



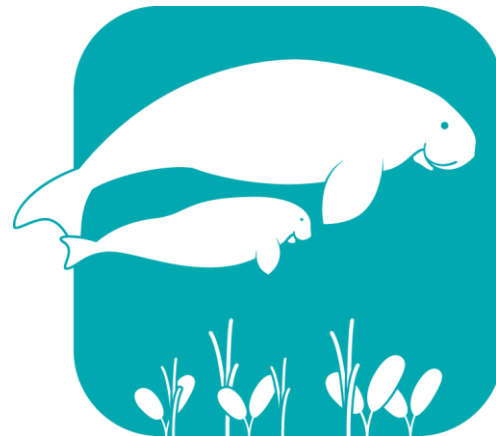
VESS  
VANUATU ENVIRONMENTAL  
SCIENCE SOCIETY

# Dugongs in Vanuatu

PROGRESS AND ACTIONS

# The GEF Dugong and Seagrass Conservation

- ▶ Vanuatu was 1 of 8 developing countries to take part in this project from 2014 to 2018
- ▶ Distribution and threats to dugongs were updated using the CMS Dugong catch /by-catch questionnaire survey
- ▶ Seagrass monitoring was started using the Seagrass Watch programme.

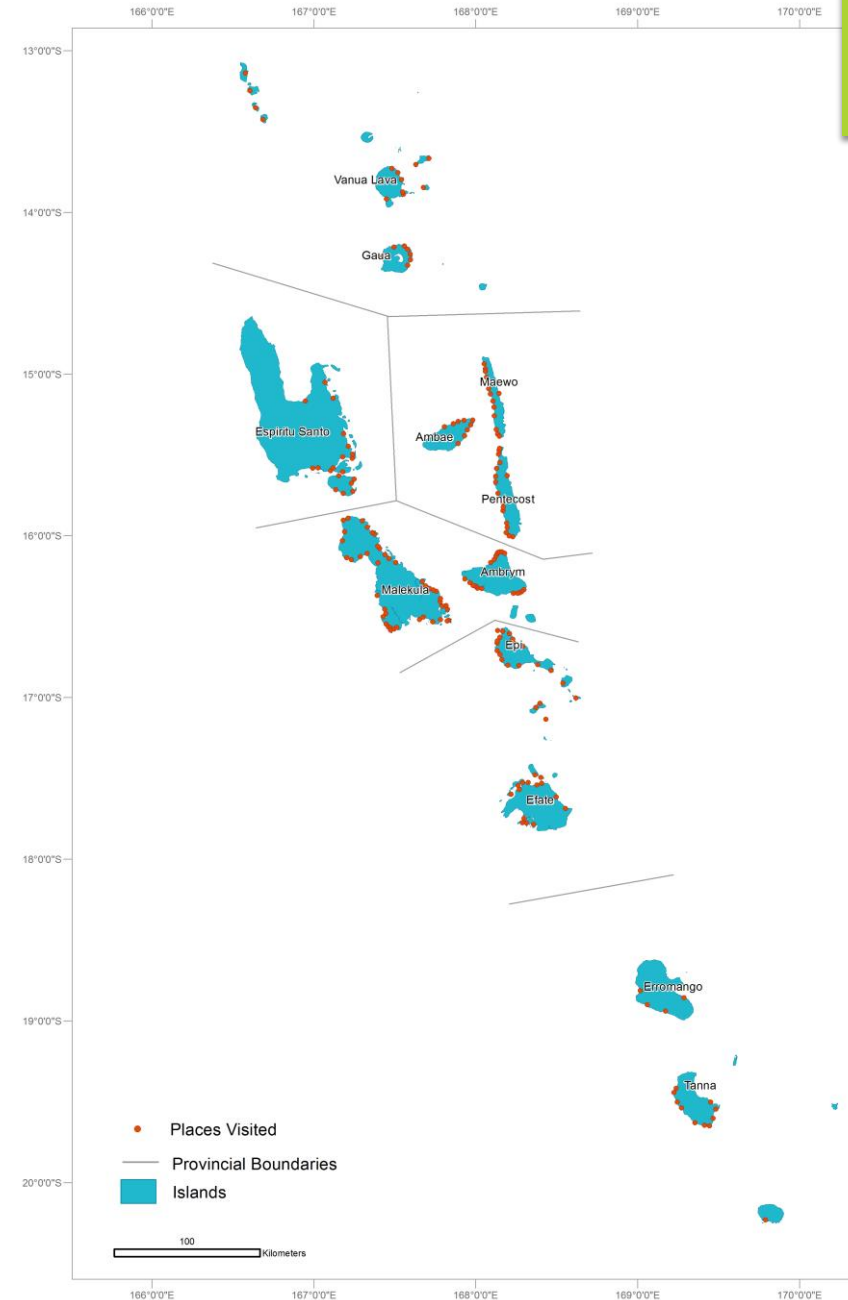


**Dugong  
& Seagrass**  
CONSERVATION  
PROJECT

# Questionnaire Survey

- ▶ Use the CMS Dugong MoU standardized catch / by-catch questionnaire
- ▶ 193 sites were visited on 32 islands in all 6 provinces during the survey in 2016/7
- ▶ Number of Respondents: 530 community members interviewed

