Improving the Detection and Prevention of Illegal Logging and Illegality in Shipment and Trade of Wood Products in Guyana

GFC/ITTO-Funded Project

PD 440/07 Rev.1

Report on Timber Tracking System

Version 1

G C Clarke
February 2009

Acknowledgements

Version 1

Contents

List of Figures

List of Exhibits

GFC/ITTO-Funded Project

Improving the Detection and Prevention of Illegal Logging and Illegality in Shipment and Trade of Wood Products in Guyana

PD 440/07 Rev.1

CHAPTER

Introduction
Indicators of Illegality
Chain of Custody Protocols
Forms and Reports
User Protocols
TORs for the Legality Unit

1 Introduction

Regulation of forest management has been rapidly evolving in Guyana and the Guyana Forestry Commission (GFC) takes an active and vigilant role in monitoring and promoting sustainable forest management practices. Reliable information on illegal forest harvesting activities is often difficult to obtain. Left unchecked, illegal logging and subsequent trade of timber represent a substantial threat to sustainable forest management in many countries.

The purpose of the project is to support forest law enforcement in Guyana using Remote Sensing technology, Geographic Information System (GIS) and barcode technology linked to database and communication technology.

This document represents the overall report on the timber-tracking system that builds on the existing procedures by incorporating barcode technology, a wireless Wide Area Network and an integrated main database.

The report is sectioned into chapters that each deal with an aspect of the timber tracking system. Following a brief discussion of illegality and the indicators to detect it, there is a chapter describing the national-level Chain of Custody and the associated protocols. This is followed by a description of the forms that will provide the vehicle for data collection by the GFC and a description of the reports which will be generated by the integrated database and used by the GFC for periodic accounting and ad hoc monitoring. Following this, is a chapter targeted at the users of the technology covering the databases and the barcode scanners; it is anticipated that this final chapter will undergo some refinement during the field testing of the system. Lastly is a chapter dealing with the Terms of Reference for the Legality Unit.

GFC/ITTO-Funded Project

Improving the Detection and Prevention of Illegal Logging and Illegality in Shipment and Trade of Wood Products in Guyana

PD 440/07 Rev.1

CHAPTER

Introduction
Indicators of Illegality
Chain of Custody Protocols
Forms and Reports
User Protocols
TORs for the Legality Unit

2   Indicators of Illegality

2.1   *Definition of legality*

A definition of legality for the production and trade of wood products in Guyana has been developed for the prototype Legal Assurance System.[1] This definition has a hierarchical structure based on an umbrella statement of legality which expands into a series of principles and indicators for assessing legality of operations.

In keeping with legality definitions developed elsewhere in the world, the definition encompasses requirements in the welfare, social, environmental and occupational health & safety sectors in addition to laws and regulations pertinent to the forestry sector.

It will be one the tasks of the Legality Unit to elaborate on this definition, to distinguish between legal origin and legal compliance in the definition and to make the definition practicable for enforcement.

2.2   *Indicators of illegality using satellite imagery*

An assessment of legality against such a comprehensive definition clearly requires on-the-ground inspections by qualified auditors. Nevertheless, remote detection of change in certain forest characteristics can play a supporting role in the assessment and ultimately enforcement of legality in the forestry sector. The legality indicators that can be tested using satellite image analysis will be restricted in a general sense to those that have a geographical element, though the scale and resolution of the imagery will be influential.

Using medium-scale imagery, change detection is possible for new forest roads and canopy clearings of around 1ha (100m x 100m) or more in extent. However, it is not possible to determine from images the purpose of such changes; i.e. whether the canopy disturbances are due to forestry activities or are related to other causes such as mining or agriculture.

In cases where change is detected, decisions can be supported by using other GIS data such as active forestry concessions, mining properties and agricultural leases. The use of images for change detection can thus serve as a mechanism to alert GFC to possible forestry activities and provide a rational basis for targeted ground-truthing or tasking higher-resolution satellites.

A flowchart has been developed (Figure 2-1) as a tool to support decisions regarding appropriate response by GFC to detection of changes in forest cover determined from medium resolution satellite images. At this scale, change can be categorized as linear or polygon features – equating to roads and canopy gaps (approximately 1ha or greater), respectively. The location of change is the primary determinant of whether it is likely to be illegal activity related to logging. Reference to proposed operations presented in Annual Operations Plans (AOPs) will be necessary to support a decision on the probable legality of any activity detected.

