REPORT

TRAINING OF UNEP-CMS QUESTIONNAIRE SURVEY METHODS AND SEAGRASS MONITORING METHODS

This Project is executed by the Mohamed bin Zayed Species Conservation Fund, with financing from the GEF, implementation support by UNEP and technical support from the CMS Dugong MoU Secretariat.

FOREWORD

Duyung (*Dugong dugon*) or dugong is one of 35 marine mammals that often be found in seagrass habitat. It is one of marine animals that is protected by law, both nationally and internationally. Efforts for conserving dugong and its habitat in Indonesia are not only done by government, but also supported by any other organizations, like United Nation Environment Programme-Conservation Migratory Species (UNEP-CMS) who collaborated with Muhamed bin Zayed Species Conservation Fund (MbZ) through Dugong dan Seagrass Conservation Project.

ID3 Implementations in Kotawaringin Barat must collaborate with scholars regarding academical-related topics. In this thing, WWF Indonesia collaborated with Antakusuma University (UNTAMA) with trainings for students that hopefully would help them conducting research which involves dugong and seagrass in Kotawaringin Barat. The training was held in UNTAMA, Pangkalan Bun, and the field practice was conducted in Teluk Bogam Village at 21-24 October 2017. Through this training, hopefully there would be commitments from UNTAMA to actively participate at dugong and seagrass conservation program in Kotawaringin Barat.

Kotawaringin Barat, October 2017

Author

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1. INTRODUCTION

1.1. Background

Based on The International Union for Conservation of the Natural Resources (IUCN), dugong (*Dugong dugon*) is one of vulnerable species. Meanwhile, Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) includes dugong into Appendix 1 which means it could not be traded at any kind. Dugong in Indonesia itself is protected by Government Law No. 7 year 1999, and is one of twenty priority species that the Ministry of Maritime Affairs and Fisheries had made targets of.

In efforts of dugong and its habitat conservation in Indonesia, Ministry of Maritime Affairs and Fisheries (KKP) cooperated with Indonesian Institute of Sciences (LIPI), Bogor Agricultural University (IPB), and WWF Indonesia which are supported by United Nation Environment Programme-Conservation Migratory Species (UNEP-CMS) and *Muhammed bin Zayed Conservation* (MbZ) collaborated in a program called Dugong and Seagrass Conservation Project (DSCP). This program has been going in Indonesia since 2016 and expected to finish at the end of 2018, which consisted of three main activities:

1. Proposal 1 (ID1) *Strengthen and Operationalize National Policy Strategy and Action Plan for Dugongs and Seagrass Conservation*,
2. Proposal 2 (ID2) *Improving National Awareness and Research of Dugong and Seagrass in Indonesia*, and
3. Proposal 3 (ID3) *Community Based Conservation and Management of Dugong and Seagrass Habitat in Bintan, Kotawaringin Barat, Alor and Tolitoli.*

One of DSCP Indonesia's activity that became WWF Indonesia's concern is to implement ID3 Proposal in West Kotawaringin- Central Kalimantan, in which has to manage and conserve dugong and seagrass with community-based. This ID3 program consists increasing community's capacity as an attempt to suppress the threats toward dugong and seagrass, also to increase community's active participation in preserving dugong and seagrass.

Local community's participation by giving information regarding dugong and seagrass would be very helpful in achieving program's target. By questionnaire UNEP-CMS, it would give local's perspective about dugong and seagrass. While seagrass observation to know seagrass' condition and also give a review about dugong's presence in the water.

Raising community's participation in West Kotawaringin, mainly academics, WWF-Indonesia collaborated with Antakusuma Univerisity (UNTAMA) will execute community participative survey program, with UNEP-CMS questionnaire and by seagrass ecosystem observation by giving opportunities to students who are interested to do field practice (PKL) and research.

In efforts to raise student's comprehension and roles toward dugong and seagrass conservation, a training is necessary to understand more about UNEP-CMS questionnaire, and to identify, to review, and to analyze seagrass ecosystem.

1.2. Objectives

The objective of this event is to raise local academics capacity (lecturers and students from Antakusuma University) in order to support seagrass observation and UNEP-CMS survey questionnaire.

1.3. Training Concept

The training will be divided into two topics. First topic is about seagrass observation, and the second topic is UNEP-CMS questionnaire introduction.

Table 1. Training Topics

Topics	**Speakers/ Trainers**
Seagrass Ecosystem Introduction	Andri Irawan (Indonesian Institute of Sciences/ LIPI)
Discussion	
Survey preparation: - Station determination - Work schedule making - Tools and materials preparation - Work safety	
Seagrass data obtain: - Data sheet preparation - Transect placement - Coverage calculation	
Data analysis: - Seagrass coverage calculation - Seagrass coverage (per species) calculation	
Field practice	Andri Irawan (Indonesian Institute of Sciences/ LIPI)
Analyze and Processing Data	
UNEP-CMS Questionnaire Introduction	Casandra Tania (WWF-Indonesia)
Key Features Inside Questionnaire	
Survey Design Considerations and Akvo Flow Introduction	
Akvo Flow Overview	
Exercise Session	Casandra Tania (WWF-Indonesia)
Analysis and Input Data	

2. EVENT EXECUTION

The training has been attended by 18 participants from Water Resource Management, Agriculture Faculty, Antakusuma University which consists 10 people of 2014 year, 1 person from 2015 year, 2 people from 2016 year, and 5 people from 2017 year. The training was opened by greetings from the Dean of Agriculture Faculty, Antakusuma University (Geger Suharmono), and then opened by Head of Academic and Student Affairs Antakusuma University, Joni Gulton.

2.1. Material and Methods of Seagrass Observation

On the first day, the participants were given materials about seagrass introduction, the difference between seagrass and seaweed, seagrass species that of found in Indonesia, and the reasons why seagrass observation should be done. Later on, the participants were given survey participation stages, starting with stations determination, work schedule making, tools preparation, and work safety. The next on, participants were explained how to obtain data in the field, starting from transect placement, quadrant transect observation, and dugong's feeding trail observation.

On the second day, field practice was held in Teluk Bogam Village. The participants were divided into three groups for three sub-station. The observation was done when it was tidal, so it would ease the participant in doing the observation. The water was all turbid therefore it hardened the observation process. After the field observation was done, the data was directly input to Microsoft Excel so the participants would get a glimpse on how to analyze the obtained data.

2.2. UNEP-CMS Questionnaire Material and Method

For UNEP-CMS questionnaire material, participants were given knowledge about interview survey design, starting from its objectives, program trials, and field condition checking. Participants also were explained the UNEP-CMS questionnaire structure, starting from background, dugong and seagrass bycatch, community perception, fisheries information, turtles, cetaceans, and respondent's feedback, also documentation. Hopefully, at the end

we could conclude respondent's background, fisheries detail, and dugong's sighting and distribution. The participants were also given about survey design that consisted of stratified and random sampling. Then, the participants were explained about Akvo Flow application usage to undergo survey, input data stages, and survey simulation using Akvo. The stages were defined from Akvo Flow application installation, user account registration, setting device identifier, how to download survey form, data collection, submit form, and data base checking.

On last day, it began with data analysis that had been downloaded from server. The participants were explained how to use pivot table in Microsoft Excel to process data survey to make it all easier and faster. Then, they were showed how to input booklet data from individual server and also the map distribution, both using Microsoft Excel and mapping program.

3. TRAINING RESULT

3.1. Pre-Test and Post-Test Result

Figuring out the participant's rising comprehension after the training, the participants were obliged to fill the pre-test before the class begin and the post-test after the training was finished. Based on pre-test and post-test result, it could be concluded that generally, participant's knowledge about the topics has risen significantly (see Table 2).

Table 2. Pre-test and Post-test Result

Topics	Average Score		Rise Percentage
	Pre-test	*Post-test*	
UNEP-CMS Survey Questionnaire	43/100	71/100	65%
Seagrass Observation Method	32/100	59/100	84%

For the seagrass topic, participant's comprehension has risen significantly, with 84% rise percentage. It could be seen that when they did field practice, the participants were easily applied all of the materials that they have been given, from transect placement, coverage percentage determination, seagrass species identification, until data input and analysis.

On questionnaire topic, the participant's comprehension also has risen significantly with 65% percentage. Basically, the participants had understood the questionnaire very well, and had operated Akvo Flow application very well. The participants were constrained by the boredom they found when they did interview simulation with its many questions. Besides, the participants also were able to analyze the data that they obtained from the interview.

3.2. Training Follow-Up

The participants were asked to support Dugong and Seagrass Conservation Project (DSCP) Indonesia program in conducting UNEP-CMS questionnaire survey and seagrass observation on determined locations. The participants were pushed to conduct Field Work Practice (PKL) on this program.

The participants who wanted to conduct that were 10 people. Later, there would be another meeting to decide the title that could be taken, adjusted with the topics from UNEP-CMS survey questionnaire and seagrass coverage observation.

4. CLOSURE

UNEP-CMS survey questionnaire methods training and seagrass observation methods hopefully could give huge contribution to dugong and seagrass conservation in West Kotawaringin regency. By having this training, we hoped there would be any supports and commitments to conduct dugong and seagrass conservation.