Places Visted during the Dugong Survey 2016-2017





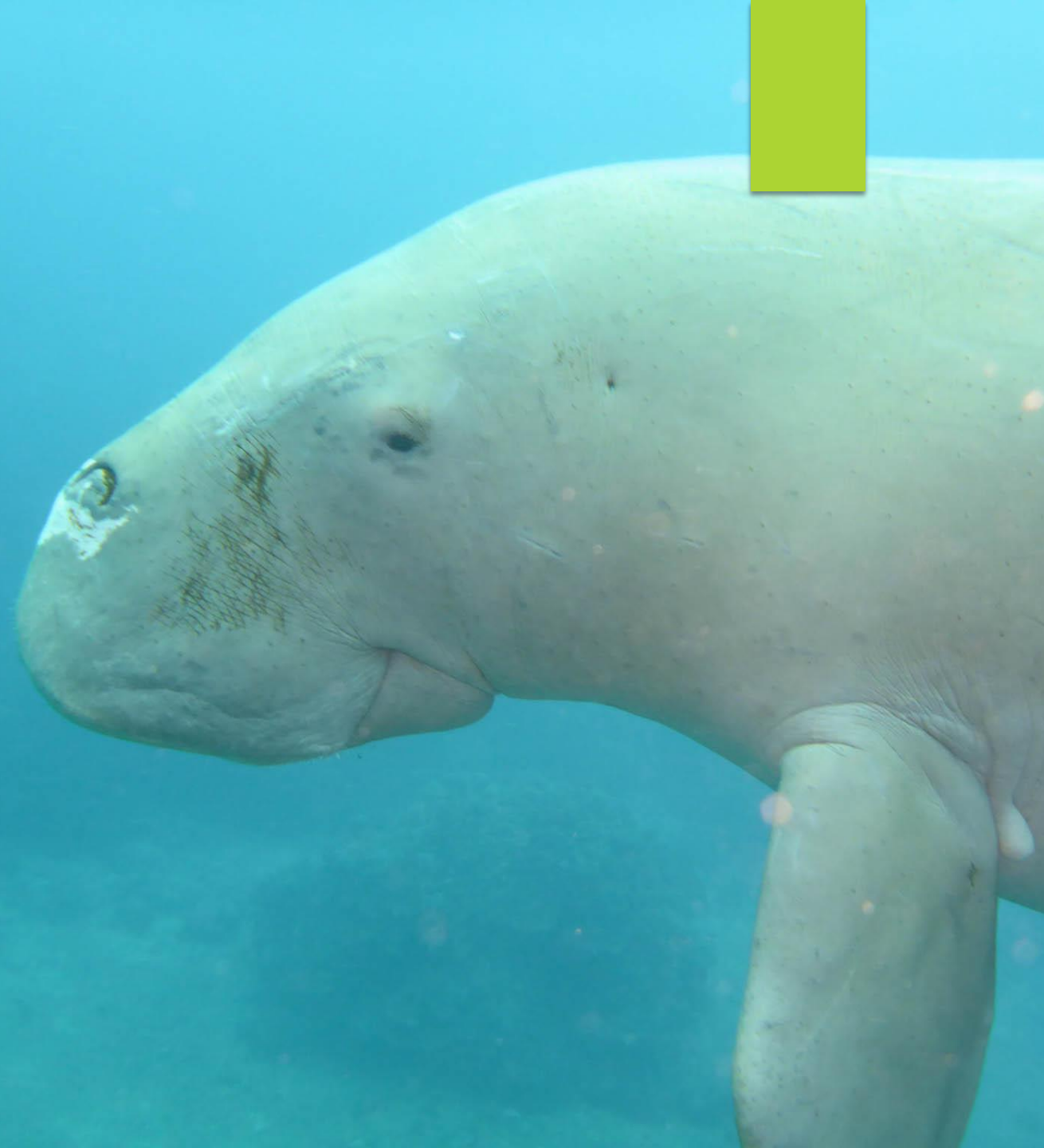
# Interviews with villagers and fishermen





# Perceptions

- ▶ 90% of respondents say that dugongs are important.
- ▶ 45% think there are more dugongs than before, 23% think there are less and 14% think there are the same.



# Threats

Of the 116 dead dugong sightings recorded, in 44 the cause was unknown, 28 killed in nets, 13 were stranded on shore and 12 were hunted

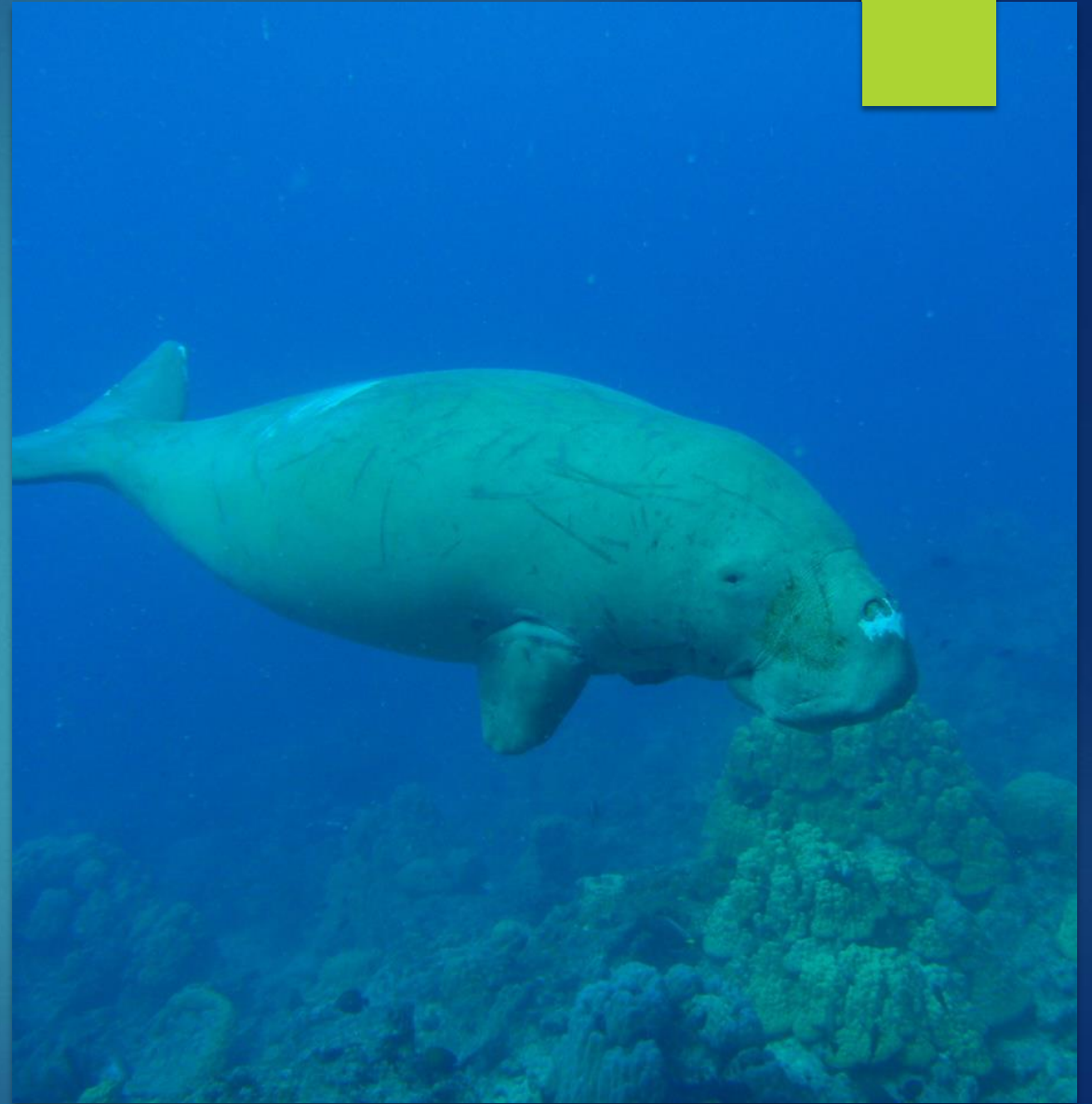
In the previous 10 years only 4 were reported as hunted.

