CEPF Final Completion and Impact Report

Organization's Legal Name:	Vanuatu Environmental Science Society
Project Title:	Strengthening Monitoring, Community Management, and Policies for Dugong Conservation in Vanuatu
Grant Number:	66418
Hotspot:	East Melanesian Islands
Strategic Direction:	3 Safeguard priority globally threatened species by addressing major threats and information gaps
Grant Amount:	$92,550.00
Project Dates:	July 01, 2017 - December 31, 2021
Date of Report:	March 27, 2022

IMPLEMENTATION PARTNERS

The Vanuatu Environmental Science Society was the implementor of this project and was responsible for the project management and delivering all the activities within the project, including organising training and workshops, field surveys of seagrasses and dugongs, and designing and conducting awareness workshops. Seagrass Watch from James Cook University delivered training to scientists in the seagrass monitoring using the Seagrass Watch methodology and has given advice where requested. Christophe Cleguer and Amanda Hodgson of the Marine Megafauna Research unit at Murdoch University were technical advisors for the dugong surveys using unmanned aerial vehicles and delivered training to conduct dugong surveys and continued to give advice.

CONSERVATION IMPACTS

Planned Long-Term Impacts: 3+ years (as stated in the approved proposal)

Impact Description	Impact Summary
1. A long term monitoring plan for dugongs and seagrass in Vanuatu will have been created.	VESS has created a plan for how our organisation can continue monitoring dugongs and seagrasses in Vanuatu.
2. Policy makers will have data on dugongs and seagrasses that will aid their decision making in regards to policy-making and marine spatial management.	The data and information that VESS has collected on dugongs and seagrass has been shared with the Department of Environment, the Department of Fisheries and the Oceans Office, including during a project and during workshops to delineate the Special and Unique Marine Areas (SUMAs) of Vanuatu.

Impact Description	Impact Summary
3. VESS will have the capacity to use scientific methodologies including Unmanned Aerial Vehicles (UAVs) for projects and programs to conserve threatened species and ecosystems.	The VESS team received training from Chris Cleguer and Amanda Hodgson from the Marine Mega Fauna research group at Murdoch University on how to conduct UAV arterial surveys. The VESS team designed and completed a survey of the North Efate dugong hotspot. The VESS team also received training on seagrass monitoring by Len McKenzie of Seagrass Watch. VESS has established 4 permanent monitoring sites in seagrass meadows in Vanautu and conducted 29 monitoring events. The data from this monitoring events has been included in three scientific papers.

Planned Short-Term Impacts: 1 to 3 years (as stated in the approved proposal)

Impact Description	Impact Summary
1) VESS will have the capacity to use UAVs for projects and programs to conserve threatened species and ecosystems.	The VESS team received training from Chris Cleguer and Amanda Hodgson from the Marine Mega Fauna research group at Murdoch University on how to conduct UAV aerial surveys. The VESS team designed and completed a survey of the North Efate dugong hotspot.
2) The abundance of dugongs in at least 4 dugongs hotspot (most likely to be on Efate, Epi, Malakula and Santo) will be known and form a baseline for future monitoring.	Delays in receiving permission for the drone surveys and people assisting with the surveys affected by travel restrictions due to Covid, meant only one survey has been conducted in the North Efate dugong hotspot. Technical issues with the drones also affected the surveys. 7,465 photos were taken on 38 flights covering an area of just under 8 square kilometres. 3 dugongs were detected as well as 106 turtles, 6 dolphins, one shark and one ray. This give a density of 0.38 dugongs / square kilometre for the North Efate hotspot for sighted dugongs.
3) The Seagrass Watch program will be established in Vanuatu with at last 4 communities (again most likely to be on Efate,Efate, Epi, Malakula and Santo) using this method to monitoring seagrass meadows in dugongs hotspot areas.	The VESS team has established 4 Seagrass Watch monitoring sites within dugong hotspots in North Efate, South Efate, Epi and Malekula.
4) Dugong and seagrass conservation measures will be incorporated into community conservation plans for at least 4 Community Conservation Areas (CCAs). If there is no CCA in the dugong hotspot VESS will facilitate the establishment of the CCA in the hotspot area.	There has been delays in registering CCA in several dugong hotspots due to land disputes in the areas or communities not completing consultations with neighbouring communities. Meetings and discussion have been had with community conservation groups in Lamen Bay and Lamen Island in Epi and in Lamap in Malakula. We have assisted the communities in listing natural resources they use within their community conservation areas and give recommendations for management to the conservation committees. We have recommended

Impact Description	Impact Summary
	dugong and seagrass conservation actions that can be taken.
5) The committee responsible for creating recommendations for The Dugong and Seagrass Action Plan, consisting of government departments, the Vanuatu Cultural Centre, VESS and other NGO's, will have taken into account the data from the dugong aerial surveys and the Seagrass Watch programme before making it recommendations. The recommendations will be submitted to the Vanuatu Fisheries Department, who are responsible for the National Action Plans for marine species.	Actions to be included in a National Dugong and Seagrass action plan were discussed at a Dugong and Seagrass Conservation steering committee meeting and the recommendations were given to the relevant government departments
6) Recommendation will have been made to include important dugong and seagrass areas in marine protected areas created under the Oceans Policy's marine spatial planning component. The recommendations will be submitted to the Vanuatu Fisheries Department, who are responsible for the implementation of the policy for consideration.	VESS took part in a workshop to identify Special and Unique Marine (SUMA) areas of Vanuatu and recommended that the dugong hotspots identified in previous studies were considered. VESS also shared data on dugongs and seagrass that VESS has collected with the team at the Oceans Office, who were responsible for creating delineating the SUMAs. 34 SUMAs had the presence of dugongs listed as a justification for inclusion as a SUMA in Vanuatu.