APPENDIX

Appendix 1. Participant Attendance List

No	Participant Name	Saturday 21/10/17	Sunday 22/10/17	Monday 23/10/17	Tuesday 24/10/17
1	Agustina	O	O	O	O
2	Elly Zia Ulfatin	O	O	O	O
3	Bimo Pangestu	O	O	O	O
4	Ryan Taufiq Hidayat	O	O	O	O
5	Siti Jubaidah	O	O	O	O
6	Tia Rumica	O	O	O	O
7	Eva Nurbaiti	O	O	O	O
8	Faturrahman	O	O	O	O
9	Ade Maulani	O	O	O	O
10	Jelesi Manong Esra	O	O	O	O
11	Masita	O	O	O	O
12	Riyanto Ardi	O	O	O	O
13	Dino Rendra	O	O	O	O
14	Seftian Ade Bela	O	O	O	O
15	Khusnul Khatimah	O	X	O	O
16	Martalena	O	O	O	O
17	Efrin Setia Putra	O	O	O	O
18	Septiani Rahayu Sri W	X	O	O	X

Appendix 2. Seagrass Topic

Andri Irawan
Pusat Penelitian Laut Dalam – LIPI
Jl. Y. Syaranamual, Poka, Ambon
Email: andri.irawan@lipi.go.id

LIPI
LEMBAGA ILMU PENGETAHUAN INDONESIA
(INDONESIAN INSTITUTE OF SCIENCES)

Metode Pemantauan Padang Lamun DSCP

www.lipi.go.id

Mengenal Ekosistem Lamun

- Ekosistem pesisir: Coral, lamun & mangrove
- Lamun
  - lamun vs rumput laut
  - Lamun → tumbuhan berbunga di laut
  - Jenis lamun ???
- Padang Lamun (vegetasi lamun)
  - mono vs multi
- Ekosistem Lamun
  - Interaksi biotik & abiotik

www.lipi.go.id

Mengenal Ekosistem Lamun: Peran & fungsi

- Produsen primer
  - Lamun (autotroph): fotosintesis → biomassa → dasar rantai makanan
- Habitat biota
  - Daerah perlindungan; Daerah asuhan; *Feeding ground*
- Penangkap sedimen serta penahan arus & gelombang
- Pendaur zat hara

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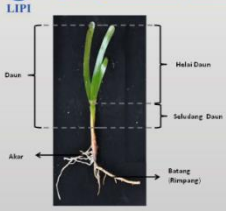
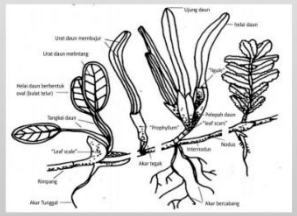
Mengenal Ekosistem Lamun: Morfologi lamun





Variasi morfologi tumbuhan lamun
(Sumber gambar Lanyon, 1986)

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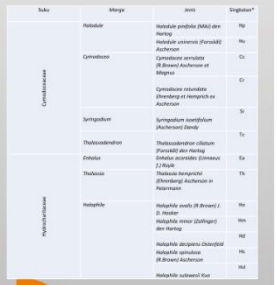
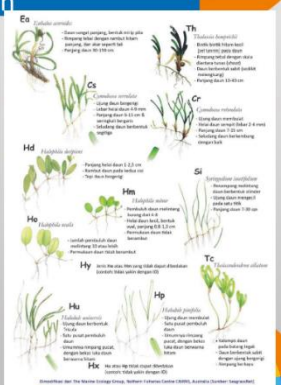
Mengenal Ekosistem Lamun: Identifikasi lamun

- Jenis lamun di Indonesia





Mengenal Ekosistem Lamun: Monitoring lamun

- Mengapa perlu dilakukan monitoring lamun??
- Karena kegiatan ini berperan penting dalam pengelolaan lingkungan pesisir, terutama dua aspek, yaitu:
  - kegiatan ini merupakan suatu metode untuk peningkatan praktik pengelolaan dan dapat menyediakan informasi mengenai status dan kondisi padang lamun.
  - data dan informasi mengenai penurunan padang lamun di Indonesia masih terbatas sehingga pengamatan luasan padang lamun yang rusak atau hilang menjadi sangat penting.

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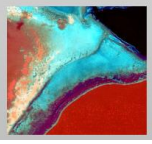
Persiapan Survei

- Penentuan stasiun
- Pembuatan jadwal
- Persiapan bahan & alat
- Keselamatan kerja

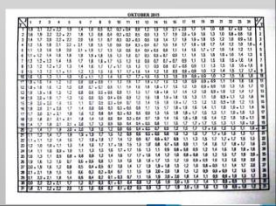
Persiapan Survei: 1. Penentuan Stasiun

- Lihat peta dasar atau citra satelit
- Cari lokasi yang kira-kira merupakan vegetasi lamun
- Cari informasi awal
- Untuk kasus hubungan dengan habitat dugong, cari informasi awal kemunculan dugong di lokasi mana saja
- Masukan titik ke GPS

Persiapan Survei: 2. Pembuatan jadwal kerja

- Cari informasi cuaca di lokasi tujuan
- Lihat dan/atau cari informasi pasang surut di lokasi tujuan, cari waktu ketika waktu surut rendah ada di siang hari dan periodenya cukup lama
- Sesuaikan jadwal kerja dengan anggaran, personil dan logistic yang tersedia
- Cari moda transportasi
- Urus perijinan



Persiapan Survei: 3. Persiapan bahan & alat

- Alat Pelindung Diri
- Peralatan P3K
- Perahu
- GPS
- *Water quality checker*
- Peralatan *Snorkeling* (*masker, snorkle, fin*)
- Peralatan *SCUBA Diving* (*air tank, regulator, BCD*)
- Lembar Data (pada kertas anti air, Lampiran 3.)
- Pinsil 2B (lebih baik tipe benzia/cabut-cabut)
- Kamera underwater
- Roll meter (100-200m)
- Kuadrat (50 x 50 cm)
- Plastik & label (jika dibutuhkan sampling)

Persiapan Survei: 4. Keselamatan kerja

- Siapkan semua peralatan dan bahan lapangan yang dibutuhkan sebelum berangkat ke lapangan, termasuk peralatan K3 (APD, P3K, alat komunikasi dsb.)
- Pelajari periode pasang surut untuk menentukan waktu terbaik ke lapangan
- Pakai Alat Pelindung Diri (APD) dan lakukan tindakan pencegahan yang bersifat pribadi (misalnya pemakaian tabir surya, anti serangga, konsumsi vitamin dsb.)
- Pastikan anda mengetahui nomor kontak yang bisa dihubungi untuk kondisi darurat
- Ketika bepergian menggunakan perahu pastikan rompi pelampung selalu dipakai
- Pastikan anda tidak bekerja sendirian di lapangan
- Pastikan kondisi lapangan aman sebelum memulai kegiatan, dan hentikan pekerjaan bila kondisi menjadi berbahaya (misalnya pasang terlalu tinggi, arus kencang, kehadiran hewan berbahaya, dll.)
- Bila anda berencana melakukan kegiatan di lokasi yang jauh dari lokasi awal, pastikan anda memliki waktu yang cukup untuk bekerja dan kembali dalam kondisi yang aman.
- Bila anda tiba-tiba berhadapan dengan hewan yang berbahaya, usahakan jangan panik sehingga memancing perhatian hewan tersebut. Jauhi secara perlahan dan cari lokasi yang lebih aman.
- Bila terjadi kecelakaan di lokasi kegiatan, segera lakukan pertolongan pertama, gunakan alat komunikasi untuk meminta pertolongan pada pimpinan rombongan atau pihak lain yang terkait dan segera bawa korban untuk mendapat pertolongan lebih lanjut.

