



Cloudy Bay Sustainable Forestry Limited: Forest Management Area (FMA)

Annual Monitoring: Public Summary

2012

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1. Introduction

According to the Forestry Stewardship Council National Standards for Papua New Guinea, a public summary of the primary elements of the annual monitoring as per Principle 8, criteria 8.2, shall be made publically available and revised annually.

This document satisfies that requirement, however if the reader should have any further queries with regards to the management of the Forest Management Unit (FMU) of Cloudy Bay Sustainable Forestry Limited, please feel free to contact the **Managing Director, Mr. Mike Janssen** at the following contact details:

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2. Environmental Aspects

As essential as Economic and Social aspects, Cloudy Bay FMA forest management operations has been diligently following all necessary regulations and by-laws with regard to the Environmental aspects of its forestry operations.

Guidelines as set by the PNGFA such as the Logging Code of Practices (LCOP) and its related DEC guidelines are adhered to. The company ensures that an NFS officer is based on site by making available NFS housing on site so as to closely monitor its operations as per the CBFMA project Agreement.

The company also has its own Best Operating Practices (BOPs) and monitoring protocols to see that its operations are in line with existing government sanctioned guidelines.

The following monitoring processes were done in line with set NFS reporting procedures for this operational year 2012 including other planned assessments as deemed necessary by Forest Stewardship Council (FSC) using the FSC Forest Management Standards for Papua New Guinea Version 1.1 May 2010 principles and criteria's.

(a) Volumes & Species

All merchantable trees of 50cm DBH and greater was identified for harvesting. Over 60 different tree species were identified for harvesting. Five (5) most common log species that were scaled for milling in 2012 were Taun, Pink Satin Wood, Celtis Hard, Amberoi and Dysox (*Source: Log species list 2012, CBFMA Admin.*).

A total of 23,484 m³ of scaled logs went through preliminary processing resulting in a production output of 11,996 m³ of sawn timber from Bam Sawmill in 2012.

Young Residual trees identified within the vicinity of selected trees for harvesting are marked to avoid damage during felling or skidding. These will most likely make the next crop during the second cycle of harvest.

(b) Setup plans

Planning and execution of inventory and processing of forest data is a norm where setups are secured and enumerated and plans drawn up on how well to harvest following all necessary guidelines and regulations as prescribe by the LCOPs 24 key standards.

Identified cultural sites and trees such as Okari, Breadfruit, Pangium, Cinamum and trees for building canoes are left untouched with the consent of respective Landowners through signing of Cultural site forms, these were also identified and buffered as required by the LCOP and documented in the setup plan.

Residual trees closest to marked trees for felling are ring marked to be avoided using directional felling techniques.

(c) Annual Logging Plan (ALP)

AN overall plan on where and how to harvest with projected outcomes for the whole year based on the Annual Allowable cut (AAC) is drawn up which includes number of coupes and setups to be harvested, machinery, manpower, environmental prescriptions and accesses based on forest resource information. CBSFL is currently operating under an approved 2012/2013 ALP. Copy of the approved ALP for 2012/2013 is available at Cloudy Bay site and Head offices.

(d) 5 Year Forest Working Pan

The current operation is on year 6 (of yr6-yr10) working plan, the current plan will expire in 2016 from which a new plan will be drawn up (for yr11-yr15). The 5 year forest working plan can be sited at the CBSF Ltd office.

(e) Water Assessments

Regular water sampling has been done to test the closest stream to the Bam facility yard and living compound for metals and bacterial quantities. Tests have been conducted in the past but not regularly. This year water check was done by the Eco-management Consult Ltd in October and results were presented in their Environment performance report (2012 *Environment Performance report for Cloudy Bay FMA Logging and Bam sawmill operations*) or EPR 2012 for Bam operation site. The company is deciding to do such water checks on a quarterly basis. NARI laboratory (Port Moresby) does the testing for a cost, thus the results are used to assist the company in planning and regulating of its operations in compliance to Department of Environment & Conservation (DEC) permits.

Below are results from water tests conducted for the Bam operation site in October 2012.