---

[1] Legal timber in Guyana is that which has been removed, transported, processed, bought or sold in a manner that is within the provision of relevant laws of the country.
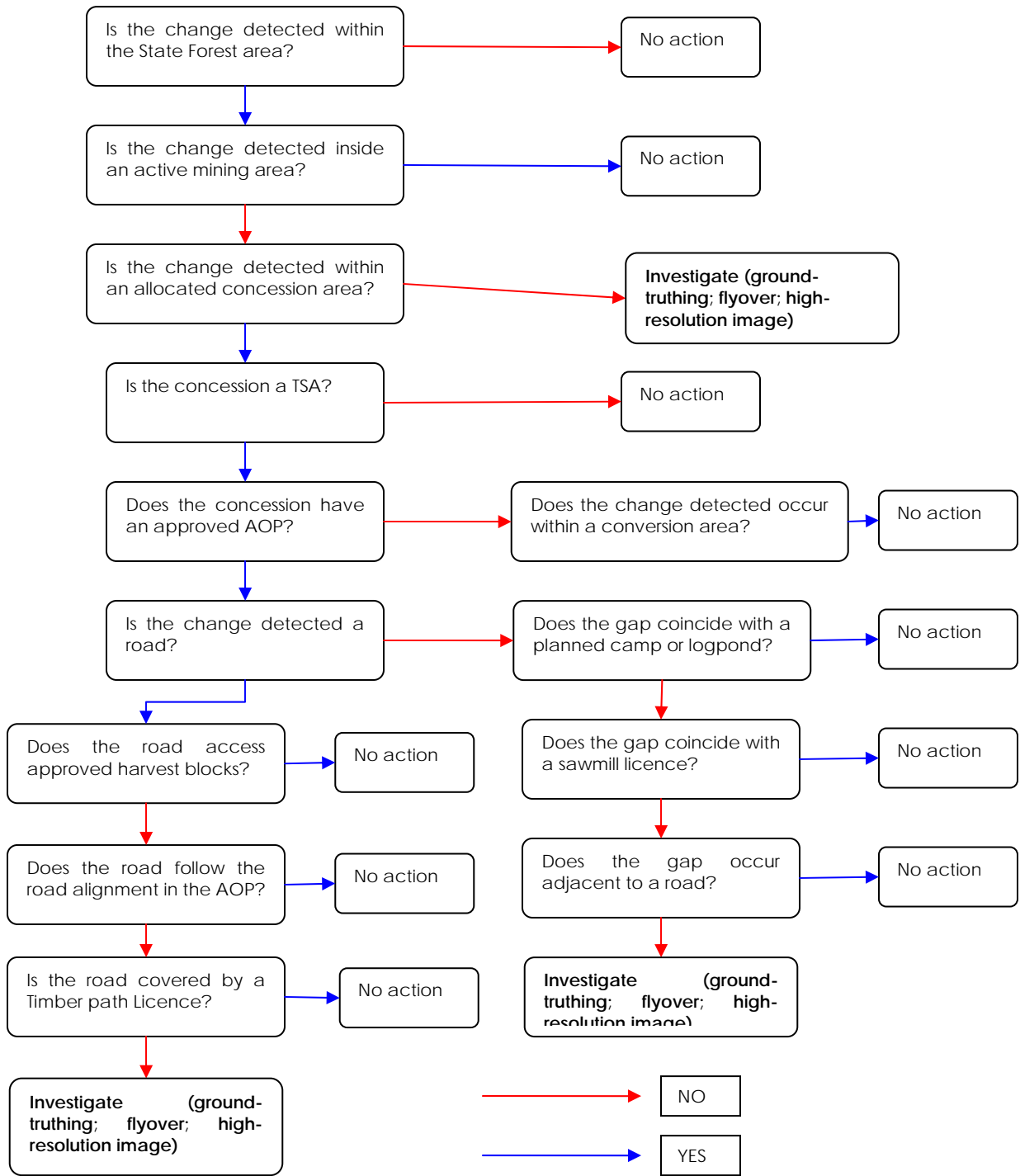
Figure 2-1. *Decision-support flowchart to assist in detection of possible illegality from medium-resolution satellite imagery.*