Pengambilan data lamun

- Pemetaan luasan
- Transek monitoring
- Pengamatan jejak pakan

Pengambilan data lamun: 1. Penyiapan lembar data

a. Tabel pengamatan pemetaan luasan lamun (dalam kertas underwater/newtop)

No. Waypoint/ Kode GPS	Lintang	Bujur	Keterangan (tutupan lamun, jenis dominan, tipe substrat dll)

Pengambilan data lamun: 1. Penyiapan lembar data

b. Tabel pengamatan transek monitoring (dalam kertas underwater/newtop)

Kabupaten : Tanggal :
Stasiun : Waktu :
Pengamat :
Informasi umum: cuaca : kedalaman : kejernihan : sungai
mangrove : dermaga : penduduk : aktivitas

Transek	koordinat	Substrat	Tutupan (%)	Species domination									Biota lain
Ke-	M			Ea	Th	Cs	Cr	Hu	Hp	Ho	Si	Tc	++	
I.1	0													
I.2	5													
I.3	10													
I.4	15													
I.5	20													
I.6	25													
I.7	30													
I.8	35													
I.9	40													
I.10	45													
I.11	50													
I.12	60													
I.13	70													
I.14	80													
I.15	90													
I.16	100													
II.1	0													
II.2	5													
II.3	10													

Pengambilan data lamun: 1. Penyiapan lembar data

c. Tabel pengamatan parameter lingkungan (dalam kertas underwater/ newtop)

Lokasi	Suhu (°C)	Salinitas (psu)	pH	DO (mg/L)	TDS (g/L)	Kedalaman (cm)

Pengambilan data lamun: 1. Penyiapan lembar data

d. Tabel pengamatan jejak makan (dalam kertas underwater/ newtop)

Lokasi	Koordinat	Dimensi P (cm)	Dimensi L (cm)	Kwadrat	Jenis lamun	Biomassa bawah (gBK/m²)	Biomassa atas (gBK/m²)	Biomassa total (gBK/m²)
				B1				
				B2				
				B3				
				B4				
				B5				

Pengambilan data lamun: 2. Peletakan transek

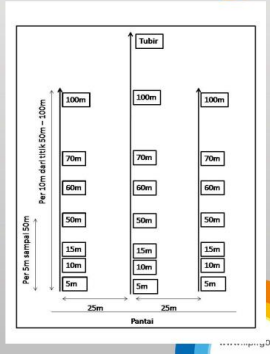
PEMETAAN LUAS

- Pada padang lamun yang teridentifikasi adanya kerberadaan dugong
- Pengamat mengelilingi area padang lamun dengan melakukan marking pada GPS setiap 5 menit dan mengambil foto

Pengambilan data lamun: 2. Peletakan transek

TRANSEK MONITORING

- Adaptasi Seagrass Watch (global) & COREMAP CTI (Indonesia)
- DSCP → dilakukan pada lokasi yang dimanfaatkan oleh dugong
- Personil minimal 3 orang (pengamat, pencatat & pengukur kualitas air)



Pengambilan data lamun: 2. Peletakan transek

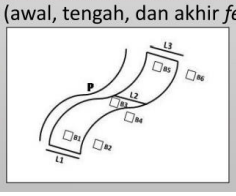
TRANSEK MONITORING

- Pada setiap transek dilakukan pendataan jenis dan tutupan lamun dengan menggunakan kuadrat berukuran 50 x 50 cm pada sisi kanan garis transek.
- Pada setiap kuadrat dicatat jenis dan tutupan (%) lamunnya serta tipe substratnya.

Pengambilan data lamun: 2. Peletakan transek

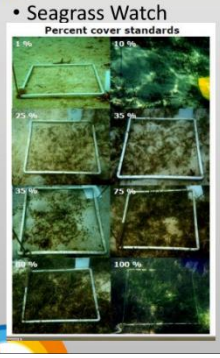
FEEDING TRAIL

- estimasi jumlah individu dugong yang ada di wilayah tersebut dan seberapa besar biomassa yang dikonsumsi oleh mereka
- Pengambilan sampel biomassa dilakukan dengan kwadrat berukuran 20 x 20 cm, di luar dan di dalam *Feeding trail*, pada tiga titik (awal, tengah, dan akhir *feeding trail*)

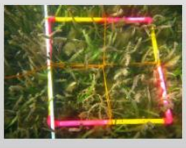


Analisis data

- Seagrass Watch



COREMAP CTI



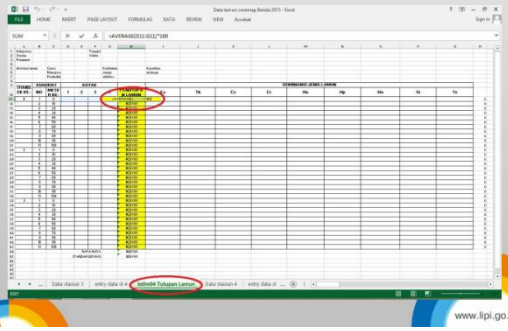
4	3
1	2

50 cm

Kategori	Nilai Penutupan Lamun (%)
Tutupan Penuh	100
Tutupan ¾ kotak kecil	75
Tutupan ½ kotak kecil	50
Tutupan ¼ kotak kecil	25
Kosong	0

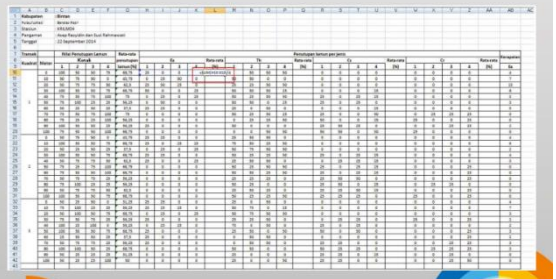
Analisis data: 1. Perhitungan tutupan

- Contoh model COREMAP CTI



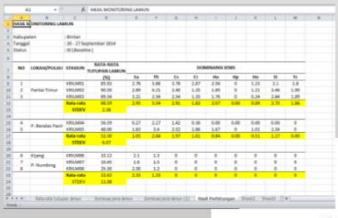
Analisis data:
2. Perhitungan tutupan perjenis

- Contoh model COREMAP CTI



Analisis data:
3. Penentuan kondisi/status

- Contoh model COREMAP CTI



Persentase penutupan (%)	Kategori
0 – 25	Jarang
26 – 50	Sedang
51 – 75	Padat
76 - 100	Sangat Padat

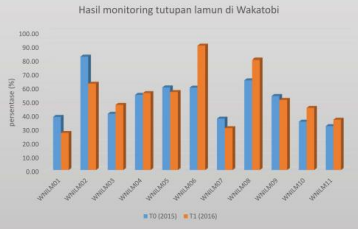
Lampiran II
Keputusan Menteri Negara Lingkungan Hidup
Nomor : 200 Tahun 2004
Tanggal : 13 Oktober 2004

STATUS PADANG LAMUN

KONDISI		PENUTUPAN (%)
BAIK	KAYA/SEHAT	≥ 60
RUSAK	KURANG KAYA/KURANG SEHAT	30 – 59,9
	MISKIN	≤ 29,9

Analisis hasil monitoring

- Contoh hasil monitoring



- Sekian dan terimakasih

Appendix 3. Questionnaire Topic

UNEP/CMS OFFICE - ABU DHABI

Desain Survei Wawancara Dugong

Tujuan

- Mengembangkan/ meningkatkan sebuah proses perolehan data yang murah dan sesuai standar yang menyediakan informasi yang kuat mengenai kehadiran dan pemeliharaan dugong, serta interaksinya dengan ikan- ikan skala kecil.
- Mengujicobakan program ke banyak negara melalui beberapa proyek percontohan daerah.
- Mengecek kondisi sebenarnya di lapangan menggunakan pengetahuan yang telah ada.

Evolusi Survei

- Membangun hasil dari Duke/ Project GLOBAL Rapid Bycatch Assessment
- Dikembangkan pada seuah workshop di Singapura pada tahun 2011 dengan para ahli survei dan penangkapan dugong
- Diulas oleh para ahli sosial sains
- Diuji pada empat negara
- Direvisi lebih dari 30x sebelum versi akhir dikeluarkan
- Direvisi dan diperbaharui terus menerus mengikuti perkembangan

Tim Perancang

Nicolas Pilcher, Helene Marsh, Donna Kwan, Ellen Hines, Himansu Das, Kongkiat Kittiwattanawong, Louisa Ponnampalam, John Reynolds, Patricia Davis, Kanjana Adulyanukosol, Rebecca Lewison, Saifullah Jaaman, Jeff Moore, Lisa Campbell, Grant Murray, John Ben, Mariana Fuentes

Struktur Kuisioner

- Latar belakang narasumber
- Penangkapan-penangkapan tidak disengaja dugong
- Persepsi
- Usaha perikanan
- Penyu
- "Cetaceans" lain
- Timbal balik yang rahasia

Fitur- fitur Kunci

- Project Manual menunjukkan data spasial yang didigitalisasi (menggunakan Google Earth) dan analisis GIS
- Data Upload Excel Sheet mengautomisasi analisis basis data dan presentasi
- Questionnaire dapat disesuaikan untuk mendapatkan informasi yang dibutuhkan
- Mudah digunakan
- Fleksibel

http://www.cms.int/species/dugong/index.htm

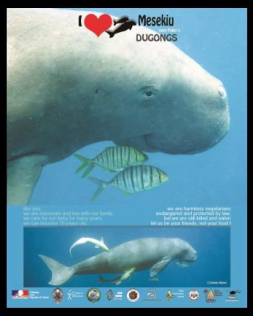
> Notice Board > Standardised Dugong Catch/By-catch Questionnaire

Komponen Survei

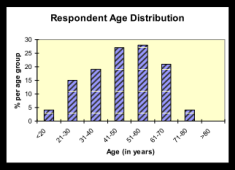
- Kuisioner (menunjukkan latar belakang narasumber, detail perikanan, dan informasi penglihatan, penangkapan, serta distribusi dugong).
- Excel data upload workbook
- Project Manual
- Analisis Data Terautomisasi dan Terstandarisasi