Unexpected impacts (positive or negative)?
Over the time frame of the project five Ni-Vanautu recent science graduates gained experience in scientific survey during our fieldwork as well as experience working in all aspects of a project focusing on the conservation of a threatened marine species. Three have gone on to work for the Vanautu Fisheries Department. Martika Tahi continues to work at VESS. Martika was awarded the CEPF Hotspot Hero award for the East Melanesia Islands hotspot.

Due to the increased awareness of the importance of dugongs and the laws that protect them resulting from the VESS workshops in the dugong hotspot area, the Vanautu Fisheries Department felt more confident in carrying out enforcement actions against infringements. Penalty notices have been applied for the first time for killing a dugong after an investigation by Fisheries and the maritime police. The dugong was killed after getting caught in fishing nets. Subsequently, the fishers now know to report any incidents involving dugongs to the Vanuatu Fisheries Department. Fisheries authorised officers are also more vigilant in the areas where dugongs are most coming encountered.

PROJECT RESULTS/DELIVERABLES

Overall results of the project:
VESS has successfully conducted an aerial survey using unmanned aerial vehicles to detect dugongs in Vanuatu. Researchers at the Murdoch University's Marine Megafauna research unit have developed a survey methodology for detecting dugongs using drones as an affordable alternative to manned aerial surveys. Christophe Cleguer and Amanda Hodgson assisted the VESS scientists to adapt the survey technique for Vanuatu. Christophe travelled to Vanuatu in October 2018 and conducted training over a week with 4 of the VESS team on the theory of aerial surveys and practical steps on how to create flight plans and fly the

drones to capture photos of the survey sites. He also demonstrated how to manually assess the photos for dugongs and other marine megafauna. Despite several challenges during the project timeframe, we successfully surveyed one dugong hotspot in north Efate. 7,465 photos were taken on 38 flights covering an area of just under 8 square kilometres. 3 dugongs were detected as well as 106 turtles, 6 dolphins, one shark and one ray. From these results we calculated a dugong density of 0.38 dugongs per square kilometre within the north Efate dugong hotspot. This will serve as a baseline for future studies. Capacity has been built in-country to conduct these surveys and relationships with international experts have been strengthened. We will continue to work with Chris Cleguer, who is now at James Cook University, beyond the project end and will seek further funding to conduct additional surveys within the dugong hotspots in Vanuatu.

Dugongs are dependent on seagrass for their survival. Therefore, protection of seagrass meadows is an important component of dugong conservation efforts. Assessing and monitoring important seagrass meadows over the long term will reveal trends in seagrass health and interventions can be implemented at an early stage to ensure dugongs in the area have enough food and habitat for their survival. This project has established long-term monitoring sites for seagrasses in Vanuatu within dugong hotspots. Len McKenzie and Rudi Yoshida from James Cook University delivered a three-day workshop on seagrass monitoring using the Seagrass Watch methodology between the 7th and 9th of August 2017 in Port Vila. This built capacity in the sixteen Pacific Island scientists who took part in the training. Six of the VESS scientists achieved the basic level training certificates from Seagrass Watch Headquarters for successfully completing the training course and participating in 3 monitoring events after the course within a year. Len McKenzie and Rudi Yoshida produced a proceedings manual for the course which is now used as a manual for VESS's seagrass monitoring events.

Four sites have been established and twenty-six monitoring events have taken place during the project. The sites are: Erakor Lagoon, South Efate, (10 monitoring events); Poanganisu, North Efate (9 monitoring events); Lamap, Southeast Malekula, (4 monitoring events); Lamen Bay, Northwest Epi, (3 monitoring events).

The monitoring that has taken place under this project has created a baseline for continued surveillance. From the initial data the seagrass meadows appear to be stable. Nine Ni-Vanuatu scientists have experienced an ecosystem monitoring programme with six achieving certification in Seagrass Watch monitoring. In addition, four fisheries officers also gained experience in the methodology.
Data from the seagrass monitoring has been reported back to the communities to guide management of their coastal area. All data has been collected by VESS and sent to Seagrass Watch headquarters for quality control and quality assurance and incorporation into the global database for seagrasses. The data has also been used in 3 published scientific papers.
154 seagrass specimens were collected representing 6 species of seagrass from 4 sites. 70 specimens have been deposited at the National Herbarium of Vanuatu at the Department of Forests. The remaining specimens are held at the VESS office. Prior to this collection there were only 4 seagrass specimens within the collection at the National Herbarium. The data of the specimens has been uploaded to GBIF.