Table 1:

Test Parameter	Result-Concentration in mg/L unless specified			Comment Higher or Lower than Standard
	<i>Doiguga (Robbinson) crk</i>		<i>Standard for Protection of Fresh Water Aquatic Life</i>	
	<i>Upstream</i>	<i>Downstream</i>		
Turbidity	1.5 N.T.U	1.5 N.T.U	No alteration to >25 N.T.U	No alteration by project
pH	6.98	7.01	No Alteration to natural pH	Upstream lower than downstream
Copper (Cu)	0.03	0.02	1.0 mg/L	Lower
Iron (Fe)	0.05	0.07	1.0 mg/L	Lower
Lead (Pb)	<0.001	<0.001	0.005 mg/L	Lower
Zinc (Zn)	0.02	0.02	5.0	Lower
BOD	6.24	6.89	No standard	Upstream lower than downstream
% Oil/Grease	<0.01	<0.01	0.0	Not much difference
E. Coli	34 per 100ml	35 per 100ml	No standard	Upstream lower than downstream
Coliforms	25 per 100ml	30 per 100ml	No standard	Upstream lower than downstream
Faecal coliforms	27 per 100ml	38 per 100ml	≤ 200 per 100ml	<ul style="list-style-type: none"> • Lower than standard • Upstream lower than downstream

(Source: EPR 2012 for Bam sawmill site, report by Eco-management consults Ltd)

Generally the metals test showed presence lower than critical allowable limits below the operation site; however the bacteria test showed a slight increase. Necessary steps will be planned to mitigate this in the coming year 2013.

(f) Setup Waste Assessment

This is an optional assessment conducted by the resident NFS officer to check on residues after logging a setup for left over merchantable logs or butt logs as required by NFS procedures. One such assessment was conducted by the resident NFS Monitoring officer for Setup 31 this year (report titled “Waste Assessment SUL #31 09/10 Report 2012) with labour support from the company. Waste assessed was at 0.2 % which is quite insignificant for this assessment meaning a sound setup extraction process.

(g) Small projects Environment Impact Assessment (SPEIA)

Assessment on the environment impacts of small projects implemented by the company is assessed prior to establishment. Buildings, landfills and quarry sites are assessed before the projects are implemented. A number of SPEIAs were conducted for the following new educational infrastructures along the CBFMA coastal communities this year (2012) along with other projects and are presented below;

Table 2:

No.	Location	Project type
1	Segiri	Alagadaga Quarry site
2	Amau	Proposed Gravel Extraction site
3	Bam	Church building site
4	Bam camp	Sawmill sawdust waste site
5	Bam camp	Sawmill waste site
6	Bam camp	Toxic waste pit
7	Boru	School buildings
8	Magaubo	School buildings
9	Robbinson Jetty	Jetty yard Extension
10	Bam camp	Accom. building Ablution block
11	Segiri	SDA church building site
12	Setup 28	River Gravel extraction site
13	Darava	Community hall building site

(h) Cultural Trees & Sites

Identification and registering of cultural sites as well as fauna with cultural importance is also done on a setup basis. As per a form 11 of the NFS PMCP, a Land owner Setup verification form is created to verify this during the pre harvest phase, the Inventory & planning section have created a Setup closure form to crosschecked again during setup closure to see that registered cultural sites and fauna are intact as much as possible and to be signed by the Land owner. This form will be used next year; this enhances the cultural

importance and facilitates participation of the Land owners in making decisions on the protection of their cultural heritage.

(i) Environment Performance

An summary assessment of the environment performance is conducted for the Cloudy Bay FMA and Wood Processing centre at 9 mile sites to check on adherences to environmental standards at the end of this year. An independent consultant is engaged to do this assessment who produces the Environment Performance report (*2012 Environment Performance report for Cloudy Bay FMA Logging and Bam Sawmill operations*). A copy of this report is made to the DEC for the company's DEC compliance procedure. This report is available at the Cloudy Bay site and Head offices.

The SHEQ section also conducts a general Audit for that purpose to ascertain basic safety, Health and Environment quality standards are followed according to set out standards by DEC, Health and Safety regulators. A trial Audit on Workplace health and Safety was conducted in November 2011 (*Audit report titled "Workplace Health and Safety Trial Audit", November 2011*), a review of this trial Audit is planned for 2013.

(j) Proposed Monitoring Activities for 2013

1. Fauna Sighting/Monitoring

Monitoring will be done on setup by setup basis for Fauna presence, where selected crews will report from time to time on presence of animals sighted in the setups during the harvesting time. Information captured will include nesting place, habitats, feeding places, or general flight territory.