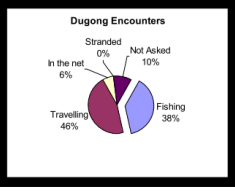
Penggunaan Survei

- Digunakan di empat proyek daerah
- Pertama kali diujicobakan di Asia Tenggara, lalu Kepulauan Pasifik, lalu SWIO (Southwest Indian Ocean), sekarang di Asia Selatan
- Diterjemahkan ke banyak bahasa
- Digunakan di Amerika Selatan untuk Lumba-lumba dan di Carribbean untuk Manatee



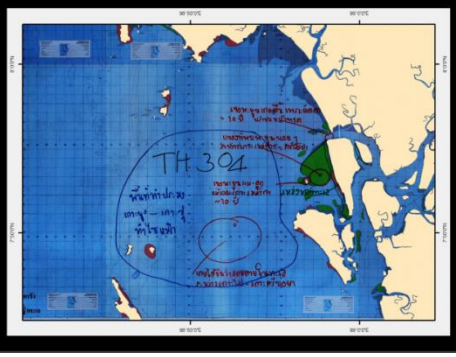
Penggunaan Terbaru



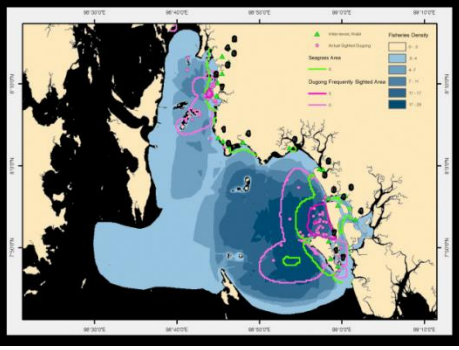


Country	Questionnaires
Kenya	75
Madagascar	295
Mozambique	146
Tanzania	206
Sri Lanka	239
Bangladesh	68
India	2017
Cambodia	200
Thailand	622
Vietnam	400
Myanmar	151
Malaysia	580
Philippines	240
Palau	201
PNG	350
Solomon Islands	109
New Caledonia	254
Vanuatu	12
Total	**6153**

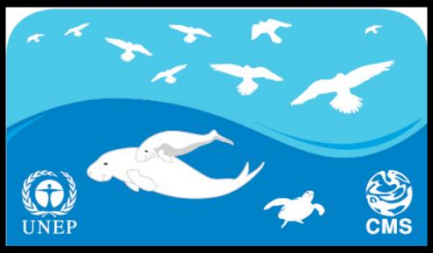
Peta Hasil Wawancara



Identifikasi Hotspot/ Analisis

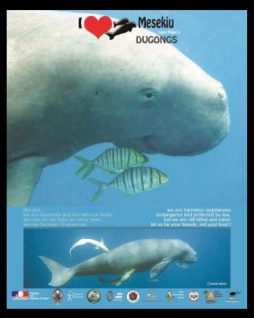


Merancang Protokol Sampling



Rancangan Survei

- Sampling Bertingkat
- Usaha dan Efisiensi
- Pemilihan Acak



Usaha vs. Kerepresentatifan

- Sebuah tutupan sebanyak 10% secara menyeluruh adalah sebuah tujuan yang sehat
- Pada komunitas lebih besar mengurangi % umur
- Pada komunitas lebih kecil meningkatkan % umur
- Usaha bervariasi bergantung daerah
- Gunakan akal sehat!

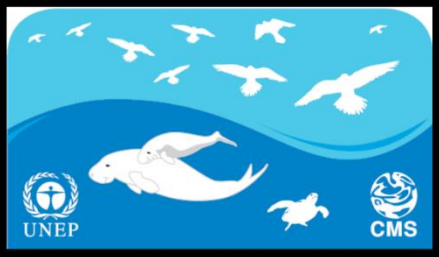
Sampling Bertingkat

- Perlu menyeimbangkan usaha survei pada tempat yang kita ketahui dan tempat yang kita tidak ketahui
- Sebuah nol memiliki nilai yang sama dengan sebuah satu
- Perlu mengkonfirmasi apa yang kita pikir kita tahu, dan mencari tahu apa yang kita tidak tahu
- ~80% pada area diketahui, ~20% pada area tidak diketahui

Sampling Acak

- Menghilangkan bias
- Tingkat daerah
- Tingkat nelayan
- Penting untuk mengekstrapolasi data
- Dibutuhkan untuk transparansi
- Dibutuhkan untuk penjelasan yang jelas akan apa yang disurvei dan tidak disurvei

Menggunakan Project Results



United Nations Environment Programme

Convention on the Conservation of Migratory Species of Wild Animals

UNEP

CMS

UNEP/CMS OFFICE – ABU DHABI

United Arab Emirates

STANDARDISED DUGONG CATCH/BYCATCH QUESTIONNAIRE

Interviewer Name: Dolt Write Date: 4/10/10 Data Sheet Serial Number: AU012

Town: Dungongara Province: Qld

INTRODUCTION STATEMENT

Note: Reading this statement to the interviewee is compulsory. It ensures all interviews are treated equally.

My name is Dolt Write. I work for a project run by the Dugong Foundation which is an organization based in OZ (insert location) that supports research to help protect the ocean for fishers and wildlife. The goal of this project is to learn more about capture of dugongs and any other marine wildlife in coastal fisheries of Dungongara (insert location). In most countries where dugongs and other marine mammals and sea turtles occur, numbers are small and believed to be declining. If we wait too long before initiating conservation actions, they will have disappeared before we get the data to understand the problem. We need to be able to identify the areas where the likelihood of dugongs being killed is greatest due to hunting, capture in fishing gear and vessel strikes, so that dugongs can be protected

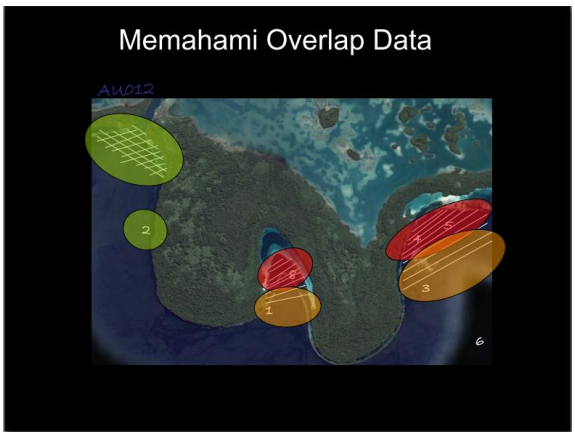
Skala peta yang tepat!

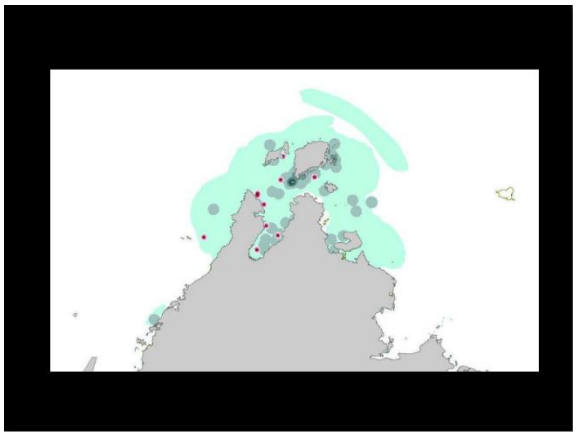
Merekam Terlihatnya Dugong

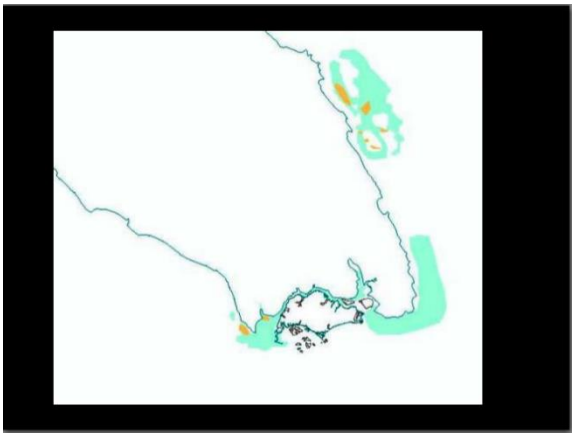
AU012

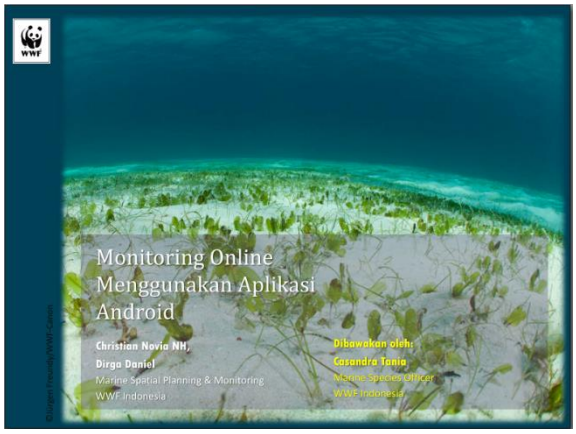
Survey ID Number	Sighting Record #	# / Type Individuals seen	Habitat	Size S,L	Mother - Calf Pair Y / N	Day / Night	Year	Month	Dead / Alive	Cause	Condition	Accidental / Direct	Reported Y / N	Notes
AU012	1	1 Dugong	S	L	N	D	'09	Mar	A	-	-	-	N	
AU012	2	1 Dugong	S	L	N	D	'09	Mar	A	-	-	-	N	
AU012	3	1 Dugong	S	L	N	D	09	Mar	A	-	-	-	N	
AU012	4	3 Dugong	S	LLL	N	D	'10	Mar	A	-	-	-	N	
AU012	5	2 Dugong	D	LS	Y	D	'10	Apr	A	-	-	-	N	
AU012	6	1 Turtle	D	L	N	D	'10	Apr	A	-	-	-	N	
AU012	7	1 Dugong	S	L	N	D	'10	Apr	A	-	-	-	N	
AU012	8	2Dug pair	S	L	N	D	'10	Mar	D	D	P	-	N	Missing ear tag


Merekam Aktivitas Perikanan
AU012
Low season (Oct-Mar) fishing
High season (Apr-Sep) fishing - gillnets!


