formula according to Kepmenlh No. 200 (2004):

$$\boldsymbol{C = \frac{\sum(Mi \text{ x } fi)}{\sum f}}$$

Information:
C = percentage closure of seagrass i,
Mi = midpoint percentage of class i seagrass presence, and
fi = the number of subplots where the class of presence of seagrass i is the same.
Relative coverage is the ratio between the closure of the i-type individual and the total closure of all species.

Table 2. Determination of Seagrass Conditions Based on Cover

Status	Kondisi	Penutupan (%)
Good	Rich/Healthy	≥ 60
Damaged	Less Rich/Unwell	30-59,9
Damaged	Poor	<29,9

Source: KepmenLH No. 200 (2004).

For water quality parameters, it refers to water quality standards for aquatic biota specifically for seagrass meadow ecosystems as stated in KepmenLH No. 51 of 2004 as shown in Table.

Table 3. Water quality standard conditions for seagrass meadow ecosystems

No.	Parameter	Unit	Quality standards
1	Temperature	^{o}C	28-30
2	Salinity	% 0	33-34
3	Brightness	Meter	>3
4	Acidity	-	7-8,5
5	Disolved Oxygen	Mg/L	>5

Source: Kepmen LH No. 51 (2004).

RESULT AND DISCUSSION

Result

Based on the results of research using quadrant transects that have been carried out in the waters of Uwedikan Village, Banggai Regency. With two locations, at Tanjung Balean and the Tambatan Perahu area. Five species of seagrass were found, namely: *Enhalus acoroides*, *Thalassia hemprichii, Cymodocea rotundata, Cymodocea Serullata* and *Halophila ovalis*. The results can be seen in table 4.

Table 4. Data on the types of seagrass in the waters of Tanjung Balean and the Tambatan Perahu area, Uwedikan village, Kec. East Luwuk, Kab. Banggai.

No.	Family	Spesies	Local
1.		*Enhalus acoroides*	Samo
2.		*Thalassia hemprichii*	Samo
3.		*Cymodocea rotundata*	Samo
4.		*Cymodocea serullata*	Samo
5.		*Halophila ovalis*	Samo

Table 5. Number of seagrass specimens in Tanjung Balean

Frame	Transek 1				Transek 2		Transek 3		
	Eh	Th	Ho	Cr	Eh	Th	Eh	Th	Ho
1	67	256	11	6	14	177	8	133	8
2	73	178	-	-	30	123	7	66	3
3	93	133	-	-	27	80	36	78	-
4	52	233	26	12	23	107	16	121	-
5	29	256	9	2	96	111	23	117	6
Total	314	1056	46	20	190	598	90	515	17

Information:
Eh: Enhalus acoroides
Th: Thalassia hemprichii
Ho: Halophila ovalis
Cr: Cymodocea rotundata

Table 6. Number of seagrass specimen in Tambatan Perahu

Frame	Transek 1		Transek 2		Transek 3	
	Eh	Th	Eh	Th	Eh	Th
1	-	196	4	69	21	34
2	-	135	-	245	11	-
3	21	89	-	134	2	22

4	-	63	13	96	-	-
5	11	261	-	109	-	-
Total	32	744	17	653	34	56

Information:
Eh: Enhalis acoroides
Th: Thalassia hemprichii

Condition of seagrass cover

a. Seagrass Cover

One way to see the condition of the waters, can be seen from the condition of the seagrass itself, one of which is by looking at the seagrass cover. If seen from the results of the study that in Tanjung Balean the average seagrass cover is 40.6%. Whereas at the Boat Mooring the seagrass cover averaged 33.1%. The results can be seen in table 5.

Table 7. Table of percentage of seagrass cover for each station

No	Lokasi	Transek (%)			Rata-rata (%)
		1	2	3	
1.	Tanjung Balean	41,2	43,12	37,5	40,6
2.	Tambatan Perahu	37,5	35,6	26,2	33,1

b. Parameters Environmental

Environmental parameters measured at both locations in this study included temperature, pH, and seawater brightness. As for the measurement results can be seen in table 6.

Table 8. Table of results of measurements of physical and chemical parameters of water, at each station.

