SURVEY REPORT - PENORU CONSERVATION AREA, NORTH WEST SANTO

Report compile by Noel Naki – Surveyor

Introduction

Conservation Area (CA) boundary demarcation around Vanuatu has always been a vital responsibility mainly for monitoring purposes. Previous major CA surveys includes the MESCAL *(Mangrove Ecosystem for Climate Change Adaptation and Livelihoods*) Project (*Eratap and Amal/Crab Bay on the island of Malekula*) back in 2013 and Mt Tabuwemasana Conservation Area on the island of Santo in 2017. The dataset helps the Government to monitor all CA around Vanuatu in terms of leases that might encroach into the Conservation Areas. This report is a summary of the activities done concerning the Boundary Demarcation of Penoru Conservation Area, North West of Santo Island. The first part of the report will highlight the Daily Activities. Secondly, the Workshop held with the community of Penoru. Methodology will then be discuss, then, followed by a summary of the Penoru Conservation Land Boundary.

1. Daily Activities

The Team comprises of two (2) Surveyors (*Noel Naki and Tony Kanas*), Compliance Officer from the Department of Environment (Tom Maimai), Charlie Vula (*NW Santo Area Administrator*) and seven (7) Porters from Penoru community. Half of the team depart Vila on the 21st of May from Vila to Santo and manage to have a debrief with the Department of Environment logistic Team, Penoru CA Secretary and the NW Santo Area Administrator before departing to Penoru, NW Santo. On the 22nd around 4am, the Team departed Matantas to Penoru by boat. Around 2pm, the Team arrived and settled in with a verbal welcome on the next day led by Penoru CA Secretary.

1.1 Boundary Demarcation Daily Activities

Date	Activities
24th May 2020	- Meet with all the local Potters to finalized access routes and repacked all that was needed for the trip
25th May 2020	- Departing Penoru Village, 5am - Established 1st and 2nd boundary pegs - Setup 1st camp - Fine Weather
26th May 2020	- Depart 1st Camp and established 3rd and 4th boundary pegs - Setup 2nd camp - Fine weather
27th May 2020	- Depart 2nd campsite to establish the 5th boundary peg, unfortunately, due to heavy rainfall, dense fog the proposed mountain range cannot be identifies, therefore, the team decided to shift the location to the very foot of the mountain to create an intersection. To achieved that,

	the team had to drop downhill 2.5 km and final return back home to the village round 9:30pm.
28th May 2020	A feast was held by the Penoru Conservation Area Committee to thank the Government officials and Team for a successful mission by the Community
29th May 2020	Depart for Luganville/Port Vila

Following are photos highlighting some daily activities.

Photo 1: Debrief with Environment Department and Penoru CA Secretary – Luganville, Santo

Photo 2: Date 24th – 27th May activities

1.2 Penoru Conservation Area Workshop

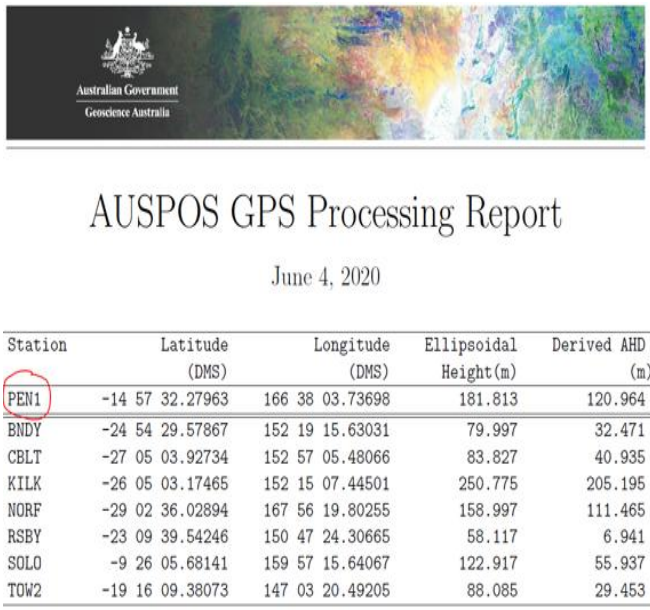
A workshop was held on the 17th of May 2020 specifically to confirm the existing Boundary, create a zoning map and identified issues affecting the Penoru CA. The Workshop was contacted in the presence of the Penoru CA Secretary, NW Santo Area Administrator and Penoru community. Firstly, the existing boundary was analysed. The workshop confirmed that the new boundary has to be adjusted. The exiting CA will be reduce and the propose CA extension will be eliminated. The reason why this happen was because there was lack of Government input during the past years, thus, people moved into the CA to do gardening and hunting. This helped the workshop to concept a zoning map for the area (see Map below). Certain issues were raised concerning the Environmental Laws in relation to trespass and other matters; the Environment Compliance Officer took note and answered most of the concern raised.

Workshop Photos:

1.3 Methodology

In terms of Precision, GNSS (Global Navigation Satellite System) GPS (Global Position System) equipments are used concerning the rough terrain of the North Western part of Santo Island where Penoru CA is located. It will be very difficult, time consuming and expensive to carry out the task using any other survey conventional methods. Data's were later send online to Auspos (Australian online GPS processing) for post-processing. The system uses other GNSS GPS Base stations around the Pacific to coordinate the Boundary of the Penoru CA. A GPS Base station (STOPSTN01) was also set-up near Lands Survey Department in Luganville, Santo, to crosscheck the computations to local projection (Santo DOS) in comparison with the Auspos processing.

Photo: Auspos Post processing Report (Bne, PNR01) & STOPSTN01



Australian Government
Geoscience Australia

AUSPOS GPS Processing Report

June 4, 2020

Station	Latitude (DMS)	Longitude (DMS)	Ellipsoidal Height(m)	Derived AHD (m)
PEN1	-14 57 32.27963	166 38 03.73698	181.813	120.964
BNDY	-24 54 29.57867	152 19 15.63031	79.997	32.471
CBLT	-27 05 03.92734	152 57 05.48066	83.827	40.935
KILK	-26 05 03.17465	152 15 07.44501	250.775	205.195
NORF	-29 02 36.02894	167 56 19.80255	158.997	111.465
RSBY	-23 09 39.54246	150 47 24.30665	58.117	6.941
SOLO	-9 26 05.68141	159 57 15.64067	122.917	55.937
TOW2	-19 16 09.38073	147 03 20.49205	88.085	29.453

1.4 Penoru Conservation Land Boundary (*refer to Survey plan and Map*)

The new Penoru CA is 11ha in total area. The survey was done around the ridge curving the CA. It took three (3) tiring days to carry out the task with fine weather. Lots of planning, effort, energy, determination and great teamwork resulted in carrying out this task successfully. Five (5) main cement pegs (*Bne, PNRO1-5*) were established (*boundary markers*) around the boundary. Most of the lengthy boundary lines we define by steep terrains, Valleys and rivers. Three (3) additional markers (*PNR04A-C*) included on the survey plans/maps indicates visual mountain top's known to the community as natural land marks (CA boundary makers).

Photo of Survey Plan and Zoning Map