Higher resolution images, where available, should allow a determination of the nature of the change (i.e. forestry, mining, agriculture, residential) as well as a more profound assessment of compliance with some of the stipulations of the Code of Practice such as:

- Road widths

- Canopy openings

- Creek pollution

- Location of camps

- Vegetation clearance around bridges

- Skid trails

2.3   *Illegality detection on the ground*

It is difficult to quantify the level of illegality in the forest sector in any environment. However, experience in Guyana and from elsewhere in the world, has suggested that the most common kinds of illegality that occur in the forestry sector include:

- Clandestine poaching of logs from other concessions, non-allocated state forest, private property or reserves upon which the persons do not have logging rights.
- Encroachment and logging on neighbouring concessions.
- Falsely obtaining tags and/or removal permits.
- Misusing tags (e.g. wrongly locating stump tags).
- Under-declaring volume of loads and falsely declaring species.
- Harvesting, transporting or processing forest products without appropriate licences or permits (e.g. chainsaw licence, sawmill licence, removal permit).
- Logging in contravention of the Code of Practice, without approval or at variance with approved management plans.

While detection of these offences is possible under the existing GFC monitoring system, because of gaps in the databases and time delays in accessing the data, it is likely that many acts of illegality go undetected. It is the aim of the revised timber tracking system to encourage legality in the sector and seriously enhance the capacity of the GFC to enforce the relevant laws.

GFC/ITTO-Funded Project

Improving the Detection and Prevention of Illegal Logging and Illegality in Shipment and Trade of Wood Products in Guyana

PD 440/07 Rev.1

CHAPTER
Introduction
Indicators of Illegality
Chain of Custody Protocols
Forms and Reports
User Protocols
TORs for the Legality Unit

3   Chain of Custody Protocols for National-Level Timber Tracking

3.1   *Introduction*

3.1.1 *Purpose*

These chain-of-custody (CoC) protocols have been developed to support the national-level timber tracking initiative of the GFC/ITTO project. Their primary purpose is to set the framework for tracking of wood products through the supply chain at the national level and to ensure that sufficient data are available to supply national-level databases to ensure the legality of production, shipment and trade of wood products from Guyana. As such, while they make reference to procedures within processing facilities they are not intended to provide a full Chain-of-Custody for individual operations, nor do they make claim to verification of any such system.

3.1.2 *Scope*

The protocols are designed to cover log producers, sawmills, lumberyards (with or without secondary processing), furniture factories/workshops, manufacturing plants, lumber-dressing facilities and exporters. They set the standards for the collection of data for the national databases, elaborate the procedures for monitoring of wood products and facilities and generation of reconciliation reports using the databases[2].

3.2   *Material flowchart*

The flow of wood products through the supply chain in Guyana can be represented by the diagram in Figure 1. The flows of different products are represented by the coloured arrows; the broken arrows indicate the flows where material will be accompanied by the GFC barcode tags. Each box in the diagram represents a location: a timber production source (large-scale TSAs or small-scale SFPs), a facility in the processing chain (primary, secondary, manufacturing and retail) and a sales destination. Though the various locations are represented by separate boxes, it is recognised that in some cases the processing units will actually be located in the same facility (e.g. a planer located in a lumberyard).

3.3   *Issuance of tags*

Logging on State Forest land should only occur where a forestry concession has been issued. TSA's and WCL's must have an approved 5-yr forest management plan and an annual plan of operations. Logging is regulated by the sustainable harvest determined in the plans. SFP concessionaires are not required to produce management plans. Logging is regulated by the identification of an annual volume quota determined by the size and integrity of the concession and the forest type. Logging on private lands – such as agricultural land and Amerindian reservations – until recently has not come under the regulation of the GFC, though the recently passed Amerindian Act (April 2006) and Forests Bill (Jan 2008) do give the GFC greater authority to regulate logging activities on reservations and any wood products leaving reservations destined for sale do come under GFC regulations..