Memahami Overlap Data
AU012







Mengapa Online

- Memperkecil resiko kerusakan data
- Memotong alur informasi yang panjang
  (pengambilan data lapangan – input – analisa – reporting)
- Efisiensi penggunaan kertas
- Peralatan minimal, fungsi maksimal
- Validasi data dan survei lapangan

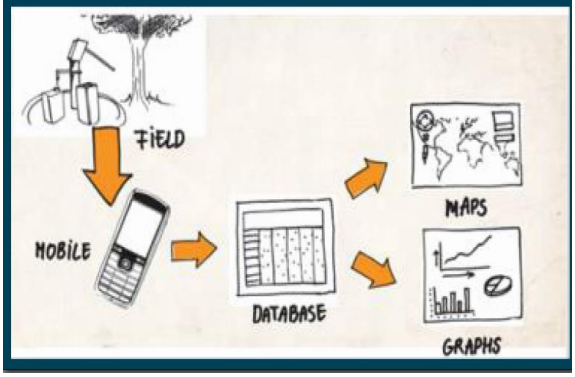
Berbagai Platform Survei Online

- MAGPI
- ODK
- EpiCollect
- EpiSurveyor
- Collector for Arcgis
- **Akvo FLOW**
- Kolekin

Mengapa Akvo FLOW

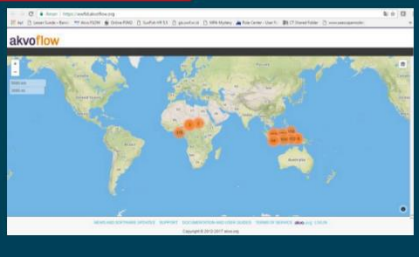
- Support untuk kebutuhan pengumpulan data
- Mudah digunakan
- Desain formulir survei yang sesuai dengan kebutuhan survei lapangan
- Analisis data dan pengembangannya lebih mudah dilakukan (webgis, database query, statistic dll)

Alur Pengambilan Data Akvo Flow



Akvo FLOW

- Dashboard [wwfid.akvoflow.org]
- Input [akvo flow apk]

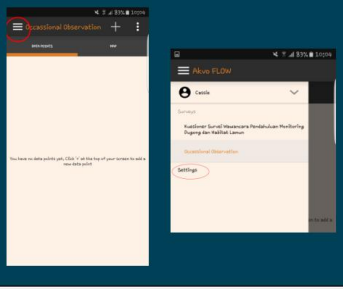


Tahapan Input Data dan melakukan Survei melalui AKVO Flow 2.2.0

1. Install Aplikasi AKVO Flow
2. Registrasi Akun User
   i.e. Biasanya nama User
3. Setting device identifier
   i.e. Untuk nama gawai yang kita gunakan

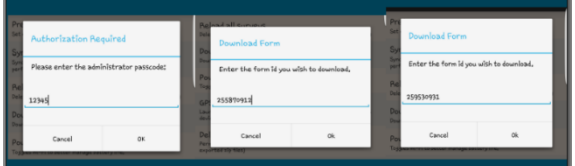
Tahapan Input Data dan melakukan Survei melalui AKVO Flow 2.2.0

4. Download Form Survei



Tahapan Input Data dan melakukan Survei melalui AKVO Flow 2.2.0

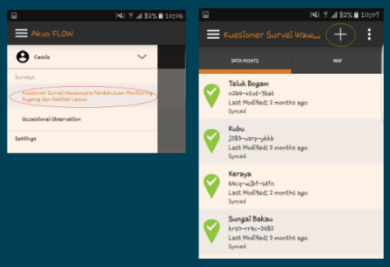
4. Download Form Survei



Form ID: Lokasi Survei (255870912)
Survei Dugong (259530931)

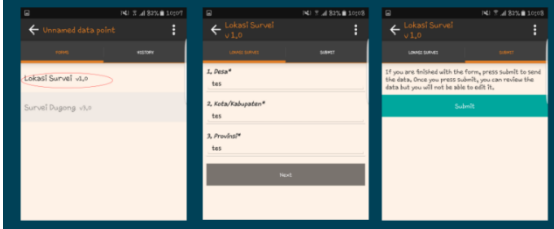
Tahapan Input Data dan melakukan Survei melalui AKVO Flow 2.2.0

5. Pengumpulan Data



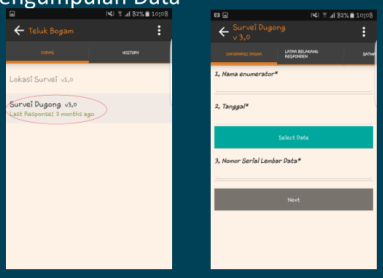
Tahapan Input Data dan melakukan Survei melalui AKVO Flow 2.2.0

5. Pengumpulan Data



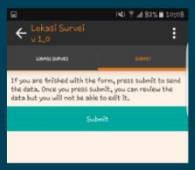
Tahapan Input Data dan melakukan Survei melalui AKVO Flow 2.2.0

5. Pengumpulan Data



Tahapan Input Data dan melakukan Survei melalui AKVO Flow 2.2.0

6. Submit form



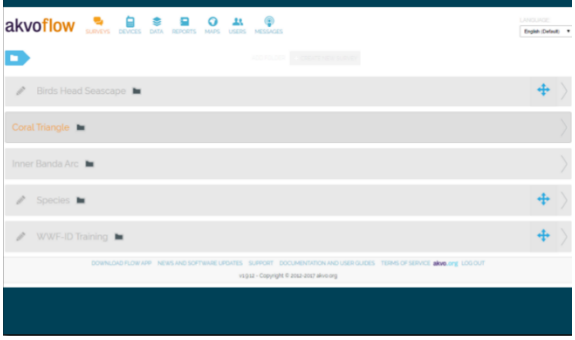
7. Pengecekan database dalam web (tergantung dari pengaturah privacy data)

Output AkvoFlow

1. Raw Data (format excel)
2. Geographical shape (format gjson)
3. Multimedia (Foto dan Video)
4. Mendukung integrase kedalam website (API)

Dashboard Akvo FLOW

Tampilan Dashboard Akvo FLOW



Akses Dashboard

- Manajerial folder dan akun surveyor
- Penyusunan Formulir Survei
- Manajemen Pengiriman Formulir survei
- Export Raw data, Short Report dan Database

Login Dashboard???

- Menggunakan account google

Koordinator survei memberitahukan kepada admin siapa calon *user* kepada admin [akses ke survei mana & tipe otoritas]

Struktur Survei

- Folder survei
- Survei
- Form
- Grup pertanyaan
- Tipe pertanyaan
- Fitur pertanyaan

Folder survei

survei-survei dlm dashboard disimpan dalam folder agar teratur

- Folder dapat berisi sub-folder
- Fungsinya sama seperti pengaturan folder dalam windows explorer

Survei

Digunakan untuk mengumpulkan data

- Berisi pertanyaan sesuai tujuan pengumpulan data
- Tersimpan dalam folder
- Dalam satu folder dapat berisi lebih dari satu survei

Form

Lembar pertanyaan

- Satu survei dapat berisi lebih dari satu form

untuk tipe data monitoring, kita dapat membuat form tambahan berisi informasi yang berbeda dengan subjek survei, misalnya form registrasi yang berisi informasi dasar

Grup Pertanyaan

- Setiap form berisi rangkaian pertanyaan.
- Pertanyaan dikelompokkan dalam grup/kelompok.
- Setiap grup pertanyaan akan tampil dalam “tab” yang berbeda di layar tablet/telp pintar.