30% of fishers report using gillnets, More than half said they leave the nets unattended.

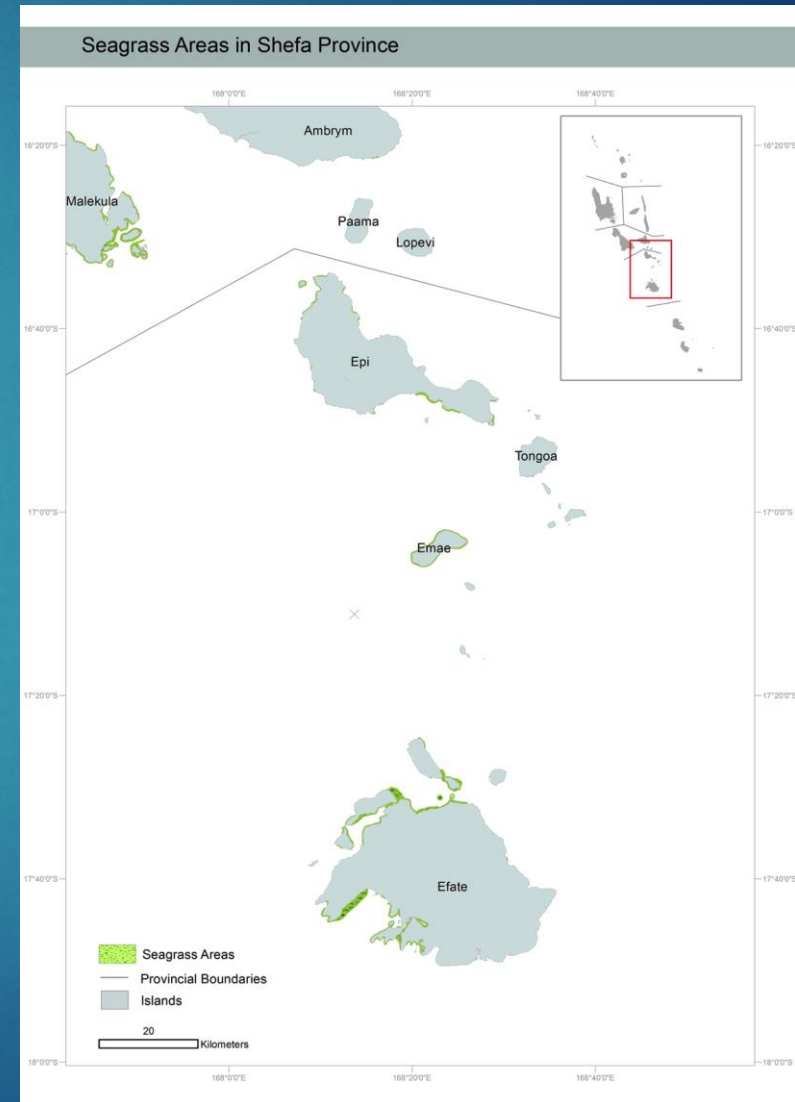
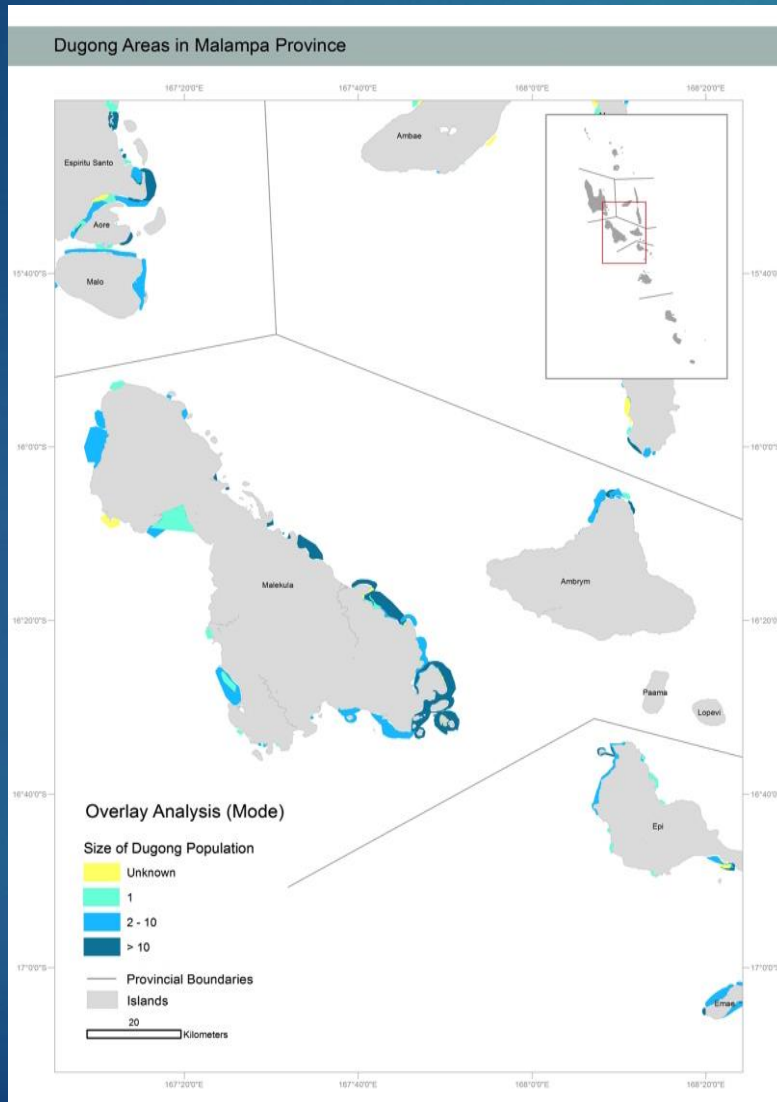
34% of respondents said they know of a tourism activity where tourists could see dugongs. The majority allow tourists in the water with the dugongs.