Location	Transec	Temperatur (^oC)	Acidity	Brightness (m)
Tanjung Balean	1	30,5	8,3	4,18
	2	29	8,3	3,46
	3	30	8	3,40
Tambatan Perahu	1	35,3	7,56	2,64
	2	32	8	2,18
	3	30	8,3	1,86

Discussion

Description of Seagrass

a. Specimen 1

The first seagrass specimen found in two locations, namely Tanjung Balean and the Tambatan Perahu, was *Enhalus acoroides*. For the morphological structure, there are very large and long leaves compared to other seagrass species, the leaves resemble ribbons. This seagrass also has leaf sheaths, stems and roots with characteristic black hairs around its rhizomes. Not only that, this seagrass also has serrations on the tips of its leaves and can grow on sandy or muddy sand substrates. This is in accordance with what is stated in KepmenLH No. 200 (2004) that *Enhalus acoroides* seagrass has rhizomes with a diameter of more than 10 mm and has stiff hairs. In addition, the length of the leaves ranges from 300-1500 mm and the width of the leaves is 13-17 mm. The large size of the seagrass leaves and the presence of hairs around the leaf sheaths indicate that the type of specimen 1 found was *Enhalus acoroides*.

According to Supriharyono (2007) that the *Enhalus acoroides* seagrass species can thrive in waters with a sand substrate mixed with dead coral fragments or commonly called Death Coral. This is in accordance with what was found in the field that this type of seagrass *Enhalus acoroides* is found in two locations, namely the waters of Tanjung Balean and the Tambatan Perahu which on average have a sandy substrate and coral rubble.

b. Specimen 2

The second seagrass specimen found in two locations, namely Tanjung Balean and Tambatan Perahu, is the seagrass *Thalassia hemprichii*. This seagrass has morphological characteristics of short leaves with ribbon-like shapes and rounded leaf tips, has smaller leaf sheaths and rhizomes compared to the rhizomes of *Enhalus acoroides*, and has black spots around the leaves. On the surface of the leaves there is also a distinctive motif in the form of leaf veins in the form of irregular grid-like boxes. The seagrass species *Thalassia hemprichii* was found in both locations from sandy to crushed rock and muddy sand substrates. According to KepmenLH No. 200 (2004) that the type of *Thalassia hemprichii* has a rhizome with a diameter of 2-4 mm without stiff hairs, a leaf length of 100-300 mm with a leaf width of 13-17 mm. According to Marwanto (2017) seagrass *Thalassia hemrpichii* has short leaves but the leaves are wide, while the base of the leaves is black. According to Sjafrie (2018) seagrass *Thalassia hemprichii* has brown spots on the leaves, the rhizomes are thicker and there are sections along the rhizomes. This is in accordance with what was found, that the seagrass species *Thalassia hemprichii* has segmented rhizomes.

c. Specimen 3

The third seagrass specimen found in Tanjung Balean, is the *Halophila ovalis* seagrass. This seagrass has paired leaf morphology with small petioles and grows on small white rhizomes, the leaves are oval-shaped and elongated and smaller, different from the two types of seagrass previously found. According to Sjafri (2018) that seagrass *Halophila ovalis* has oval or oval-shaped leaves, 8 or more leaf veins, and no hair on the leaf surface. This is in accordance with what was found, because judging by the leaves there are no fine hairs. Meanwhile, according to Hermawan (2017) that the seagrass species *Halophila Ovalis* has small leaves, and paired stalks on each rhizome/rhizome. According to Azkab (2006) that

there are 12 species of seagrass in Indonesian waters, including *Halophila ovalis*, this species is spread in almost all Indonesian waters. According to Waycott (2004) that the seagrass species *Halophila ovalis* is found along the Indo-West Pacific to the Australian region. This type of seagrass *Halophila Ovalis* is also found in the waters of Uwedikan Village, especially in Tanjung Balean.