Tipe Pertanyaan

- **Free text**: pertanyaan dengan jawaban berupa teks bebas (huruf, angka, simbol)
- **Option**: pertanyaan berisi jawaban pilihan
- **Cascade**: pertanyaan dengan pilihan jawaban hirarki seperti kabupaten, kecamatan, desa

Tipe Pertanyaan

- **Photo & Video**: memberikan pilihan untuk mengambil foto atau video
- **Date**: menampilkan pilihan tanggal dalam format DD-MM-YYYY
- **Barcode**: memberikan pilihan untuk scan barcode

Fitur Pertanyaan

- **Tooltips**: pembuat survei dapat memberikan panduan pengisian form disini.
- **Dependent**: satu pertanyaan yang tergantung pada jawaban pertanyaan sebelumnya.
- **Mandatory**: pertanyaan ini wajib diisi [jika tidak diisi survei tidak dapat disubmit]

Informasi

- http://flow.readthedocs.org/en/latest/docs/dashboard/surveys/2-survey-folders.html
- ddaniel-temp@wwf.id
- daniel.dirge@gmail.com
- ctania@wwf.id

akvoflow

Appendix 4. Pre-test and Post-test Questions for Seagrass Observation Methods

1. Name several coastal ecosystems!
2. What is the difference between seagrass and seaweed?
3. Explain minimum 3 roles of seagrass ecosystem!
4. Based on its morphology, name minimum 3 of seagrass plant organs!
5. Based on these categories, decide what species of this seagrass!

"It has pale color of rhizomes, and from each of its books appeared a couple of leaves which has eggplant form, sustained by its stem. There's no smooth hair on its sides. Vessels/ veins are lied across in less than 8 pairs".

6. Why seagrass observation needs to be done?
7. What things that need to be prepared before conduction seagrass observation in the field?
8. How to determine location/ spots for monitoring transects?
9. How to decide a suitable time to conduct monitoring?
10. Name minimum 5 tools that need to be used in seagrass monitoring!
11. Name minimum 3 dangerous conditions that could happen in seagrass ecosystem!
12. What parameters that needs to be observed in quadrant observation at monitoring transects?
13. Why do we have to measure feeding trail of dugong?
14. What's our basis at determining one seagrass status which we monitor?
15. If we do monitoring regularly, what are the information that can we obtain?

Appendix 5. UNEP-CMS survey questionnaire Pre-Test and Post-Test Questions

Pick one right answer!

1. To download form manually, it has to know....
   a. ID survey
   b. Survey form
   c. Survey folder
   d. Survey name
2. Besides for dugong, survey questionnaire could also be used for another animal, like....
   a. Manatee
   b. Whale
   c. Shark whale
   d. Tuna
3. To send filled form, what needs to be done?
   a. Enter point
   b. Submit
   c. Next
   d. Sync data
4. To show condition in a region, the most ideal respondent number if it could represent .... % of the community.
   a. 10%
   b. 20%
   c. 30%
   d. 40%
5. "Mandatory Question" is...
   a. Free question
   b. Questions that need to be answered
   c. Questions about time
   d. Questions about function
6. Stratified sampling needs to be done, because....
   a. There's no need to look for information in unknown location
   b. We should balance survey efforts in known and unknown places
   c. All locations have the same knowledge
   d. All above are wrong
7. Where did the first trial of survey questionnaire take place....
   a. Central Asia
   b. Pacific Islands
   c. Southwest of Hindia Ocean
   d. Southeast Asia
8. What information you can't obtain from the questionnaire....
   a. The one/s who caught dugong
   b. Sighting dugong locations

c. On-going fishery activity
d. Violation numbers in one region

9. What is the benefit of online data input compare to do it manually?
    a. Practical
    b. Data sheet is prone to disappear
    c. There are too many tools that need to be carried during the survey
    d. Information flow gets longer
10. How big is the effort that needs to be put to do the survey in known area ....% and unknown area ....%.
    a. 80, 20.
    b. 70, 30.
    c. 50, 50.
    d. 30, 70
11. The survey questionnaire was created by a team that was sponsored by....
    a. IUCN-CMS.
    b. CMS-UNEP.
    c. UNEP-GEF.
    d. GEF-IUCN.
12. The reason why sampling needs to be done randomly....
    a. Losing the bias
    b. Helping data extrapolation
    c. All correct
    d. All false
13. “Data point status” is distinguished into ...
    a. ‘Saved‘ (red), ‘Exported’ (yellow, with floppy disc icon), ‘Synced’ (blue, with tick icon).
    b. ‘Saved‘ (orange), ‘Exported’ (orange, with floppy disc icon), ‘Synced’ (green, with tick icon).
    c. ‘Saved‘ (green), ‘Exported’ (green, with floppy disc icon), ‘Synced’ (blue, with tick icon).
    d. ‘Saved‘ (blue), ‘Exported’ (green, with floppy disc icon), ‘Synced’ (orange, with tick icon).
14. Minimum requirement for tablet/ smartphone to install Akvo Flow....
    a. It’s minimum Android version 2.3
    b. It has GPS
    c. It has camera
    d. All correct
15. What’s GPS application that supports Akvo?
    a. MapFactor
    b. Sygic
    c. GPS Status
    d. ODK

Appendix 6. Notes

Notes of UNEP-CMS Survey Questionnaire Methods Training and Seagrass Observation Methods
Day & Date: Saturday, October 21th 2017
Time: 08.00 until finish
Place: Antakusuma University, Pangkalan Bun

Joni Gultom/Head of Academics and Student Affairs (Antakusuma University)	*Greetings Thank you and welcome to all of students who are coming to this training, the UNEP-CMS survey questionnaire methods and seagrass observation methods training that held by WWF Indonesia. I do really appreciate this event because in Kalimantan, especially in West Kotawaringin, is one place that has seagrass ecosystem. Besides, we have three conservation places, they are Tanjung Puting National Park (TNTP), Lamandau Wildlife Reserve Park, Tanjung Keluang Nature Park, and we have plan to make where seagrass takes place a conservation and protected area. Besides, seagrass in Java Sea which placed in Kumai Waters is also planned to be a protected area. That's why I hope, students who come today can do well, and know how to do seagrass monitoring, and then the data will be used as a reference to find out potential sea resources that there in West Kotawaringin and has a huge impact through seagrass ecosystem sustainability until global level. That's all I wanted to say, now I pronounce that this training begins.
Idham Farsha/WWF (Host)	Thank you for the greetings, Mr. Joni Gultom and Mr. Geger as Agriculture Faculty Dean, Antakusuma University. Next on, we'll get through to the first topic, dugong and seagrass conservation program and seagrass observation method that will be delivered by Mr. Andri Irawan from Indonesian Institute of Sciences.
Andri Irawan/Indonesian Institute of Sciences (LIPI) (Speaker)	Dugong and seagrass conservation program topic delivery. DSCP seagrass observation method. This observation is very important to be done regarding the rarity of seagrass data in Kalimantan. Before we go to the topic, I need an information how far the participants know about the seagrass in West Kotawaringin region? 1. Knowing seagrass ecosystem

	Seagrass ecosystem is one of coastal ecosystem besides corals and mangrove. Seagrass and seaweed are two different plants, because seagrass is a flowered plant that lives in the sea. Seagrass is also a plant or community in a particular location and has mono or multi characteristic. Seagrass ecosystem interacts biotically and abiotically. Seagrass needs to be protected because it has role as a primary producer and it is an autotroph plant, means it does photosynthesis. Besides, seagrass is a biomass that becomes food chain basic because it is a habitat for sea creatures or protection area, nursery area, and feeding area for all of sea creatures. Seagrass also has functions as sediment catcher, also current and wave holder, and also as a nutrient recycler. 2. Knowing seagrass ecosystem Seagrass morphology consists of leave, root, stem, rhizome, leaf sheath, and leaf blade, and Indonesia has 13 seagrass species, they are *Cymodocea rotundata, Cymodocea serrulata, Enhalus acoroides,Halodule pinifolia, Halodule uninervis, Halophila ovalis, Halophila minor, Thalassia hemprichi, Thalassodendron ciliatum.* 3. Seagrass monitoring Why seagrass monitoring should be done, it's because monitoring could give seagrass status and seagrass data is still very limited, that's why with monitoring we could get so much information.
Efrin/Student (Antakusuma University)	Health and unhealthy seagrass. What influences seagrass growth? And what kind of seagrass that's called healthy?
Andri Irawan/Indonesian Institute of Sciences (LIPI) (Speaker)	To determine seagrass healthiness, we can see that from its coverage status. Seagrass coverage which is more than 60% is considered healthy, 30-39% less healthy, and under 30% it's poor. Coverage percentage 0-25% sparse, 26-50% moderate, 51-75% solid, and 76-100% very solid. Meanwhile, what affects seagrass growth is sunshine, because with optimum brightness level, seagrass could grow healthily and well. This is because seagrass is an autotroph. Seagrass distribution: in Indonesia, seagrass has the highest species number.