# Dugongs and the law

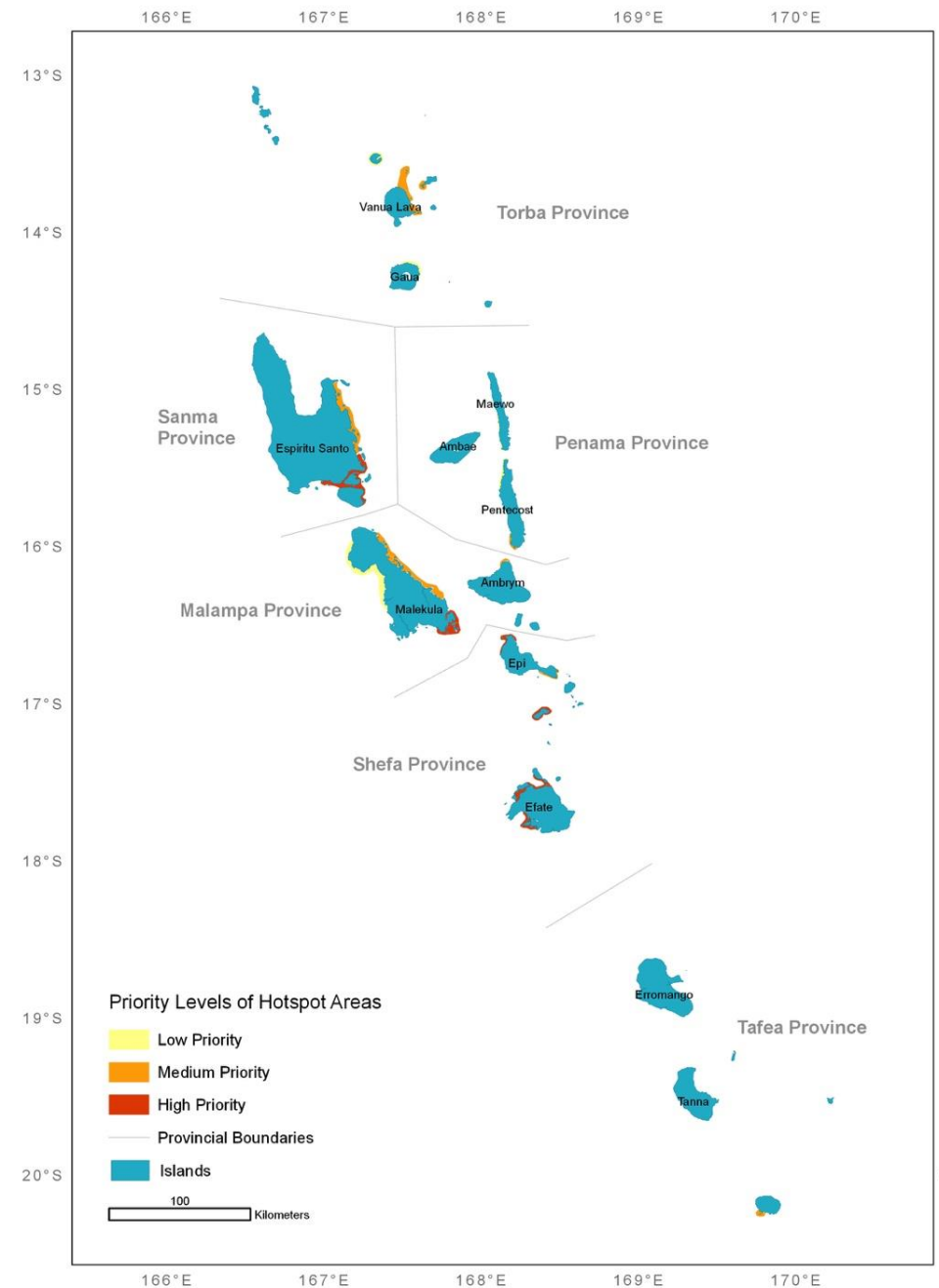
- ▶ 90% of respondents know it is against the law to kill a dugong on purpose
- ▶ But only 50% know it is illegal to kill dugongs unintentionally and 25% thought it was not illegal if it was an accident.