d. Specimen 4

The fourth seagrass specimen found, found in Tanjung Balean, can be seen from its morphological type, such as the *Cymodocea rotundata* seagrass species. The morphological structure has the characteristics of long straight leaves, with smooth, non-serrated leaf edges and roots growing on rhizomes that spread, horizontally and elongated. The leaves look like ribbons, but with a small size. This seagrass also has leaf sheaths. This type of seagrass can grow on sandy and muddy substrates. *Cymodocea rotundata* is the second most common seagrass species. *Cymodocea rotundata* has leaf pouches that are completely covered with young, sometimes dark leaves, leaves usually emerging from vertical stems, tip smooth and smooth and rounded. The seeds are dark in color with a prominent back. This seagrass is found along the Indo-West Pacific in the tropics (Waycott et al., 2004).

e. Specimen 5

The fifth seagrass specimen, found in Tanjung Balean, can be seen from its morphological type, *Cymodocea serrulata* seagrass. *Cymodocea serrulata* has not very long leaves. This type is almost similar to the seagrass *Cymodocea rotundata*, the difference is that on *Cymodocea serrulata* leaves there are brown lines that extend like horizontal lines, the tips of the leaves form a semicircle, on the edges of the leaves there are teeth and have one leaf bone and have smooth rhizome. According to Waycott (2004) *Cymodocea serrulata* has sash-shaped leaves that are curved with a narrow base and slightly widened towards the end. The serrated leaf tips have a green or orange tint on the rhizomes.

Seagrass Cover

Based on the results of observations and calculations, Tanjung Balean has the highest percentage value on transect 2 with a value of 43.12%, while the Tambatan Perahu has the highest value on transect 1 with a value of 37.5%. Based on observations from the Tanjung Balean location, it has an average closing value of 40.60% while the Tambatan Perahu location has an average closing value of 33.1% (table 7). It can be said from these results that the condition of seagrass cover at both locations is in the medium or less rich category, because the values obtained are between 30-59.9%. Based on the damage quality standard, this is in accordance with the existing conditions at the research location that the seagrass found did not cover all locations. Based on the decision of the Minister of Environment No. 20 of 2004 that closure is said to be good or rich if seagrass cover is > 60%, is said to be moderate or less rich if seagrass cover is 30-59.9% and is said to be damaged or poor if seagrass cover value is <29.9%. However, when viewed from the number of individuals, it looks quite high.

According to Argadi (2003) the low percentage of seagrass cover can be due to the small morphological form of the seagrass species themselves. Referring to Japesda's research (2017) that seagrass cover in Uwedikan Village is based on the percentage of seagrass cover, which dominates the seagrass *Enhalus acoroides*. This is due to the ability of seagrass

Enhalus acoroides to survive. However, based on the results of the study, the percentage of seagrass cover in Uwedikan Village, especially Tanjung Balean and Boat Mooring, was actually dominated by the type of *Thalassia hemprichii*. With a total of 2,169 individuals at the Tanjung Balean (table 5) location and 1,453 at the Tambatan Perahu (table 6). This shows that there has been degradation of the seagrass ecosystem in Uwedikan Village from 2017 to 2022. This degradation of the seagrass ecosystem is thought to be due to fishing activities using trawlers, resulting in damage to the seagrass beds. This assumption is reinforced by Rahmawati's research (2011) that human activities such as the use of beach seines can damage seagrasses on a large scale, where they will be uprooted from their substrate.

Relationship of Water Parameters with Seagrass Conditions

a. Temperature

One of the factors that supports seagrass life is temperature, based on temperature measurements taken at these two locations, a different value is obtained, namely at Tanjung Balean 29--30.5°C while at the Tambatan Perahu the value is 30--35.3°C (table 8). When viewed from the results of temperature measurements, it appears that the temperature of the waters at the Tanjung Balean location is relatively stable, this is because it is still considered the optimal temperature for seagrass growth. This is in accordance with the Decree of the Minister of Environment in 2003, that seagrass plants can live with an optimum temperature range of 28--30°C.