Information will establish;

- *If there are RTE species presence in that locality*
- *If there are trees that needs to be left for Fauna Habitat*

2. Turtle Monitoring

Extraction of turtles out of the CBFMA area will also be monitored where tallies will be kept and data recorded to check on the frequency of turtle harvesting and extraction and updating will be done every month.

Information will assist to;

- *Keep tab on Green Back Turtle harvest*
- *Check on turtle exploitation*

3. Permanent Sample Plots

The company is establishing Permanent Sample plots (PSP) to monitor Mean Annual Increments (MAI) and stem Basal Area densities on its logged over setups. Data collection will go on for 10-15 years before a reasonable deduction can be made on expected growths which will be projected for the next cycle of harvesting. Proposed 10 plots will be established on all operable sites planned for harvesting for this reason and be monitored every 2 years. Additional information on fauna presence will also be noted.

Information will assist;

- *To deduce expected annual growths for forest management planning*
- *To deduce expected species diversity and value of forest in next cycle*
- *To observe Fauna presence*

4. Reserve Area Monitoring

The Bird of Paradise reserve area near Bonoabo was identified by the Land owners and proposed to be reserved where a portion of untouched natural forest (86.2 ha) has been left untouched where surveillance is planned on a 6 monthly basis. The area was accessed earlier this year with special permission to harvest 15 logs just to mend a deteriorating log bridge at Bonoabo.

Monitoring will help;

- *To maintain the reserve area*
- *To formulate actions to mitigate destructive activities*
- *To ensure continuous monitoring*

3. Economic Aspects

There are two areas that the Economic aspect covers in the Cloudy Bay FMA. The company's business operations and costs, and the economic development opportunities created through benefits received from the company. The latter is assessed to a certain extent where community based business projects source funds from the Project

Development committee (PDC), a committee set up by Landowners who manage their project funds.

(a) Financial Audit

Cloudy Bay Sustainable forestry Ltd, like every other profit making entity strives to make its operations profitable means and ways to manage all its operations profitably. It does financial audits to check on its operations profitability were independent financial auditors are engaged to do annually. This Audit is normally done at the Head Quarters (9 mile) in Port Moresby.

(b) Rainfall Recording

Rainfall data collection is done daily and the information entered into spreadsheets for working out monthly and annual means. This information is used to predict wet seasons for planning purposes and also to verify against shortfall in production for NFS reporting procedures. Total annual rainfall recorded for 2012 at Bam Sawmill site was 3627 mm, the lowest monthly recorded was November with 81.5 mm and the highest was October with 674.4 mm.

Summary of the monthly Rainfall in year 2012 are presented below;

Table 3:

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Total	277.0	191.0	484.5	113.2	631.0	386.5	280.0	193.5	226.0	674.4	81.5	88.5	3,627.1
Min	2.0	0.5	1.5	2.2	0.5	3.5	1.0	1.0	1.5	0.5	1.0	4.0	
Max	26.5	58.0	86.0	31.5	185.0	122.5	94.0	42.0	45.0	227.5	40.0	79.5	
Mean	8.9	6.6	15.6	3.8	20.4	12.9	9.0	6.2	7.5	21.8	2.7	2.9	

(Source: CBFMA Common files/Rainfall Register)

(c) Safety

Safety has been an integral part of all of Cloudy Bay Sustainable Forestry Ltd’s operations. The SHEQ section of the company ensured safety was practiced in all of its operations throughout the year. Awareness through regular Toolbox talks via daily meetings and sectional briefs ensures that workforce safety is enforced at all times. This has minimised downtime due to mechanical damages, unnecessary liabilities which leads to costly operations.

Regular safety monitoring and assessments were conducted throughout this year along with meetings and awareness. The SHEQ also carries out occasional general Audit every second year to update its status in the operations Safety performances. A review of the first Trial Audit (Workplace Health and Safety Trial Audit report, 2011) is planned for 2013 with an Audit proper to follow.

Below are summary of Safety monitoring and assessments done in 2012;

Table 4:

Total	Activity	Subject	Audience
48	Tool Box talk	Safety Consciousness of employees	All Sections
5	Awareness Forum	General Safety	All Sections
11	Safety Committee meetings	Work place safety issues & Updates	Safety reps.
67	Incident/Accident investigations	All Safety Incident reporting & mitigation	All Sections
3	Job Safety Analysis	Workplace safety	Sawmill
2	Safety Training programme	Incident Reporting, Job Safety Analysis	Safety reps.
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4. Social Aspects

The company's impact on the social life of the community is immense. This includes spin off from the land owner benefits such as Royalties and levies that they earn from the payment of leases and forest resources, employment and contracts to the company, infrastructures, road maintenance, Schools and Medical as well as Law enforcement support.