Over the timeframe of the project the 1,891 people attended workshops conducted by VESS. We organised and delivered sixty-one workshops between August 2018 and December 2020. Two workshops were designed and conducted in the dugong hotspots. The first was general awareness raising on the lifecycle and ecology of dugongs, the importance

of seagrass, the threats dugongs and seagrasses face, and practical conservation measures communities could take to help conserve the species in Vanuatu. This workshop's target audience was the communities living close to the 5 dugong hotspots which were selected as sites for this project (north and south Efate, Malekula, South Santo and Epi). The second workshop was to explain the Guidelines for Interacting with Dugongs and the accompanying Code of Conduct to Tourism Operators that were developed in our previous project, the GEF-funded Dugong and Seagrass Conservation Project. Guidelines for tourism operators was seen as a priority in Vanuatu as inappropriate tourism interaction has been cited as a threat to dugongs here. This workshop was aimed at tourism operators in the dugong hotspot areas, including bungalow owners and boat drivers as well as tour guides. Of the attendees to the workshops 1084 were male and 807 were female. 758 were children of which 342 were boys and 416 were girls.

Awareness materials were developed for use during the workshops and for distribution. A workbook for dugong and seagrass conservation was written to accompany the workshop but also to be left with the communities so they can conduct their own workshops to reach more people. This included information about dugongs and seagrass as well as activities to reinforce the messages. 225 Dugong awareness toolkits were given out to communities in English and in Bislama. 115 copies of a "Dugongs and their Seagrass Habitat" booklet was also distributed during. 117 posters on dugongs and seagrass were also distributed. During the workshop to introduce the guidelines for interacting with dugongs, 362 copies of the guidelines and 337 copies of the Code of Conduct of Tourism operators were given to community members. In addition, 305 posters on swimming with dugongs or kayaking near dugongs were give to tourism operators to display for tourists in their establishments. We have had feedback from people visiting the Maskelyns as tourists that the guides are using the guidelines to brief tourist during tours to see the dugongs. We have also seen the postured displayed in villages, at island tourist bungalows and at high-end hotels. Eco-bags printed with a dugong and a conservation message, were given as gifts when we visited and proved very popular amongst the communities. Booklets and guidelines are published on the VESS website. As well as the planned awareness-raising activities the VESS team has responded to requests to participate in events organised by Government, the National University other organisations and delivered presentations or displayed posters.

Recommendations have been drawn up for a Nation Plan of Action for Dugongs and their Seagrass Habitat and delivered to the Vanuatu government. VESS took part in a workshop to identify Special and Unique Marine (SUMA) areas of Vanuatu and recommended that the dugong hotspots were considered. VESS also shared data on dugongs and seagrass that VESS has collected with the team at the Oceans Office, who were responsible for creating delineating the SUMAs. 34 SUMAs had the presence of dugongs listed as a justification for inclusion as a SUMA in Vanuatu.

More details of the seagrass activities, dugong survey and awareness-raising can be found in reports published on the VESS website: https://www.vanuatuconservation.org/cepf-dugong-and-seagrass-project/

Results for each deliverable:

Component		Deliverable		
#	Description	#	Description	Results for Deliverable
1.0	Dugong population survey of dugong hotspot areas (likely to be Efate, Epi, Malakula and Santo)	1.6	By June 2019 the results will have been shared with stakeholders and the general public via a press release and a meeting in Port Vila to communicate the results via a visual presentation as evidence by photos of the event and the press release.	Due to the timing of the survey in North Efate, having been delayed to the end of the project, there has not yet been time to deliver the results to the wider stakeholder community. VESS is committed to continuing dugong conservation and awareness raising and will deliver the results as soon as is practically possible, considering Covid19 restrictions.
1.0	Dugong population survey of dugong hotspot areas (likely to be Efate, Epi, Malakula and Santo)	1.7	By June 2019 the results will be published on the VESS website in the form of a written report.	A report on the drone survey of North Efate is published on the VESS website: https://www.vanuatuconservation.org/cepf-dugong-and-seagrass-project/
1.0	Dugong population survey of dugong hotspot areas (likely to be Efate, Epi, Malakula and Santo)	1.8	By June 2019 a long-term monitoring plan for dugong population in Vanuatu will have been designed including a sustainable funding mechanism. Proposals will have been prepared and submitted to donors to fund the plan.	A monitoring plan has been written for dugongs and their seagrass habitat has been written. Funding has been sought to implement VESS's plan. VESS was approached by the Dugong MoU secretariat and SPREP as they are collaborating to put in a project proposal to the Kiwa Initiative for a regional Dugong and Seagrass Conservation project in the Pacific. It will be structured similarly to the successful GEF-funded Dugong and Seagrass Conservation project that VESS was the Vanuatu implementing partner for. We have agreed to be the Vanuatu partner in this new proposal. A concept note is being prepared and if that is successful and the project proposal is progressed to the next stage,

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				VESS will be involved in the writing of the full proposal, which will include assessment of the blue carbon in seagrass meadows and investigating carbon credits as a sustainable funding mechanism. VESS has also applied for a national grant under the Kiwa to expand seagrass monitoring however this grant application was not successful.
1.0	Dugong population survey of dugong hotspot areas (likely to be Efate, Epi, Malakula and Santo)	1.9	By the end of September 2018 VESS staff will have attended a workshop for development of the National Plan of Action for Dugongs and their Seagrass habitat as evidenced by a report of the meeting.	Recommendations have been drawn up for a Nation Plan of Action for Dugongs and their Seagrass Habitat. These were based on the regional SPREP action plan and the global Dugong CMS action plans. The in-country expert members of the National Facilitating Committee of the GEF-funded Dugong and Seagrass Conservation Project, including VESS, DEPC and VFD conducted a short workshop to examine activities, choose which ones were applicable and adapted them for suitability for Vanuatu. These recommendations have been submitted to the government and will be the basis of the National Plan of Action for Dugongs and their Seagrass habitat.
1.0	Dugong population survey of dugong hotspot areas (likely to be Efate, Epi, Malakula and Santo)	1.10	By December 2017 VESS staff will have delivered a report with recommendations for which dugong hotspots should be included in marine protected areas under the marine	VESS staff attended the workshops convened by the Oceans Office in Vanuatu under the MacBio project. The data from dugong and seagrass research conducted by VESS was used to assess special and unique marine areas.