McKenzie *et al*. (2003) stated that seagrass plants can live at temperatures in the range of 5--35°C, and can grow well at temperatures between 25--30°C, if temperatures above 45°C can disrupt seagrass life which can cause death. However, at the boat mooring location, the temperature ranges from 30--35.3°C. This value exceeds the quality standard for seagrass growth, which is 28--30°C. This condition is affected by too hot weather and slightly polluted sea water. According to Poedjirahajoe et al (2013) Temperature can affect the process of photosynthesis. If the temperature is outside the threshold range, then the ability of the photosynthetic process can decrease sharply. According to Marwanto (2017) that temperature will affect seagrasses in three ways, namely respiration, photosynthesis and growth.

b. Degree of acidity (pH)

The value obtained from measuring the degree of acidity (pH) at Tanjung Balean was 8-8.35 while at the Tambatan Perahu it was 7.56-8.3 (table 8). If seen from the results obtained, it is included in good water conditions and in accordance with seagrass growth. According to the Minister of Environment No. 50 of 2004 stated that the quality standard for the degree of acidity is 7-8.5. Nurilahi (2013) states that the degree of acidity in waters in general does not vary much due to the presence of a carbon dioxide system in the sea, which functions as a fairly strong buffer. The health and growth of seagrass beds cannot be separated from the condition of water parameters which can affect seagrass life. The condition of these water parameters is certainly very supportive of the growth process of seagrass beds. According to Minerva *et al*. (2014) stated that environmental parameter factors include temperature, salinity, light, substrate, nutrients, oxygen levels, and tidal conditions which affect the damage to the functional tissues of seagrass plants.

c. Brightness

Based on the measurement results, brightness values were obtained at Tanjung Balean with a range of 3.40--4.18 m and Tambatan Perahu with a range of 1.86--2.64 m. Tanjung Balean waters are still in the good or stable category. This is in accordance with the standard conditions for water quality in seagrass ecosystems stipulated by the Minister of Environment no. 50 of 2004, namely with a value of > 3. Meanwhile, at the Tambatan Perahu location it has a very low brightness value. In accordance with the results of observations that at that location the conditions were very murky. This is due to too much sedimentation, because the substrate is too muddy and friction from fishing boats causes the substrate to dismantle. Light reduction caused by natural processes, such as floods and storms or the impact of human activities, can trigger sedimentation and eutrophication (Larkum *et al*., 2006). According to Halun *et al*., (2002) reduced light and increased mud concentrations can have a negative effect on seagrass growth by increasing the decomposition of organic matter and the oxygen demand of bacteria in sediments.

CONCLUSION AND SUGGESTION

Conclusion

Based on the results of the study the following conclusions can be drawn:

1. The types of seagrass in the Tanjung Balean and Tambatan Perahu locations were found *Enhalus acoroides, Thalassia hemprichii, Cymodocea rotundata, Cymodocea Serullata* and *Halophila ovalis*. *Cymodocea rotundata* and *Halophila ovalis* were not found at the mooring location, while *Enhalus acoroides, Cymodocea Serullata* and *Thalassia hemprichii* were found at both locations.
2. Seagrass cover at the two research locations, namely Tanjung Balean and Tambatan Perahu, is classified as medium or not rich enough because the value obtained is 33.1% - 40.6%.
3. The seagrass ecosystem in Uwedikan Village, especially at the Tambatan Perahu location, is experiencing degradation. This is indicated by the difference in species dominance in 2017, namely seagrass *Enhalus acoroides*, while in 2022 it was dominated by *Thalassia hemprichi*. This departs from the observation that the Tambatan Perahu location is a location directly adjacent to the Shrimp Pond Factory and as a place for fishing boats to rest.
4. The relationship between water parameters and seagrass ecosystems influence each other. Where temperature, degree of acidity (pH) and brightness greatly affect the growth of seagrass. Particularly the temperature measurement at the Boat Mooring location, with a range of 30-35.3°C. This value exceeds the quality standard for seagrass growth, namely 28-30°C. This is because, these conditions are affected by the weather that is too hot and the sea water is slightly polluted.

Suggestion

Based on the results of a study entitled "Description and Level of Degradation of Seagrass Bed Ecosystems in the Coastal Area of Uwedikan Village, Kec. East Luwuk, Kab. Banggai" is still very far from being perfect, because there are only two locations that are used as research objects. This of course only describes the condition of the seagrass beds in Uwedikan Village, while there are still many locations that have not been explored. So that in the future it is necessary to research and study seagrass beds in all locations of Uwedikan

Village in order to obtain overall data on the condition of the seagrass beds and examine the distribution of the seagrass beds themselves.

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