	4. Survey preparation. Before conducting survey, there are several stages that need to be prepared like station determination, schedule making, tools and materials preparation, and work safety. a. Station determination, basic mapping or satellite image, look for seagrass locations, look for pilot information, for connection case with dugong habitat in any habitats and enter GPS spots. b. Work schedule making is look for weather information at destined location, see/ find out tidal information at destined location, adjust work schedule with available budgets, people, logistic, find out transportation and handle the permissions. c. Tools and materials preparation, like self-protection tools, first aid, boats, GPS, water quality checker, snorkeling tools (masker, snorkel, fin), SCUBA diving tools, data sheet, 2B pencil, underwater camera, roll meter (100-200 meter), quadrant plot (50x 50 cm), label and plastic (necessary for sampling). d. Work safety, prepare every field tools and materials that are needed, study about tidal period, wear self-protection gear, contactable contacts, when go use the boat, make sure field condition is safe before starting the activity, if any accidents happen do the first aid first. 5. Seagrass data obtaining a. Transect placement is identified seagrass mapping and dugong presence. Monitoring transect using adapted system seagrass watch (global) and CTI COREMAP, SCP did on location that has been harnessed by dugong. Three people consisted of observer, note taker, and water quality measurement person. b. Monitoring transect, at every transect was done species and coverage of seagrass data obtaining, using 50x50 cm quadrant at right side of line transect. At every quadrant was written its species and its substrate. c. *Feeding trail* is an individual estimation number of dugong, biomass taking was done with 20x 20 cm

	quadrant tha was put at the end center of the quadrant, also outside the quadrant to know how much the seagrass has been eaten by dugong.
Fathur/Student (Antakusuma University)	What size of transect that will be used to measure seagrass coverage?
Andri Irawan/ Indonesian Institute of Sciences (LIPI) (Speaker)	For the desirable transect, it will be 50x 50 cm which is monitoring standard size.
Ucuk/Student (Antakusuma University)	I still don't understand how to determine station location at seagrass observation monitoring?
Andri Irawan/ Indonesian Institute of Sciences (LIPI) (Speaker)	In determining stations, what we did was how to do seagrass observation in just one transect: 16 square size that would be divided into three groups consist of 6 people. The first is to make the transect, and then observe every 5 meters and 10 meters one after another. In the beginning, we used quadrant that was divided into four. If there was no data for one particular species then it would be given zero number. Meanwhile, to count feeding trail is by taking its biomass, or dig it with a small shovel within 20 x 20 cm quadrant, take the edge and the center part and also outside the quadrant for comparison.
Ucuk/Student (Antakusuma University)	Regarding dugong's diet pattern, if it eats seagrass at one place and go, is there any chance it'd go back to that same place or no?
Andri Irawan/ Indonesian Institute of Sciences (LIPI) (Speaker)	Dugong would be back to the place that it ever visited or the seagrass place where it has eaten, because it likes eating a newly grow rhizome.
Efrin/Student (Antakusuma University)	I think there's something ambiguous about a regulation by Minister of Environment No. 200 year 2004, October 13th 2004 about seagrass coverage standard: poor category?
Student (Antakusuma University)	If seagrass is considered compact and healthy, is that kind of seagrass considered good for dugong's nutrition needs?
Andri Irawan/ Indonesian Institute of Sciences (LIPI) (Speaker)	For seagrass in poor category mentioned in ministry's regulation, actually the regulation is still being revised and we still use the regulation that's used globally. Dugong preference is small seagrass or poor category seagrass, because dugong likes eating rhizome of young seagrass and dugong could help seagrass growth.
Fathur/Student (Antakusuma University)	Regarding the aim of this seagrass monitoring is to experience new things, then one thing to be noticed to

	reduce the water turbidity while doing the observing is how? (remembering that the water in this region is somehow turbid)
Andri Irawan/ Indonesian Institute of Sciences (LIPI) (Speaker)	To prevent those things from happening, we should not make too much movement to reduce the turbidity that would be caused, and look at the current direction.
Idham Farsha/WWF (Host)	That's all for today. Tomorrow we would do the practice of seagrass observation which would be held at Teluk Bogam Village. Wassalamualaikum Wr.Wb.

Notes of UNEP-CMS Survey Questionnaire Methods Training and Seagrass Observation Methods

Day & Date: Saturday, October 22th 2017

Time: 08.30 until finish

Place: Antakusuma University, Pangkalan Bun

Idham Farsha/WWF (Host)	Assalamualaikum Wr.Wb. Good morning, today is the third day and thanks for all of the participants who are still excited coming into this training. Today we'll learn about survey interview of dugong and application that would be used during the survey.
Casandra Tania/WWF (Speaker)	Dugong: Interview Survey Design 1. The objective of this interview survey is to develop a process of obtaining data that's cheap and standardized, which serves a strong information about dugong's presence, and its interaction with another sea animals. 2. Take a trial of the program through several trial examples. 3. Checking field condition using existing knowledge. Survey Evolution 1. Creating result from duke/project global rapid *bycatch asessment.* 2. It was developed at a workshop in Singapore at 2011 with experts in survey and dugong capture. 3. It was reviewed by social science experts. 4. It was tested in four countries. 5. It was revised more than 30 times before the last version is published. 6. It was revised and renewed continually following the updates. Questionnaire structure consists of background, dugong catch/ bycatch, perception, fisheries enterprise (mapping of fisheries-capturing area), turtles, cetaceans (group of dolphins and whales), and secretive feedback. Key Features 1. Manual project shows spatial data that's been digitalized (using google earth) and GIS analysis. 2. Excel sheet upload data automize basis data analysis and presentation. 3. Questionnaire can be customized to get necessary information, easily used, and flexible.

	Survey component consist of questionnaire (interviewee's background, fisheries detail, sighting and catch information, also dugong distribution), excel data upload workbook, manual project, also automatized and standardized data analysis. Survey design consists of stratified sampling, effort and efficiency, also random election. Efforts and Representativeness 1. A thorough 10% coverage is a healthy objective, which x is respondent numbers and Y is respondent's answer (dividing fishermen who use trawl and rod) 2. Greater community could reduce % age 3. Smaller community could rise % age 4. Effort is varied depends on its regions 5. Use common sense Survey Design Consist of: 1. Stratified sampling (at greater community it requires to balance survey effort at unknown and known places, a zero score has the same value as one score, needs confirmation of what we think we knew, 80% at known areas, and 20% at unknown areas). 2. Random sampling (eliminate bias, region level, fishermen level, it matters to exploit data, needs transparency, and needs a clear explanation of what's going to be surveyed and what's not going to be surveyed. 3. Use project result 4. An exact map scales 5. Record dugong sighting 6. Record fishery activity 7. Comprehend data overlapping Online monitoring using android application 1. Monitoring using android application could reduce the risk of data damage, cutting long information flow (obtaining data in the field-input-analyze-reporting), paper usage efficiency, minimum tools but maximum benefit, data validation, and field survey. For dugong monitoring survey, we're going to use online survey platform: Akvo Flow, because Akvo Flow supports in obtaining necessary data, easy to use, appropriate form

	design with the needs in field survey, data analysis, and the development is far easier to be done (web-gis, query database, statistics, etc.). 2. Input data stage and conducting survey using Akvo Flow a. Install Akvo Flow application b. User account registration (user name) c. Setting device identifier (device name that'll be used) d. Download survey form e. Collecting data f. Submit form g. Database checking through web that depends on data privacy setting. 3. Akvo Flow output is raw data (in excel format), geographical shape, multimedia (photo and video), supports integrase inside the website (API). 4. Akvo Flow Dashboard. Dashboard access is folder management and surveyor accounts, export raw data, short report and database. 5. Login Dashboard by using google account. 6. Survey structure consist of: a. Survey folder, surveys in dashboard are saved in folders to be more organized. Survey folder could consist of sub-folder and it has the same functions as folder setting in windows explorer. b. Survey. Survey is being used to obtain data. Survey consists of questions that have been adjusted with objectives of obtaining data, saved in one folder, and in one folder could be consisted of more than one survey. c. Form. Form is a question sheet and in one survey could consist more than one form, meanwhile for data monitoring type we could make additional form consist of different information than survey subject. d. Question group. Every form consists of series of question, questions are grouped into one and each of the group would appear at different tab on tablet or smartphone screen. e. Question type could be free text (question which answer could be free text like alphabets, numbers, and symbols), option (question which answer is

	options), and cascade (question which answer is hierarchically like region, sub-district, and village), number (question which answer is number), geolocation (question which answer is coordinate location which could appear automatically using GPS on tablet or smartphone), geographic feature like dot, line, and polygon, photo and video gives option to take photo and video, date shows option to choose date, and barcode gives option to scan the barcode. f. Question feature consists of tooltips (survey maker could give guide to fill the form), dependent (one question that depends on answer from previous question), and mandatory (questions that need to be answered, if it's blank then the survey could not be submitted).
Ari Meididit/WWF	For interviewing activity, could three interviewees be interviewed at the same time regarding the same questions that would be asked? Is online monitoring using Akvo Flow could only be used for dugong survey or could it be used for another survey like corridor survey of Orang Utan?
Casandra Tania/WWF (Speaker)	For the interview, it's better done separately because one questionnaire data is for one interviewee.
Ucuk/Student (Antakusuma University)	How to differ interviewee who's honest and who's not?
Ari Meididit/WWF	To find out the honesty of an interviewee is by see his/her consistency when giving the answers. The one who lies usually gives inconsistent answer.
Idham Farsha/WWF (Host)	The next session is for the students who want to give her/ his opinion regarding this dugong interview simulation, the space and time are yours!
Fathur/Student (Antakusuma University)	In my opinion, it was hard because it was my first time, because indirectly face the interviewees. The challenge was not to make the interviewee get bored, because at first twenty questions, the interviewee would be still excited, but the next questions the interviewee would get bored, the fishing gears are not all known by the interviewee, also the time this questionnaire takes was also an obstacle in doing this.