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			spatial planning component of the National Ocean's Policy.	
2.0	Community monitoring of seagrass using Seagrass Watch in dugong hotspot areas (likely to be Efate, Epi, Malakula and Santo).	2.6	By March 2019 at least 4 communities have incorporated seagrass conservation into the management plans for the Community Conservation Areas as evidenced by the management plans.	Communities in Lamap (South Malekula) and Laman (Northwest Epi) have, with the help of the VESS team, assessed the marine and terrestrial resources in their area. They requested advice on how to properly manage their resources. VESS consulted with the Vanuatu Fisheries Department and provided management recommendations on marine flora and fauna found in their areas. This will feed into the management plans for their community conservation areas. In Poanganisu in North Efate there is a land dispute and this needs to be resolved before work can go ahead to register a CCA with the government.
2.0	Community monitoring of seagrass using Seagrass Watch in dugong hotspot areas (likely to be Efate, Epi, Malakula and Santo).	2.7	By May 2019 the data and results from the Seagrass Watch program will have been communicated to the communities in the surveyed hotspots areas via a visual presentation of the results and a written report as evidenced by photos and the reports.	Reports for communities have been prepared by the VESS team using the data from all the seagrass monitoring events their area. The results have been delivered to the communities in the survey areas during subsequent visits to carry out awareness workshops. The results were presented at the workshops and a written report given to the community leader and area conservation groups. The community reports have been updated after each monitoring event and the updated written reports delivered to the community leaders.

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2.0	Community monitoring of seagrass using Seagrass Watch in dugong hotspot areas (likely to be Efate, Epi, Malakula and Santo).	2.8	By the June 2019 the results will have been shared with stakeholders and the general public via a press release and a meeting in Port Vila to communicate the results via a visual presentation as evidenced by photos of the event and the press release.	On the 13th of July 2020, the VESS team held an event to deposit 70 seagrass specimens at the Vanuatu National Herbarium located at the Department of Forestry. Over 23 people attended the event, included the British High Commissioner, deputy Director of Vanuatu Fisheries Department the Director of Environmental Protection and Conservation and Department of Forest staff. Christina Shaw gave a presentation on the seagrass specimens and the Seagrass Watch monitoring that had been undertaken by the VESS Ni-Vanuatu scientists and communities in the dugong hotspot areas. Five seagrass monitors, including VESS staff and assistants were awarded a seagrass-watch certificate of achievement during the event. The certificate of achievement is given once seagrass monitors have participated in seagrass monitoring events and uploaded data to the global database at least 3 times. There was also a display of seagrass voucher specimens for the attendees to look at before they were deposited into the herbarium. Prior to this deposition of voucher specimens, the Vanuatu National Herbarium only had 4 specimens of seagrass, collected in 1971. An article was published in the Daily post newspaper and on the VESS website.
2.0	Community monitoring of seagrass using Seagrass	2.9	By June 2019 the results will be published on the VESS	A report on the project seagrass activities including the Seagrass Watch monitoring has

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	Watch in dugong hotspot areas (likely to be Efate, Epi, Malakula and Santo).		website in the form of a written report.	been published in the VESS website. https://www.vanuatuconservation.org/cepf-dugong-and-seagrass-project/
2.0	Community monitoring of seagrass using Seagrass Watch in dugong hotspot areas (likely to be Efate, Epi, Malakula and Santo).	2.10	By June 2019 a long-term monitoring plan for important seagrass areas in Vanuatu will have been designed including a sustainable funding mechanism. Three proposals will have been prepared and submitted to donors to fund the plan.	VESS was approached by the Dugong MoU secretariat and SPREP as they are collaborating to put in a project proposal to the Kiwa Initiative for a regional Dugong and Seagrass Conservation project in the Pacific. It will be structured similarly to the successful GEF-funded Dugong and Seagrass Conservation project that VESS was the Vanuatu implementing partner for. We have agreed to be the Vanuatu partner in this new proposal. A concept note is being prepared and if that is successful and the project proposal is progressed to the next stage, VESS will be involved in the writing of the full proposal, which will include assessment of the blue carbon in seagrass meadows and investigating carbon credits as a sustainable funding mechanism. VESS also applied to Kiwa for a mediums sized national grant for ecosystem protection and restoration and included seagrass monitoring in the proposal. This proposal was not successful.
3.0	CEPF monitoring	3.4	Complaints system developed, disseminated and monitored with beneficiaries and project partners.	A complaints system and grievance mechanism was developed at the beginning of the project. It was incorporated into the project leaflet which was handed out to community leaders and community members