---

[2] Details of the forms and reports and protocols on the use of the barcode system are provided in following chapters (4 and 5).
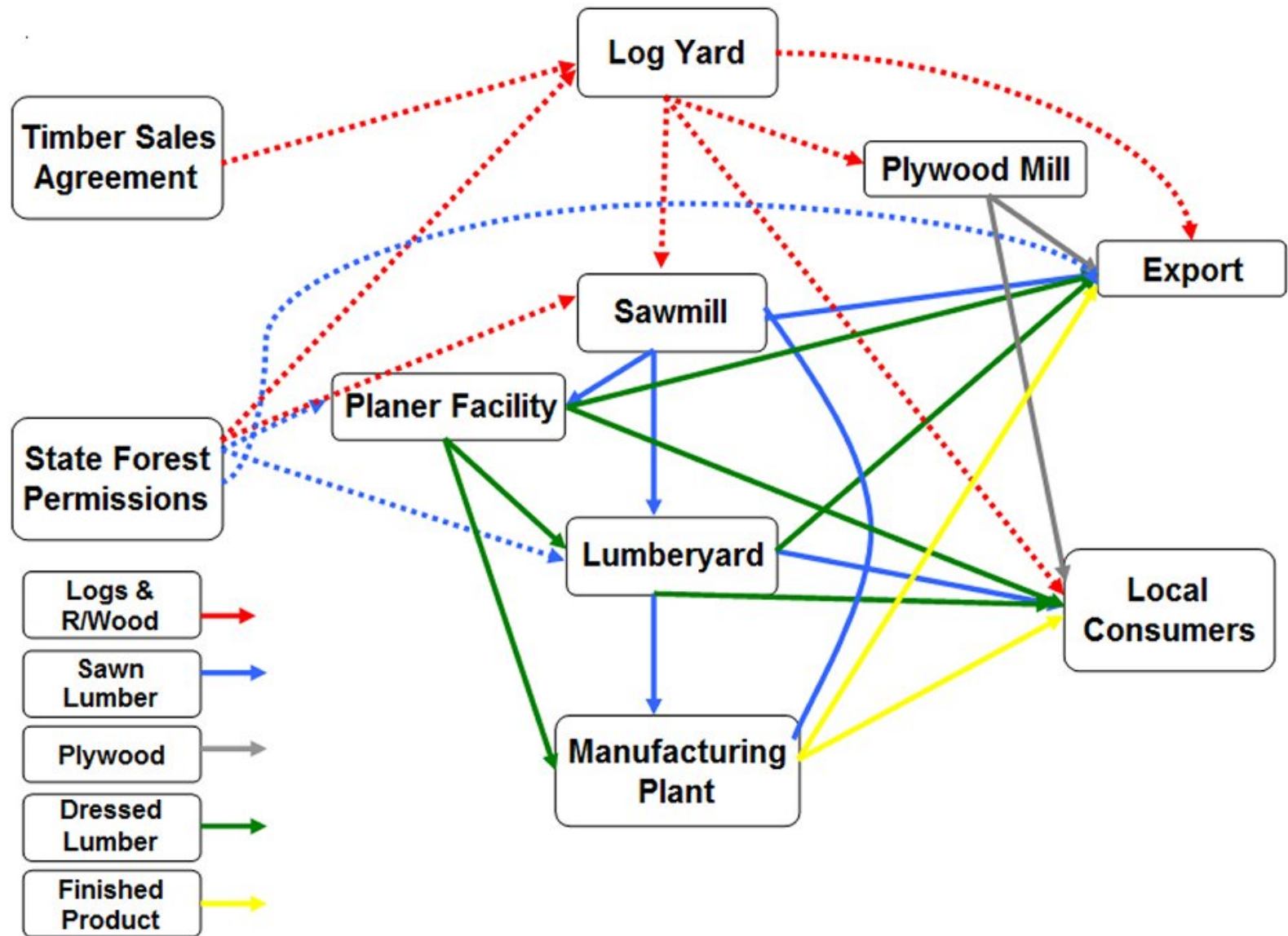
Figure 3-1. *Wood products flow chart for Guyana (dotted lines indicate that the GFC tag/barcode should be affixed).*

GFC/ITTO-Funded Project

Improving the Detection and Prevention of
Illegal Logging and Illegality in Shipment and
Trade of Wood Products in Guyana

PD 440/07 Rev.1

CHAPTER

Introduction
Indicators of Illegality
Chain of Custody Protocols
Forms and Reports
User Protocols
TORs for the Legality Unit

All trees felled – including those on private lands – should be identified with a GFC tag (barcode) and the corresponding tag affixed to the stump. Once used up further tags can be requested once a case is made that the quota was insufficient or the mean log size is less than that used to determine the original number of tags ($3m^3$/tree).