# Dugong and seagrass areas maps







# Dugong hotspots

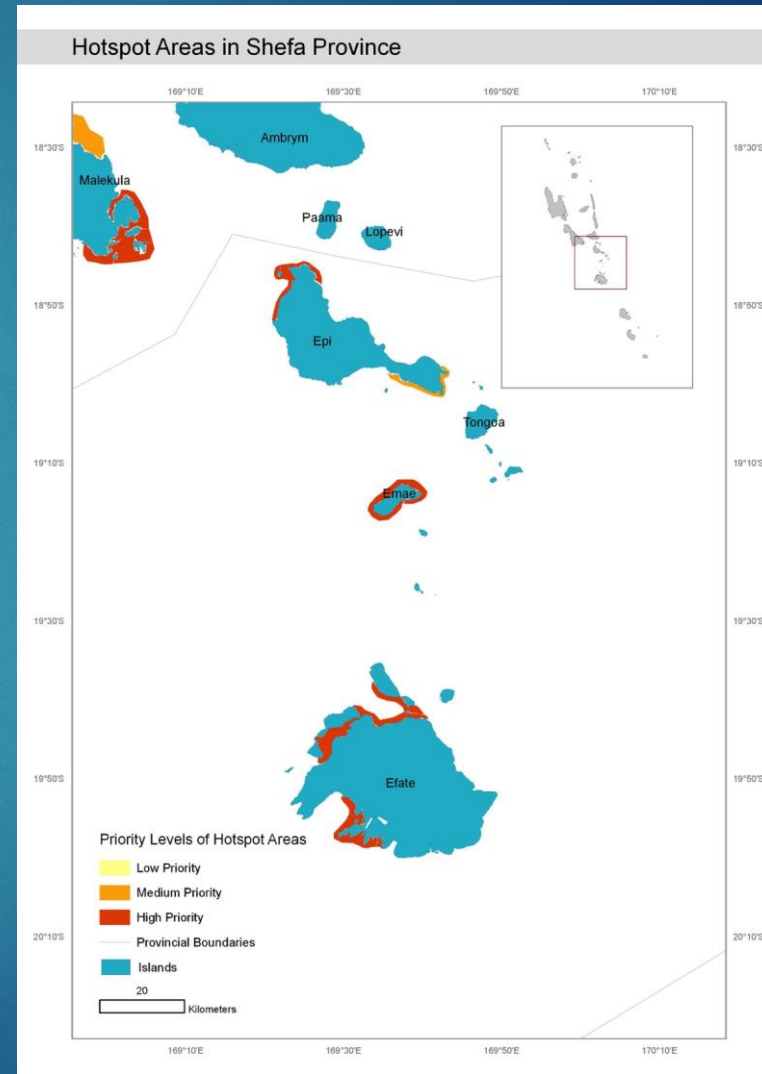
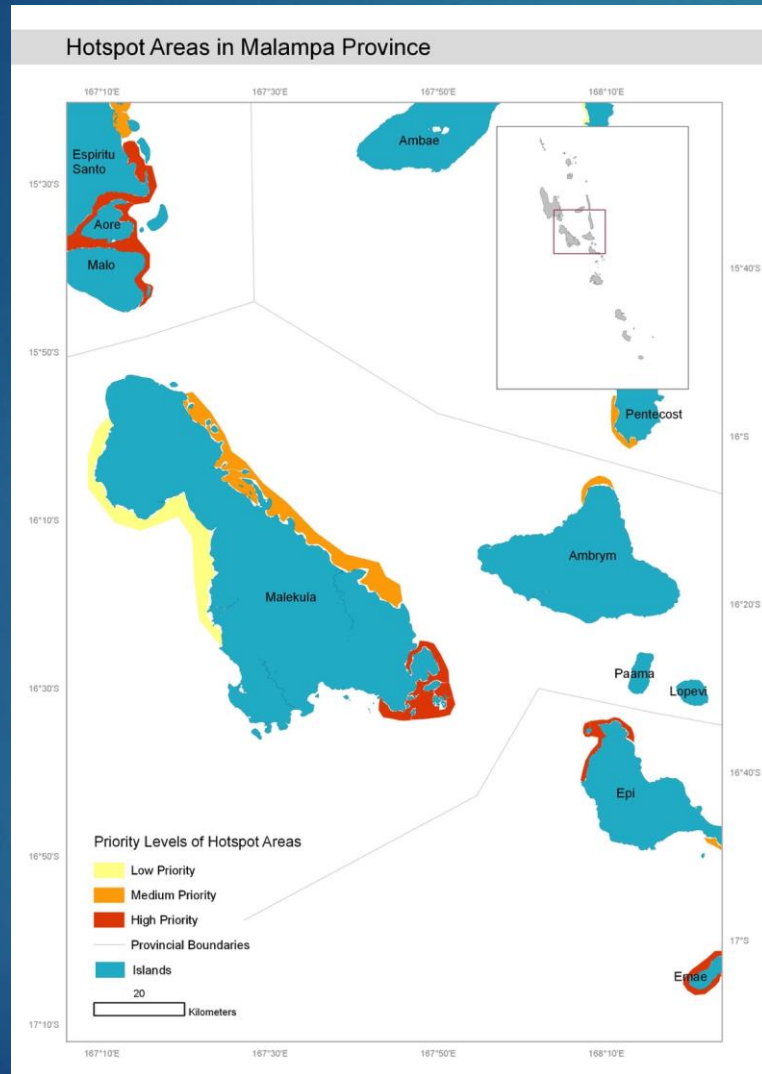
The hotspots were identified as the areas where:

- ▶ The local community said there were 2 to 10 or > 10 dugongs overlapping with areas where the local community said they use gillnets for fishing

and / or

- ▶ Where significant numbers of dugong sightings were reported, particularly dead dugongs.

# Dugong hotspots – provincial maps



# Policies influenced by the results of questionnaire

Data and maps generated by the project were used in the process of identifying Special and Unique marine areas in Vanuatu under the Oceans Policy with view to create a network of marine reserves in Vanuatu.

Data and maps generated by the project were used in the drafting of the National Biodiversity Strategy and Action Plan.



# Dugongs and their Seagrass habitats



By Christina Shaw

### Seagrasses

Seagrasses are flowering plants that live under water in the sea. Their leaves have veins and their roots anchor them in the seabed. They use sunlight to grow and live in shallow water.