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				at the time of fieldwork and awareness raising activities.
3.0	CEPF monitoring	3.5	CEPF financial and programmatic reports submitted on time and accurately	Accurate reports have been submitted to CEPF as per the timetable for reporting throughout the project.
3.0	CEPF monitoring	3.6	Final impact monitoring report completed at project close.	This as the final impact report
3.0	CEPF monitoring	3.7	Photographs and a one paragraph description of the surveys will be submitted to the CEPF to be posted on Facebook or in other communications products	Photographs of all project activities were provided during each bi-annual progress report to CEPF.
1.0	Dugong population survey of dugong hotspot areas (likely to be Efate, Epi, Malakula and Santo)	1.1	By the end of 2017 at least 2 VESS employees will be trained in the use of unmanned aerial vehicles for conducting surveys for conservation projects including those relating to dugongs evidenced by an evaluation report by the trainer.	Four VESS scientists received training by Christopher Cleguer from Murdoch University's Marine Megafauna Research Group. The training was one week long in October 2018. The training started with the theory of unmanned aerial vehicle surveys for dugongs. The VESS scientists also learn the practical steps on how to plan, set up and conduct the Ariel surveys using the DJI Maverick Pro4 drones that were purchased under the Dugong and Seagrass Conservation project that this project followed on from. The team also learn how create flight plans in the DJI app and to programme the Litchi app to fly the survey cells. Chris demonstrated flying a survey cell and the VESS team practiced. Since the

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				training Christophe has provided mentorship to the VESS team and given advice and assistance when required.
1.0	Dugong population survey of dugong hotspot areas (likely to be Efate, Epi, Malakula and Santo)	1.2	By March 2018 at least two dugong hotspot areas (likely to be either Efate, Epi, Malakula and Santo) will have been surveyed and the photos and data analysed to calculate an estimate of the abundance of dugongs in this area as evidence by a report.	Due to delays in conducting the surveys there was only time left in the project to survey one of the dugong hotspots - North Efate. Delays were caused by time take to get approval for the surveys from various authorities, by personnel who were affected by travel restrictions due to Covid and with technical challenges with the drones. The VESS team worked with Chris Cleguer to design the survey of the north Efate hotspot using data we have collected previously, recent sightings and local knowledge. In the North Efate dugong hotspot 7,465 photos were taken on 38 flights covering an area of just under 8 square kilometres. The photos were assessed manually. Three dugongs were detected as well as 106 turtles, 6 dolphins, one shark and one ray. This give a density of 0.38 dugongs / square kilometre for the North Efate hotspot for sighted dugongs. As the survey was done late in the project, this figure has not been adjusted for availability bias which occurs because dugongs are not always visible on the surface and once adjusted the dugong density figure is likely to be higher. We will continue to work beyond the project end with Chris Cleguer, who is now at James Cook University, to further analyse these results and conduct

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				further surveys in the other dugong high priority hotspots.
1.0	Dugong population survey of dugong hotspot areas (likely to be Efate, Epi, Malakula and Santo)	1.3	By September 2018, the third and fourth dugong hotspot areas (likely to be either Efate, Epi, Malakula and Santo) will be surveyed and photos and data analysed to calculate an estimate of the abundance of dugongs in these areas as evidence by a report.	Due to delays in conducting the surveys there was only time left in the project to survey one of the dugong hotspots - North Efate. Delays were caused by time take to get approval for the surveys from various government authorities, by personnel who were affected by travel restrictions due to Covid, staff sickness and with technical challenges with the drones. We will continue to work beyond the project end with Chris Cleguer, who is now at James Cook University, to further analyse these results and conduct further surveys.
1.0	Dugong population survey of dugong hotspot areas (likely to be Efate, Epi, Malakula and Santo)	1.4	By May 2019 repeat surveys in the dugong hotspot area (likely to be either Efate, Epi, Malakula and Santo) will have been conducted and the photos and data analysed to calculate an estimate of the abundance of dugongs in this area as evidence by a report.	Due to delays in conducting the surveys there was only time left in the project to survey one of the dugong hotspots - North Efate. Delays were caused by time take to get approval for the surveys from various government authorities, by personnel who were affected by travel restrictions due to Covid, staff sickness and with technical challenges with the drones. We will continue to work beyond the project end with Chris Cleguer, who is now at James Cook University, to further analyse these results and conduct further surveys.
1.0	Dugong population survey of dugong hotspot areas (likely to be Efate, Epi, Malakula and Santo)	1.5	By May 2019 the results of the surveys will have been communicated to the communities in the surveyed hotspots areas via a visual	Due to the timing of the survey in North Efate, having been delayed to the end of the project, there has not yet been time to deliver the results to the community in North Efate. VESS is committed to continuing the relationship

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			presentation of the results and a written report as evidenced by photos and the reports.	with the communities in the dugong hotspot areas and will deliver the results as soon as is practically possible, considering Covid19 restrictions.
2.0	Community monitoring of seagrass using Seagrass Watch in dugong hotspot areas (likely to be Efate, Epi, Malakula and Santo).	2.1	By the end of 2017 Seagrass Watch HQ scientists will have conducted training for the Seagrass Watch program in Vanuatu with one of the communities as evidence by photos for the workshop.	When the project was conceived it was though that the communities would be able to monitor the seagrass meadows themselves. However the methodology, although designed for citizen scientists, requires a reasonable understanding of scientific methodology and it was decided that monitoring by the communities themselves unaided would not yield usable results, nor would the data be robust enough to contribute to the global database. Therefore, it was decide that the capacity would be built in Ni-Vanuatu scientist who could then monitor the seagrass meadows with the assistance of the communities during the monitoring events. A workshop took place between 7th and 9th August 2017. Len McKenzie and Rudi Yoshida from Seagrass Watch HQ delivered the workshop.
2.0	Community monitoring of seagrass using Seagrass Watch in dugong hotspot areas (likely to be Efate, Epi, Malakula and Santo).	2.2	By December 2017 at least 2 VESS scientist will be trained in Seagrass monitoring protocols by Seagrass Watch HQ scientists as evidence by evaluation report by the trainer.	Len McKenzie and Rudi Yoshida from James Cook University delivered a three day workshop on seagrass monitoring using the Seagrass Watch methodology. 16 Pacific Island Scientists took part in the training, 8 from VESS in Vanuatu and 8 travelled from the Solomon Islands funded by the GEF dugong and Seagrass Conservation Project. 4