(a) Business Development Projects

Land owner funds are managed by a LO based committee (Project Development committee) to be sourced for small business projects through project proposal submissions and selection. With the assistance of the company's Business Development officer (BDO), proposals are prepared and submitted for funding. A Business Newsletter is produced quarterly reporting on these projects status. The 2012 issues of these newsletters (*Business Development News 4th Qtr Newsletter - 2012*) can be sighted at the CBSF Ltd HQ or the Bam site office.

The following projects were successful in obtaining funding in 2012;

Table 5:

No.	Project Description	Location
1	Adauba Poultry project (coastal)	Si'ini village
2	Poultry project (inland)	Segiri village
3	U.A Lam fresh garden produce (inland)	Bonoabo village
4	Monomo Fishing project (coastal)	Ale village
5	Magi Fishing project (coastal)	Labu village

(Source: *Business Development News 4th Qtr Newsletter-2012*)

Regular monitoring and advice is provided by the company's BDO from time to time and marketing arrangements are sometimes made with the company catering service.

The Project Development committee also allows for sponsorship of aspiring students from communities within the CBFMA to advance their education qualifications.

(b) Employment

As of 2012, a total of 433 employees were employed by Cloudy Bay Sustainable forest Ltd. 205 of those were employed for the CBFMA site while 190 were for the WPC 9mile operations. This excludes all contract workers ranging from construction to Catering at the CBFMA site. Employment records are kept to see general trends in the number, gender, localisation and job variation and training; it is updated regularly on a quarterly basis.

Summary of all Employees of the CBSF Ltd as of December 2012 are presented below;

Table 6:

Sections	Male	Female	Total	% Female
Non Executive Directors	1		1	
Expert Managers	10		10	30
PNG National Managers	7	3	10	39
Head office	11	7	18	23
WPC	154	36	190	10
Bush	186	19	205	9
Total	368	65	433	15

(Source: CBFMA Common file/Employee profile)

(c) Medical Support

The company has a Clinic with two medical staff who attends to sick and emergency incidents for employees. It also allows local communities to bring in sick patients for medical treatment and does regular clinical visits to accessible communities within the CBFMA area.

Records of attendance and sick registry are kept by these medical staff regularly on a day to day basis and monthly and annual reports are submitted to the company management as well as the Health department Central province.

Table below shows summary of Patient attendance and Diseases for the year 2012.

Table 7:

No.	Type of Disease	No. of Cases Treated
1	Respiratory system	1,829
2	Gastro/Intestinal disease	359
3	Skeletal/Muscular Aches & Pains	1,027
4	Lymphatic disease	115
5	Malaria disease	1,376
6	Skin disease	1,339
7	Urinary tract infection	86
8	Eye disease	89
9	Work related disease	57
10	Other procedures	1,036
11	Infant Immunisation	772

12	Antenatal Clinic	202
13	Dental problems	125
14	Baby deliveries	10
	TOTAL	8,422

(Source: Bam/Bonoabo clinic 2012 medical report)

(d) Infrastructure

A number of infrastructural projects have been completed in 2012. This includes School buildings, community roads, community halls and other minor projects. These projects are built under the CBFMA Project Development Agreement.

Total number of projects under the Infrastructural development established in year 2012 are summarised below in the table;
Projects completed in 2012

Table 8:

Type of Project	Qty	Location
Elementary classroom	1	Ganai
Teachers house	2	
Elementary Teachers house	1	Segiri
Elementary classroom	1	
Elementary Classroom	1	Iaba
Teachers House	1	
Community hall	1	Oio
Community hall	1	Bam
Medical centre	1	Bam
Teachers house	2	
School Classroom	1	Darava no.2
Teachers House	1	
School classroom	1	Gadoguina
Teachers house	1	
Apaeva Community road	2.25 km	Apaeva
Segiri community road	0.25 km	Segiri

(Source: Cloudy Bay Sustainable Forestry Ltd Social & Environment report 2012)

Materials and equipment used to do these infrastructures all come from Cloudy Bay Sustainable forestry Ltd. This includes the building designs and all quality building materials (timber) which are processed at the company's Wood Processing centre in 9 mile outside Port Moresby.