	How to tackle the boredom both for the interviewee and the interviewer?
Ucuk/Student (Antakusuma University)	As an interviewee, the problem was too many questions, and many were repeated, and it bored me. How to tackle the boredom it could cause? How to make the fishermen be open up to us so they could give right information within a little time during the interview?
Ade/Student (Antakusuma University)	My views on this questionnaire and also as an interviewer, I was very bored when do the interviewing, and I was tired because of too many questions and many were repeated.
Marsitah/Student (Antakusuma University)	What I thought about this questionnaire was 1) the interviewer was too open book when interviewing, and the interviewee got bored because of that. 2) there were too many questions in the questionnaire, and it took a lot of time for the fishermen, meanwhile time for fishermen is very important, and it would cut their work time.
Ari Meididit/WWF	Before the interview, it's better for the interviewer to memorize the questionnaire well and ask the interviewee as they are not being interviewed, so it would create a comfortable atmosphere.
Casandra Tania/WWF (Speaker)	Actually, we could minimize that kind of question if we have mastered the content within the questionnaire and the interviewer must be very flexible when asking the questions, so it could take shorter time for the interview. Secondly, the interviewer must be polite and friendly. Tips how to make the fishermen be open up, the key is when the interviewer introduce herself/himself at the beginning.
Idham Farsha/WWF (Host)	Another way for the interviewee give us the right information is when we introduce ourselves, tell them that we are going to conduct a research, and the most important thing is when the interviewer could create a comfortable and relax atmosphere during the interview.
Casandra Tania/WWF (Speaker)	Before we go to the field to do the interview, the manual guide said to do the trial first, for minimum 10 times, so the interviewer would be ready to do the interview. That's all for today, we'd continue tomorrow. Wassalammualaikum Wr.Wb

Notes of UNEP-CMS Survey Questionnaire Methods Training and Seagrass Observation Methods

Day & Date: Tuesday, October 24th 2017

Time: 08.30 until finish

Place: Antakusuma University, Pangkalan Bun

Idham Farsha/WWF (Host)	Assalamualaikum Wr.Wb, thank you for all of the students who have come on the last day today. To start today's training, we'd review a bit about what we've learn these days and today we would learn about data processing using pivot table and survey data input to the map using Arc Gis.
Casandra Tania/WWF (Pemateri)	Pivot Table Pivot table is used for data processing in Microsoft Excel, to make it easier and faster. First step to use pivot table is to open and block all of the survey data within the Microsoft Excel, and then click "insert", choose "pivot table", then choose "create pivot table" and then click "ok". At "pivot table fields" choose file or data that's going to be made a diagram, then put it on "raws" column, choose "display name", and then put it on "values" column, and then click "ok". After that, choose "pivot chart", choose the diagram that's going to be used, and then the chosen diagram that shows the data would appear. To beautify the table appearance, click "design" and then edit it as you wish. The explanation about individual survey booklet that's seen should be filled with number, and the missing one is individual species. At the table part, there's fount sign and there is written the species that were found. The size for the animals is filled using number. The cause of dugong condition is filled only if you find dugong that's dead. The note is filled only if there's any interesting thing from the informant, like the sighting of baby dugong.
Idham Farsha/WWF (Host/ Speaker)	Input Survey Data inside using Arc Gis. The data within the dugong booklet survey was made or was input into Microsoft Excel format, and then added two columns at the side. The mapping data on vector form were in three form; line, point, and polygon.

	Input data through ArcGis. Choose the catalogue on Arc Gis application, right click then choose new save file, type the type point name. Description UTM choose short 49 s, click “ok”, then add data. Add the file (Survey ID name), individual sighting and habitat, and then click “ok”. That’s all for today, we thank you all. Before we end the session for today, I hope you could say your message and impression during the training.
Ade/Student (Antakusuma University)	I’m very happy to be able to join this training, because this training could add our knowledge about seagrass and how to monitor it, and I hope this training would be beneficial for all of us, thank you.
Ica/Student (Antakusuma University)	Assalamualaikum Wr.Wb My impression from participating in this training is that I feel very proud from getting new knowledge about seagrass that I’ve not known before, also the interview gave me new sight and made me start to understand about the importance of seagrass monitoring. That’s all, thank you. Wassalamualaikum Wr.Wb
Idham Farsha/WWF (Speaker/ Host)	Thank you for all of the students who have participated and gave their messages and impressions during the training, after this, Mr. Geger would say his words too, as the dean of Agriculture Faculty of Antakusuma University regarding this training.
Geger/ Dean of Agricultural Faculty (Antakusuma University)	Thank you, Assalamualaikum Wr.Wb With all of my respects for my friends from WWF, and also my friends from Fisheries Department, Mr. Manis, who had tutored all of the participants during the training. And I am very thankful to all of the students who have spared their times and participated on this UNEP-CMS Survey Questionnaire Methods Training and Seagrass Observation Methods which was a long road for you and I hope it would be useful at your near future, and the methods that are used are very good methods. And whoever wants to do their thesis and anything in the future regarding these topics could take advantage of this event. Also, I say a huge thanks to WWF, I do really appreciate this event, I hope in the future we could do another collaboration on another events, because this

	institution really needs participation from all of the stakeholders, from environmental background through socio-economy background, because it could help us in Antakusuma University. Because without those supports from you, we would not be this big. For all of the students and participants who have made through this day, I say a huge thanks for you all, I want to tell the message from the head of the university that we all had good intentions for the community and also for the environment, mainly this seagrass we've been talking about. For now, maybe some of people still had no idea about seagrass and its involvement with dugong and you all are the first to know about the interaction between them two. It also has tourism substance because not in every day we could see dugong here and there, we could only see them on certain times, and it could be a tourism attraction. And for the interview and all, that would be continued after this session, because I want to know the methods that have been used, and I thought those were the methods that have been used internationally and have been used often, maybe dugong and seagrass could be your thesis topic for the students. I think that's all, in the name of God, all of the participants in here, this UNEP-CMS Survey Questionnaire Methods Training and Seagrass Observation Methods in West Kotawaringin is officially finished.

Appendix 7. Certificate Design

SERTIFIKAT

diberikan kepada

"Pelatihan Metode Survei Kuisioner UNEP-CMS dan Metode Pemantauan Lamun"

Kotawaringin Barat, Kalimantan Tengah

21-24 Oktober 2017

Mengetahui, Rektor Universitas Antakusuma	Pemateri, Pusat Penelitian Laut Dalam - LIPI	Pemateri, *Marine Species Officer* WWF- Indonesia
Prof. Dr. Ir. Jeffrie Wattimena, MP.	**Andri Irawan**	**Casandra Tania**
NIP. 19621106 198803 1 002	NIP. 19830408 200801 1 006	

Pelatihan Metode Survei UNEP-CMS dan Metode Pemantauan Lamun

Kotawaringin Barat – Kalimantan Tengah

21-24 Oktober 2017

Hari/Tanggal	Waktu	Kegiatan dan Judul Materi	Narasumber/Pelatih
Sabtu, 21 Oktober 2017	08.30-09.00	Perkenalan Ekosistem Lamun	Andri Irawan (LIPI)
	09.00-10.00	Diskusi	
	10.30-12.00	Persiapan survey: - Penentuan satsiun - Pembuatan jadwal kerja - Persiapan bahan dan alat - Keselamatan kerja	
	13.30-14.30	Pengambilan data lamun : - Penyiapan lembar data - Peletakan transek - Perhitungan tutupan	
	14.30-15.30	Analisis data : - Perhitungan tutupan lamun - Perhitungan tutupan masing-masing jenis lamun	
Minggu, 22 Oktober 2017	08.30-12.00	Praktek lapangan	Andri Irawan (LIPI)
	13.30-16.30	Praktek analisis dan pengolahan data	
Senin, 23 Oktober 2017	08.30-10.00	Pengenalan tentang Kuisioner UNEP-CMS	Casandra Tania (WWF-Indonesia)
	10.00-11.00	Fitur kunci dalam kuisioner	
	12.30-14.00	Pertimbangan Desain Survei dan Pengenalan AKvo Flow	
	14.00-15.00	Akvo Flow Overview	
Selasa, 24 Oktober 2017	08:30 -09:30	Sesi latihan	Casandra Tania (WWF-Indonesia)
	09:30-11:30	Input data dan analisis	

Appendix 8. Event Documentation

Opening UNEP-CMS Survey Questionnaire Methods and Seagrass Observation Survey Methods

At the Opening Event

Seagrass Topic Presentation by (Indonesian Institute of Science/ LIPI)

Direction given when conducted line transects

Seagrass observation process

Data input process after field practice

Questionnaire topic by Casandra Tania (WWF ID)

Interview simulation using *Akvo Flow*

Questionnaire data analysis process

Took a photo together at the end of the training