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				additional people from the Vanuatu Government and SPREP attended the first day of the workshop which was theory. 6 of the VESS scientists achieved the basic level training certificates from Seagrass Watch Headquarters for successfully completing the training course and participating in 3 monitoring events after the course. Len McKenzie and Rudi Yoshida produced a proceedings manual for the course which is now used as a manual for VESS's seagrass monitoring events.
2.0	Community monitoring of seagrass using Seagrass Watch in dugong hotspot areas (likely to be Efate, Epi, Malakula and Santo).	2.3	By March 2018 at least 1 community (likely to be in either Efate, Epi, Malakula and Santo) will be monitoring seagrass areas using Seagrass Watch standardized protocols as evidence by data sheets returned to VESS.	The first long-term Seagrass monitoring site using Seagrass Watch methodology was established at Erakor Lagoon, within the South Efate dugong hotspot. The seagrass meadow was first assessed in September 2017. To date 10 monitoring events have taken place. All data has been collected by VESS and sent to Seagrass Watch headquarters for Quality control and quality assurance and incorporation not the global database for seagrasses. A written report to the communities has been repaired by VESS and given to the communities. This is updated after each monitoring event.
2.0	Community monitoring of seagrass using Seagrass Watch in dugong hotspot areas (likely to be Efate, Epi, Malakula and Santo).	2.4	By September 2018 a second and a third community (likely to be in either Efate, Epi, Malakula and Santo) will be	The second long-term Seagrass monitoring site using Seagrass Watch methodology was established at Poanganisu, within the North Efate dugong hotspot. The seagrass meadow was first assessed in December 2017. To date

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#	Description	#	Description	Results for Deliverable
			monitoring seagrass areas using Seagrass Watch standardized protocols as evidence by data sheets returned to VESS.	9 monitoring events have taken place. A third site was established at Lamen Bay in Epi. The Epi site was first assessed in September 2018 and three monitoring events have taken place. All data has been collected by VESS and sent to Seagrass Watch headquarters for Quality control and quality assurance and incorporation not the global database for seagrasses. A written report to the communities has been repaired by VESS and given to the communities. This is updated after each monitoring event.
2.0	Community monitoring of seagrass using Seagrass Watch in dugong hotspot areas (likely to be Efate, Epi, Malakula and Santo).	2.5	By March 2019 a fourth 4 community (likely to be in either Efate, Epi, Malakula and Santo) will be monitoring seagrass areas using Seagrass Watch standardized protocols as evidence by data sheets returned to VESS.	A fourth long-term seagrass monitoring site has been set up in Lamap in Malakula. The Malakula site was first assessed in August 2018 and 4 monitoring events have taken place to date. All data has been collected by VESS and sent to Seagrass Watch headquarters for Quality control and quality assurance and incorporation not the global database for seagrasses. A written report to the communities has been repaired by VESS and given to the communities. This is updated after each monitoring event. Specimens of seagrasses from this site have been collected and some have been deposited at the National Herbarium, the other specimens are held at the VESS office.
3.0	CEPF monitoring	3.1	Institutional capacity of VESS evaluated through the	The Gender tracking tool was completed by VESS staff at the beginning and end of the project.

Component		Deliverable		
#	Description	#	Description	Results for Deliverable
			CSTT and the gender tracking tool	
3.0	CEPF monitoring	3.2	FPIC process undertaken and formal written approval obtained from indigenous community authorities located in all project sites obtained and approved by CEPF prior to commencing project activities.	Informed written consent was obtained for all project activities and letters from community leaders were sent to CEPF Secretariat prior to commence meant of fieldwork. Local communities were kept informed of activities and the results of the fieldwork throughout the project.
3.0	CEPF monitoring	3.3	Safeguard policy for Indigenous peoples are effectively evaluated, implemented and followed-up reports are prepared every six months to CEPF	A safeguarding policy was created at the beginning of the project and followed throughout with report written and sent to CEPF secretariat every 6 months