Seagrass beds are habitat for many different species of animals.

**Seagrass beds have many benefits**

- Provide food and shelter for fish, shellfish, dugongs, green turtles, sea cucumbers and seahorses: animals that we eat or that tourists like to see
- Create nurseries for juvenile shellfish and fish
- Work together with mangroves and coral reefs to cycle nutrients and to protect our coastlines against storm surges, cyclones and erosion
- Oxygenate and filter sea water
- Take in carbon dioxide, which helps to reduce the effects of climate change including ocean acidification

**Threats to Seagrass beds**

- Activities that reduce water clarity and increase the amount of sediment in the water, e.g. from run-off, dredging, coastal clearing and land reclamation.
- Physical damage from boat propellers, anchors and trawling.
- Sewage, litter and other waste products.
- Cyclones and floods

**We can help keep Seagrass beds healthy by:**

- Reducing run-off of sediments and pollutants from land into the sea
- Keeping beaches and the sea free from litter
- Looking after mangroves and coral reefs
- Taking care when driving boats over seagrass beds
- Not anchoring in seagrass beds
- Monitoring seagrass beds to ensure they are staying healthy

This poster was designed and produced by VESS with funding from the Critical Ecosystem Partnership Fund.

Images downloaded from the Image Library (www.ucl.ac.uk/image-library) and created by: Christine Ali, Catherine Collier, Sara Hoadley, Diana Park, Kim Roper, Tracy Searby, Daphne Treary, Lucy Van Essen-Felton and Joanne Worman

# Raising awareness







- ▶ 36 workshops were conducted to raise awareness of dugong and seagrass conservation
- ▶ 1,382 people reached in the workshops









# Dugong and Seagrass Exhibition



ESS



ESS



ESS



VESS

- ▶ Dugong Exhibition at the National Archive in August 2017.
- ▶ 332 people came to the exhibition which ran for 2 weeks
- ▶ 126 school children, 206 adults
- ▶ Included an art workshop for children and evening talk on dugongs.



# Dugong handicraft and art competition

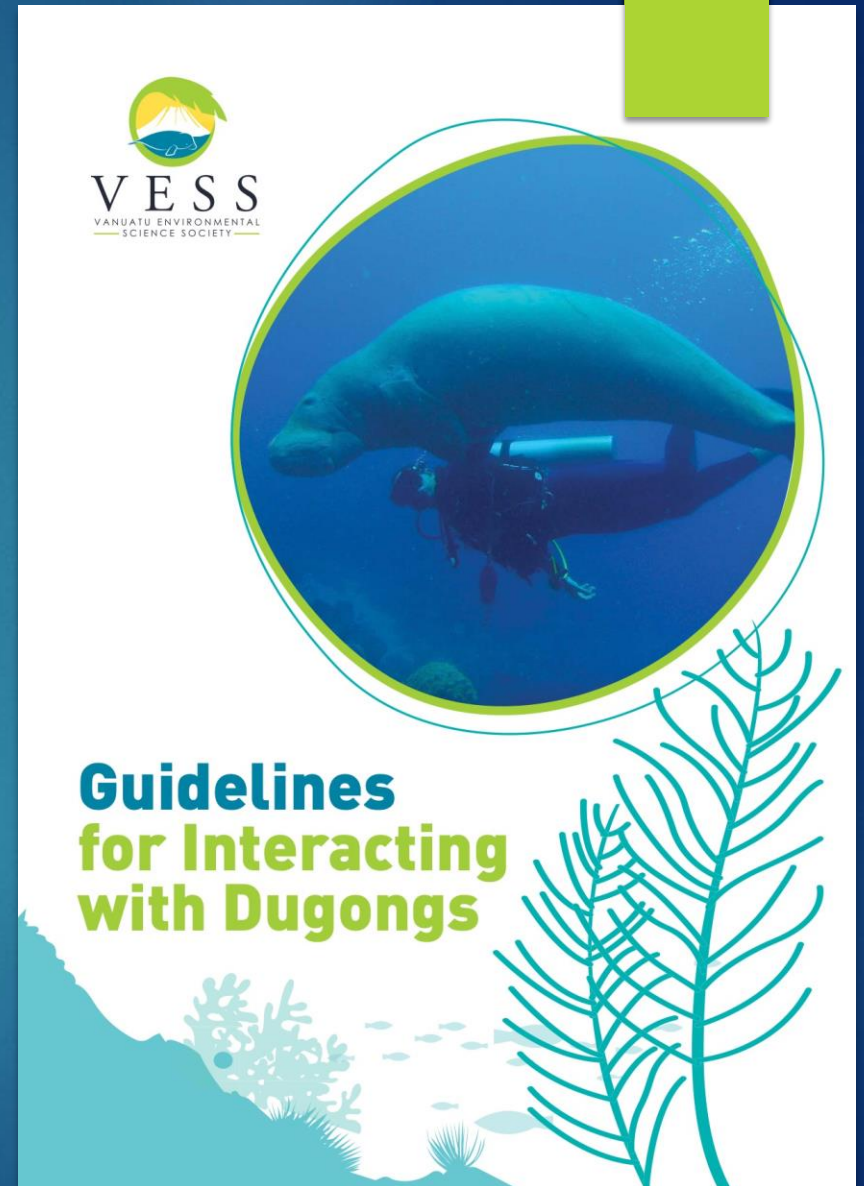




# Dugong guidelines

For people to have have once-in-a-lifetime encounters with these fascinating marine mammals, every encounter with a dugong needs to be a positive experience for the dugong as well as for the people.

- ▶ Guideline booklet
- ▶ Code of conduct for tourism operator booklet
- ▶ Poster for swimming snorkeling or diving
- ▶ Poster for vessels without engines (Kayaks, canoes, sailing dinghies)
- ▶ Available in English, French and Bislama



## LIGNES DIRECTRICES

### POUR SE Baigner, FAIRE DE LA PLONGÉE EN APNÉE OU NAGER AVEC DES DUGONGS



Veuillez contribuer à garder les dugongs du Vanuatu amicaux. Assurez-vous que chaque rencontre avec un dugong est une expérience positive pour le dugong ainsi que pour vous.