Tags are issued to TSAs and WCLs based on the Annual Allowable Cut determined in the forest plans. Tags, marked private and distinguished from State Forest tags by a different colour, are issued on request to land owners and Amerindian councils. Tags are not transferable once issued.

3.4   *Chain of Custody*

In order to track flows of material through the supply chain it is necessary to collect data at the various critical control points (e.g. where wood products enter and leave a processing unit). In most cases the means for data collection, and the associated forms, are in place though to be effective some forms have been revised to ensure that data collected is complete and enforcement of requirements is uniform.

3.5   *Production*

Production will be recorded on the production register and the removal permit by the concessionaire. The essential elements of these forms will be the listing of all logs produced referencing the GFC log-tracking (barcode) number, species, top and bottom diameter, source concession and block. In order to allow near real-time tracking of material, the production register should be surrendered fortnightly to the local GFC station for input into the production database.

3.6   *Processing*

In a CoC system it should be possible to track materials both forwards and backwards from input to sale, and sale back to input. All well-run processing facilities will already have in place some form of material-management system and record-keeping.

The CoC should build on existing systems, strengthening weak links as necessary to ensure that tracking is possible. The requirements listed below are not for a full CoC (individual processing units can adopt that on a voluntary basis); they are intended to provide the minimum requirements for data collection and recording to allow input and output records to be provided and reconciled.

3.6.1 *Processing/handling flowchart*

Each facility should describe the movement and processing of material within the facility from point of entry to final point of sale or transfer. This is best done with a flowchart. With the aid of the flowchart, it will be possible to identify the Critical Control Points in the process.

3.6.2 *Defining product groups*

Product groups are the basic unit in the CoC. A product group is a product or line of products which shares the same set of input materials in approximately the same proportions. Operators need to list all the product groups they produce with a detailed description of the materials in each product group.

GFC/ITTO-Funded Project

Improving the Detection and Prevention of Illegal Logging and Illegality in Shipment and Trade of Wood Products in Guyana

PD 440/07 Rev.1

CHAPTER

Introduction
Indicators of Illegality
Chain of Custody Protocols
Forms and Reports
User Protocols
TORs for the Legality Unit

3.6.3 Wood sourcing, receiving and storage

Wood raw material inputs should be identifiable and accompanied with appropriate paperwork (recording supplier information, quantity of delivery, species, date of delivery); in addition, buyers should complete the GFC Wood Products Supply form on a monthly basis. Logs or rough lumber bundles in storage should retain their GFC tag numbers/barcodes until processed.

3.6.3.1 Summary production records

Processing facilities should keep the following monthly records of their production:

- Raw material (or other partially processed material) received (Wood Products Supply form).

- Total volume of material sold (Wood Products Sales form).

- Sales invoices, packing lists and shipping documents, as appropriate.

3.6.3.2 Export

Export records should include all the sources of the material (i.e. lumberyards where material was purchased) by species, product and volume; this is recorded on the GFC Application for Export.