Tools, products or methodologies that resulted from the project or contributed to the results:
Reports on the Seagrass activities, the awareness activities and the dugong drone survey are available on the VESS website.
Proceedings form Seagrass Watch training was written by Lan McKenzie and Rudi Yoshida of Seagrass Watch. This now acts as the manual for VESS seagrass monitoring in Vanautu.
Collection of seagrass herbarium specimens at VESS and in the National herbarium. The seagrass herbarium specimen dataset can be seen via this link: https://www.gbif.org/dataset/0c77bfef-bbbc-43f9-9583-98bd4b9d5b77
Christina Shaw is the co-author on three scientific paper to which the seagrass data collected under this project has contributed: "Assessing intertidal seagrass beds relative to water quality in Vanuatu, South Pacific" https://doi.org/10.1016/j.marpolbul.2020.111936 ; "Seagrass ecosystem contributions to people's quality of life in the Pacific Island Countries and Territories" https://doi.org/10.1016/j.marpolbul.2021.112307 ; Seagrass ecosystems of the Pacific Island Countries and Territories: A global bright spot" https://doi.org/10.1016/j.marpolbul.2021.112308
The dugong and seagrass data from our dugong conservation project were used in the process undertaken to define and describe the special, unique marine areas of Vanuatu. The final version the reports is now available at: http://macbio-pacific.info/Resources/biophysically-specialunique-marine-areas-of-vanuatu/. & http://macbio-pacific.info/Resources/marine-bioregions-of-vanuatu-2/

PORTFOLIO INDICATORS

Portfolio Indicator Number	Portfolio Indicator Description	Expected Numerical Contribution	Expected Contribution Description	Actual Numerical Contribution	Actual Contribution Description

GLOBAL INDICATORS

Protected Areas

Protected areas that have been created and/or expanded as a result of the project. Protected areas may include private or community reserves, municipal or provincial parks, or other designations where biodiversity conservation is an official management goal.

Name of Protected Area	WDPA ID*	Latitude	Longitude	Country	Original Total Size (Hectares) **	New Protected Hectares ***	Year of Legal Declaration or Expansion

*World Database of Protected Areas

**If this is a new protected area, 0 should appear in this column

*** This column excludes the original total size of the protected area.

Key Biodiversity Area Management

Key Biodiversity Areas (KBAs) under improved management—where tangible results have been achieved to support conservation—as a result of the project.

KBA Name	KBA Code	Size of KBA	Number of Hectares with Improved Management

Production Landscapes

Production landscapes with strengthened management of biodiversity as a result of the project.

A production landscape is defined as a site outside a protected area where commercial agriculture, forestry or natural product exploitation occurs.

Name of Production Landscape	Latitude	Longitude	Hectares Strengthened	Intervention

Benefits to Individuals

- **Structured Training:**

Number of Men Trained	Number of Women Trained	Topics of Training
9	6	Seagrass monitoring using Seagrass Watch methodology Conducting dugong surveys using unmanned aerial vehicles

- **Cash Benefits:**

Number of Men – Cash Benefits	Number of Women – Cash Benefits	Description of Benefits

Benefits to Communities

View the **characteristics** column below with the following corresponding codes:	View the **benefits** column below with the following corresponding codes:
1- Small Landowners	a. Increased Access to Clean Water
2- Subsistence Economy	b. Increased Food Security
3- Indigenous/ Ethnic Peoples	c. Increased Access to Energy
4- Pastoralists / Nomadic Peoples	d. Increased Access to Public Services
5- Recent Migrants	e. Increased Resilience to Climate Change
6- Urban Communities	f. Improved Land Tenure
7- Other	g. Improved Use of Traditional Knowledge
	h. Improved Decision-Making
	i. Improved Access to Ecosystem Services

Community Name	**Community Characteristics**							**Type of Benefit**								**Country**	**Number of Males Benefitting**	**Number of Females Benefitting**
	1	**2**	**3**	**4**	**5**	**6**	**7**	**a**	**b**	**c**	**d**	**e**	**f**	**g**	**h**	**i**			

Characteristics of "Other" Communities:

Policies, Laws and Regulations

View the **topics** column below with the following corresponding codes:			
A- Agriculture	E- Energy	I- Planning/Zoning	M- Tourism
B- Climate	F- Fisheries	J- Pollution	N- Transportation
C- Ecosystem Management	G- Forestry	K- Protected Areas	O- Wildlife Trade
D- Education	H- Mining and Quarrying	L- Species Protection	P- Other

No.	**Name of Law**	**Scope**	**Topics**														
			A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**

"Other" Topics Addressed by the Policy, Law or Regulation:

No.	Country/ Countries	Date Enacted/ Amended	Expected impact	Action Performed to Achieve the Enactment/ Amendment

Companies Adopting Biodiversity-friendly Practices

A company is defined as a for-profit business entity. A biodiversity-friendly practice is one that conserves or uses natural resources in a sustainable manner.

Name of Company	Description of Biodiversity-Friendly Practice	Country/Countries where Practice was Adopted

Networks and Partnerships

Networks/partnerships should have some lasting benefit beyond immediate project implementation. Informal networks/partnerships are acceptable.

Name of Network/Partnership	Year Established	Country/ Countries	Established by Project?	Purpose

Sustainable Financing

Sustainable financing mechanisms generate funding for the long-term (generally five or more years). These include, but are not limited to, conservation trust funds, debt-for-nature swaps, payment for ecosystem services (PES) schemes, and other revenue, fee or tax schemes that generate long-term funding for conservation.

Name of Mechanism	Purpose	Date Established	Description	Country/ Countries	Project Intervention	Delivery of Funds?

Globally Threatened Species

Globally threatened species (CR, EN, VU) on the IUCN Red List of Threatened Species, benefitting from the project.