- NE PAS nager vers un dugong quand vous l'apercevez. Restez où vous êtes et laissez le dugong venir à vous s'il le désire.
- Nagez calmement, lentement et minimisez l'excès de bruit et les éclaboussures.
- Il ne doit pas y avoir plus de cinq personnes à moins de dix mètres d'un dugong.
- Si vous voyez une mère avec son petit, gardez-la à une distance d'au moins cinq mètres.
- Assurez-vous qu'aucune personne ou motomarine ne s'interpose entre une mère et son petit à n'importe quel moment.
- Ne vous placez jamais entre un dugong et la surface de l'eau.
- Lorsque vous nagez avec un dugong qui s'est approché de vous, restez à au moins deux mètres de la queue.
- Si un dugong présente des signes de détresse ou de perturbation, éloignez-vous et arrêtez-vous à au moins cinquante mètres.
- Assurez-vous que lorsque vous prenez des photos ou filmez les dugongs, vous respectez les lignes directrices. Protéger les dugongs et vous-même du danger est plus important que d'obtenir une image parfaite ou un "selfie".
- Toucher des dugongs pourrait leur causer du mal et ceux-ci pourraient transporter des maladies qui pourraient vous infecter. Il vaut mieux ne pas les toucher.
- N'essayez jamais de toucher un dugong sur la tête, les nageoires ou la queue.
- N'essayez jamais de "monter" sur un dugong, de le bousculer ou de le pousser.
- Ne touchez pas les petits (bébés dugongs). N'oubliez pas de vous tenir à au moins cinq mètres des mères et leurs petits.
- Ne pas nourrir les dugongs et ne pas déranger les dugongs qui se nourrissent.

Rappelez-vous que les dugongs sont protégés par la loi au Vanuatu.

- ▶ VESS team conducted workshops in the dugong hotspot areas to increase awareness of the guidelines.
- ▶ 22 workshops were conducted reaching 407 people
- ▶ Awareness materials were handed out:
  - 200 Guidelines for interacting with dugongs
  - 197 Code of conduct for tourism operators
  - 150 Posters
- ▶ The guidelines are available to download on the VESS website:  
<https://www.vanuatuconservation.org/guidelines-for-interacting-with-dugongs/>



Les lignes directrices complètes et les informations sur les dugongs sont disponibles sur le site web de la VESS: [www.vanuatuconservation.org](http://www.vanuatuconservation.org)



Fisheries Department of Vanuatu

**CRITICAL** | **ECOSYSTEM**  
**PARTNERSHIP FUND**



Donors of our current project “Strengthening monitoring, community management, and policies for Dugong Conservation in Vanuatu”





# Seagrass Monitoring





Training Workshop on Seagrass Watch techniques for Seagrass monitoring and assessments

# Seagrass-Watch

- ▶ 24 monitoring events have been conducted in 4 sites
- ▶ Data has contributed to 3 scientific papers

249° perpendicular to shore line MS: Medium Sand FS: Fine sand BS: Brittle star CS: coarse sand SC: sea cucumber  
 F: Fish SH: Shell GS: gastropod CR: coral rubble SP: sponge C: coral WD:   
 S: sand

### SEAGRASS-WATCH MONITORING

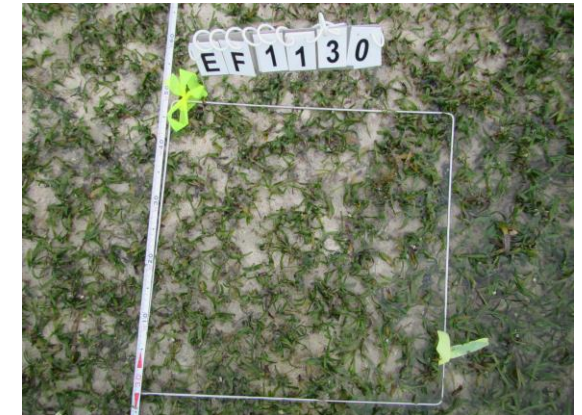
ONE OF THESE SHEETS IS TO BE FILLED OUT FOR EACH TRANSECT YOU SURVEY

OBSERVER: CS, AS, DK, MS DATE: 13  
 LOCATION: Laman Bay, EPI  
 SITE code: EPI TRANSECT no.: 1  
 START TIME: 10:57am END TIME: 11:45am

START of transect (GPS reading)  
 Latitude: 16° 13.163' S Longitude: 108° 09.558' E

Quadrat (metres from transect origin)	Sediment (eg. mud/sand/shell)	Comments (eg. 10g gastropods, 4x crab holes, digging feeding trails, herbarium specimens taken)	Seagrass coverage (%)	% Seagrass species composition				Canopy height (cm)	% Algae cover	% Epi- cover
				CR	TH	HU	WD			
1 (0m)	MS, S	-	22	50	40	10	66	4.6, 3	5	40
2 (5m)	S, FS, MS	GS X 3	20	20	50	30	76	6.5, 8	15	40
3 (10m)	S, CS	GS, C (A)	18	70	10	20	80	5.4, 4	5	24
4 (15m)	CS, S, CR	SP	15	20	50	30	85	7.9, 4	8	48
5 (20m)	CS, S, CR	SP, C	20		40	60	90	4.7, 7	10	42
6 (25m)	CS, S, CR	C	23		60	40	95	8.6, 6	5	42
7 (30m)	CR, C	C	0	0	0	0	56	0.0, 0	70	0
8 (35m)	CS, S, CR	C, SP	10		20	80	62	6.2, 6	4	25
9 (40m)	CR, S, CS	SP, C	2		100		71	16, 10, 16	20	2
10 (45m)	CS, CR	SC, C	1			100	90	3, 4, 3	0	36
11 (50m)	S, CS, CR	F	8	10	90		96	11, 13, 12	10	25

END of transect (GPS reading)  
 Latitude: 16° 35.154' S Longitude: 108° 09.525' E





# Seagrass Specimens

- ▶ 154 seagrass voucher specimens have been collected
- ▶ Half have been deposited at the Vanuatu National Herbarium
- ▶ Collection is published to GBIF and has contributed to one scientific paper



# Enforcement actions

- ▶ Vanuatu fisheries department have conducted enforcement activities
- ▶ A dugong calf which was being kept at a tourism property was confiscated in 2014.
- ▶ A penalty notice of Vt100,000 (approx. US \$1000) was issued to four fishers who caught a dugong in nets and consumed it.