3.7 Monitoring and Control System

3.7.1 GFC databases

The GFC has built an integrated database system that can track timber and timber products through the supply chain – from the point of production to the point of export. This has been made possible by utilising some of the elements/software/databases that were currently existing (production and export) and adding some that did not exist (processing facilities). The flow of data through the system is illustrated in Figure 3-2.
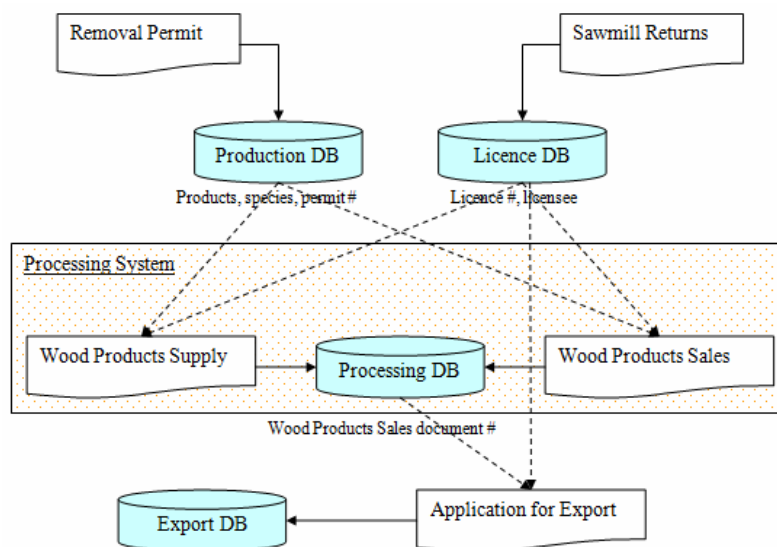

Figure 3-2. *GFC's integrated database system.*

GFC/ITTO-Funded Project

Improving the Detection and Prevention of Illegal Logging and Illegality in Shipment and Trade of Wood Products in Guyana

PD 440/07 Rev.1

CHAPTER

Introduction
Indicators of Illegality
Chain of Custody Protocols
Forms and Reports
User Protocols
TORs for the Legality Unit

3.7.2 Production database

This database consists of two parts: issuance and production. The issuance part contains a record of tags issued to each concession along with a list of approved harvest blocks (as appropriate)[3]; data are entered prior to issuance. The production part records all trees felled and extracted by tag (barcode) number, species and diameter; data are entered following harvesting and is based on production registers and removal permits.

3.7.3 Licence database

This database records the issuance of all licences such as sawmill licences, sawpit licences, lumberyard licences etc.

3.7.4 Processing/retail facility database.

This will incorporate the input and output records submitted by each processing/retail facility. The information will include names of products, species and permit numbers, which comes from the Production database, as well as licence numbers and licensee names, which will come from the Licence database. Input records will include the GFC tag (barcode) number when the facility is the first entry of logs or chainsaw lumber into the supply chain.

3.7.5 Export database.

This will provide a record of all wood products leaving the country by species, volume (or weight) and products. It will also keep a record of the immediate source of the wood products. Document numbers from the Processing database and licence information from the Licence database will be used.

3.8 Production

3.8.1 Use of Barcodes

The barcodes on tags will be used as a monitoring tool. The software will have the functionality to use bar coding technology to assist with timber tracking; thus users of the system should be able to scan a barcode into the application and it should produce details about the corresponding log tag. The barcode will contain only a number (this is less wasteful of tags – which cannot be pre-programmed – and increases security of data) which will be the unique GFC tag number. The barcodes will allow easy, on-the-go retrieval of information about any tag.

The system will support the following kinds of barcode scanning: real-time scanning and offline scanning. The scanner can be used at any point along the supply chain, once the GFC tag is still affixed (i.e. until the logyard or input bay, for chainsawn lumber), including at the stump. This allows greater flexibility in monitoring and enhanced effectiveness by introducing the ability for random spot-checks as well as routine checks at forest stations. Thus barcode monitoring will take place at roadside (at GFC

---

[3] TSAs are required to identify and get approval for harvest blocks each year in their annual plans. Block ranges (possibly not contiguous) will be linked to tags ranges (possibly not all in sequence) in the database.

GFC/ITTO-Funded Project

**Improving the Detection and Prevention of
Illegal Logging and Illegality in Shipment and
Trade of Wood Products in Guyana**

PD 440/07 Rev.1

CHAPTER

Introduction
Indicators of Illegality
Chain of Custody Protocols
Forms and Reports
User Protocols
TORs for the Legality Unit

stations or spot-checks), at stump and on the wharf. Whether scanning is real-time or offline will be determined by location and range of wireless contact with main- or regional-office databases.