Genus	Species	Common Name (English)	Status	Intervention	Population Trend at Site
Dugong	dugon	Sea Cow	VU	Awareness raising of threats and conservation actions that can be taken at community level. Awareness raising of guidelines for interacting with dugongs and the code of conduct for tourism operators. Monitoring of seagrass - important habitat for dugongs - in dugong hotspots. Assessment of dugong population in hotspot area using drone surveys.	Unknown

LESSONS LEARNED

Collaborating with international experts in this project helps us to know that the methods we are using to assess and monitor seagrass and dugongs are robust and will yield meaningful results to help local communities and government to protect Vanuatu's vulnerable dugong population and critical seagrass habitat. It also saved us valuable time as their methods and protocols have already been well researched and tried and tested.
We did not anticipate the length of time it took to get the permissions needed for the drone surveys nor the range of permission required from different agencies. Although we started early in the project with the application for the research permit, we perhaps should have made more effort easier to get the other permissions in place. We should also in hindsight have requested a longer time period for the permit than the project timeline for the original research permit to allow for delays, as we did not realise there was no provision to extend if he project was extended. As the Covid19 pandemic has taught us some unexpected disruptions can last for a significant period of time.

SUSTAINABILITY/REPLICATION

We have established relationships with our international expert collaborators over two consecutive projects now and this project has strengthened the relationship further. We expect that we will continue to work together on new initiatives in the future.
Much of this project was capacity building the in-country team at VESS to conduct surveys independent of visits from external consultants. Whist it is still very valuable to work with people who are recognised global experts in their field, if work can continue on the ground independent to the infrequent visits valuable data can insights can be collected. The capacity building was not limited to a small number of VESS scientist but the training and offers of hands on experience were offered and taken up by others in Vanautu and beyond from government agencies and other NGOs.

Vanuatu is geographically spread over many islands and it is expensive and time consuming to travel to remote field sites. 20 dugong hotspots have been identified in Vanautu as places to consecrate conservation efforts for dugongs. Because funding was limited and the time frame of the project was short, this project aimed to conduct seagrass monitoring, dugong surveys and awareness raising in 4 of the 6 highest priority sites. For the seagrass monitoring this was achieved, for the awareness raising we visit 5 sites but due to the delays in the permission for the drone surveys we only managed one site for the dugong surveys. Because of this project, we now have the capacity roll out these activities that assist with the conservation of dugongs in Vanuatu to other dugong hotspots in Vanuatu and will seek funding to do so.

ENVIRONMENTAL AND SOCIAL SAFEGUARDS/STANDARDS

No safeguarding issues were raised during this project and no difficulties have been encountered. A grievance mechanism was developed as follows: Indigenous Peoples and other local communities and stakeholders may raise a grievance at any time with VESS or CEPF about any issues relating to the project. During meetings with the communities at the beginning of the project community members will be informed about this possibility and contact information will be provided for the VESS managers, the CEPF RIT and the CEPF secretariat. VESS will respond to grievances in writing and inform the CEPF and RIT in

writing within 15 working days of receipt. Claims will be filed, included in project monitoring, and a copy of any grievance will be provided to the CEPF Secretariat. The grievance mechanism and contact details were incorporated in to the project leaflet that was given out at each visit to the communities. The community leaders have been given project leaflets that contain the grievance mechanism. During the field trips to conduct the awareness workshops project leaflets were distributed at every location visited. No grievances have been raised by the community or anyone else regarding this project.

Throughout the project Douglas Koran and Martika Tahi, Ni-Vanuatu project scientists working for VESS have communicated with the communities. A letter explaining the project and the communities' involvement was given to all communities. Consent to go ahead with the project activities was been given in writing by village communities in all project sites. Martika Tahi has spoken to the chiefs and landowners, explained the project activities, and obtained or reconfirmed consent to conduct the drone surveys. Written letters of consent have been obtained from all the areas where the drone surveys are planned. Print to each visit to the communities throughout the project, we contacted local leaders to obtain permission to visit.

A research permit application was lodged with the Department of Environmental Protection and Conservation and VESS was issued a research permit for the activities in this project.

In some communities (Lamen Bay in Epi and Poanganisu in North Efate) there are ongoing land disputes. Despite this, the communities on both sides of the dispute were happy for VESS to continue project activities on the land. However this impacted the work to establish registered Community Conservation Areas in this locations, as the Vanuatu Government process dose not allow for registration of a CCA when there is a dispute.

Vanuatu has been in a national state of emergency due to the Covid19 pandemic from March 2020 until the end of the project. All international borders are closed except to repatriate citizens and residents, who are required to quarantine for 14 days. With these measures in place Vanuatu remained Covid-free and therefore there was no risk of VESS staff transmitting Covid to vulnerable communities during field visits. VESS has followed all Vanuatu government advice and instructions during the pandemic. VESS staff have voluntarily taken up the opportunity to be vaccinated against Covid19.

The safeguards policies were reviewed every 6 six months during the project and the review reported to the CEPF via the conservation grants portal along side the project other reports.

ADDITIONAL COMMENTS/RECOMMENDATIONS

ADDITIONAL FUNDING

Total Amount of Additional Funding Actually Secured (USD)	
Breakdown of Additional Funding	

INFORMATION SHARING AND CEPF POLICY

CEPF is committed to transparent operations and to helping civil society groups share experiences, lessons learned and results. For more information about this project, you may contact the organization and/or individual listed below.

Vanuatu Environmental Science Society. vess@vanuatuconservation.org. The project is featured on our website: https://www.vanuatuconservation.org/cepf-dugong-and-seagrass-project/