# Creating capacity

- ▶ Two Ni-Vanuatu marine scientists have been employed on the Dugong and Seagrass Conservation Project. 5 Ni-Vanuatu students assisted with the questionnaires
- ▶ 2 Ni-Vanuatu Scientists employed on the CEPF-funded dugong project
- ▶ 8 Vanuatu scientist have been trained in seagrass assessment and monitoring.
- ▶ 4 Fisheries officers have participated in seagrass monitoring events



# Progress and actions against the SPREP Pacific Islands Regional Marine Species Programme 2013-2017

## Information, Awareness/Education and Communication Indicators:

- ▶ Appropriate educational/awareness programmes delivered to Pacific Island dugong range states.
- ▶ Information sheets on threats produced, translated where necessary, and distributed to communities and all relevant stakeholders

## Capacity Building Indicators:

- ▶ Training to build national and community capacity in dugong management conducted.

## Threat Reduction Indicators:

- ▶ Assessment and report on threats (identification and evaluation) completed in Pacific Island range states;
- ▶ Measures to address identified threats to dugongs developed and implemented in Pacific Island range states.

## Actions in Vanuatu

- ▶ Posters books and conservation toolkit distributed
- ▶ Workshops – dugong conservation and tourism guidelines
- ▶ Exhibition and art competition
  
- ▶ Participation by Ni-Vanautu scientists and government officers in the Dugong and Seagrass Conservation project including meetings and workshops.
  
- ▶ Identification of threats via the CMS dugong questionnaire.
- ▶ Direct take – enforcement action
- ▶ Fisheries interaction – advice given in workshops and awareness materials



# Progress and actions against the SPREP Pacific Islands Regional Marine Species Programme 2013-2017

## Management and Protection Indicators:

- ▶ Legislation and/or traditional measures for the management and protection of dugongs in place.
- ▶ Legislation and/or traditional measures to reduce dugong mortality in place
- ▶ National dugong management/recovery plans developed.
- ▶ Enforcement mechanisms including engagement of communities in place/strengthened.
- ▶ Awareness campaigns on existing laws on destructive practices conducted.

## Traditional Knowledge, Customary Marine tenure and traditional Resource Management Indicators:

- ▶ Traditional knowledge in dugong Pacific Island range states documented, maintained and, where appropriate, incorporated into management.
- ▶ Community based management supported.
- ▶ Information and survey results disseminated to communities.

## Actions in Vanuatu

- ▶ Encourage custom land owners to create community conservation areas in Dugong hotspots and protect seagrass habitat.
- ▶ Law protects dugongs – enforcement actions by Vanuatu fisheries extension officer and VFD
- ▶ Work has begun on national plan of action with recommendations given to government. Work can continue under CEPF project.
- ▶ Custom and indigenous practices and stories captured in the dugong questionnaire.
- ▶ Community management of dugong habitat

# Progress and actions against the SPREP Pacific Islands Regional Marine Species Programme 2013-2017

## Research and Monitoring Indicators:

- ▶ Updated baseline surveys completed for distribution and abundance for all Pacific range states by 2017

## Sustainable Practices/ Interactions with Dugongs Indicators:

- ▶ Guidelines for responsible dugong watching and other related activities developed and effectively implemented.
- ▶ Policy/legislation in place for issuance of permits to regulate dugong watching operations and other related activities.
- ▶ Legislation that include prohibition of the keeping of dugongs in captivity with appropriate exceptions via a permitting system, in place.

## National, Regional and International Collaboration Indicators:

- ▶ Partnerships developed for research and conservation effort among most range states and stakeholders.

## Actions in Vanuatu

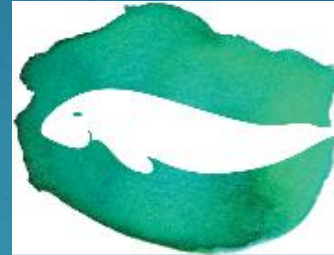
- ▶ Distribution and threat identified using CMS questionnaire.
- ▶ 20 dugong hotspots identified where gillnet fishing overlaps with where dugongs frequently seen.
- ▶ Seagrass monitoring with Seagrass watch.
- ▶ Sustainable tourism – guidelines and workshops in hotspot areas
- ▶ Tourism questions added to the questionnaire
- ▶ Law already in place to prevent captive dugongs and marine mammal watching
- ▶ Took part in the GEF-funded Dugong and Seagrass conservation project collaborating with CMS- Dugong MoU secretariat and group of technical experts.



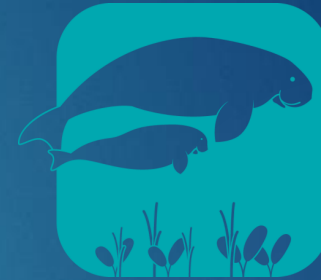
# Acknowledgements



Donors for “Strengthening monitoring, community management, and policies for Dugong Conservation in Vanuatu”



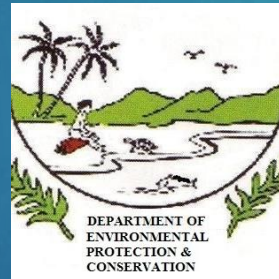
DUGONG  
MOU



Dugong  
& Seagrass  
CONSERVATION  
PROJECT



The Vanuatu  
Fisheries  
Department



The Department of  
Environmental Protection  
and Conservation