3.8.2 Real-time Scanning

Forest officers will be equipped with barcode scanners which will be linked to the ground satellite stations that are part of the Virtual Private Network (VPN). The scanners will link to the production/issuance database and the scanner will display information about the tag (issuance) and, once the data has been entered from production records, the log (species and, possibly, size). This type of scanning will take place at one of GFC's main offices, which are part of GFC's Virtual Private Network (VPN) and can therefore access the main database housed at the Georgetown office either directly or via a local server at the office which will be able to obtain the required information from the main database at Georgetown. Specifically, the information that will be returned on the scanner will be:

- Concession name
- Concession #
- Tag #
- The status of the tag – whether assigned, used or spoilt
- The tag's expiry date
- The block number range(s) associated with the tag
- Species (if available)[4]

3.8.3 Offline Scanning

Not all GFC offices are connected to the main office's VPN and for most field locations direct wireless connection with databases. In such situations, forestry personnel will be able to go to a regional office, dock the scanner and download updates to the tag database into the scanner. The officer will then be able to scan tags and see information about that tag immediately, using a local database on the scanner device. The information returned will be the same as for real-time scanning.

Any discrepancies between the information returned on the scanner and the situation on the ground or the accompanying paperwork (production register, removal permit, export certificate) will alert the officer to the possibility of illegality[5].

3.9   Processing

The assessment of the CoC system includes on the ground inspections and checks of paperwork (GFC databases) to ensure accuracy, completeness and acceptable reconciliation between material inputs and outputs (taking into account normal recovery where appropriate).

---

[4] This information is from the production register and may not have been entered into the database at the time of scanning.

[5] Protocols for use of scanner and identifying discrepancies are provided in Chapter 5.

GFC/ITTO-Funded Project

Improving the Detection and Prevention of Illegal Logging and Illegality in Shipment and Trade of Wood Products in Guyana

PD 440/07 Rev.1

CHAPTER

Introduction
Indicators of Illegality
Chain of Custody Protocols
Forms and Reports
User Protocols
TORs for the Legality Unit

3.10   *Licensing and Transit*

All timber produce leaving the stump which is destined for sale, whether from State or private land, must be accompanied by a removal permit stating the tag numbers, species, sizes etc. This permit should accompany the vehicle at all times which in transit and be surrendered on request to a GFC officer.

In addition to concession permits, all those operating a chainsaw on their concession are required to obtain an annual "saw-pit" licence; sawmills (including portable sawmills) are required also to be licensed as are all lumberyards engaged in retailing of timber products. In addition, lumberyards should keep records of receipts and sales of lumber and are subject to regular monitoring by the GFC.

Version 1

GFC/ITTO-Funded Project

Improving the Detection and Prevention of Illegal Logging and Illegality in Shipment and Trade of Wood Products in Guyana

PD 440/07 Rev.1

CHAPTER

Introduction
Indicators of Illegality
Chain of Custody Protocols
Forms and Reports
User Protocols
TORs for the Legality Unit

4   Forms and Reports for National-Level Timber Tracking

4.1   Introduction

4.1.1 Purpose

The forms and reports are part of the CoC protocols are being developed to support the national-level timber tracking initiative of the GFC/ITTO project. Their primary purpose is allow GFC to collect sufficient information in an appropriate format from producers and processors in the wood products sector to allow for effective, efficient and meaningful analysis to be undertaken to allow preliminary verification of legality throughout the supply chain[6]. Forms are the primary means of data collection; reports are templates that can be generated from the data in order to support the monitoring of the CoC.

4.1.2 Scope

The forms are designed to cover log producers, sawmills, lumberyards (with or without secondary processing), furniture factories/workshops, manufacturing plants, lumber-dressing facilities and exporters. They set the standards for the collection of data for the national databases for monitoring of wood products and facilities and generation of reconciliation reports using the databases.

4.2   Data collection

The flow of wood products through the supply chain in Guyana has been represented in Chapter 3. The intention is to simplify data collection by the operator and by the GFC with the use of generic templates which will also be available in electronic form to facilitate ease of completion and submission, should the operator wish to do so. However, they will also be disseminated in paper form for manual completion.

4.2.1 Issuance

GFC will enter data on the issuance of barcode tags to producers directly into the central database (either at HQ or through the satellite stations).

4.2.2 Licensing

Licence information will be entered directly into the database by GFC personnel.

4.2.3 Production

The current production register will be completed by the individual producers (see template in Exhibit 1). These forms will be surrendered fortnightly to GFC offices. GFC will enter the data directly into the main database at HQ or via one of the satellite offices linked to the VPN. The production register will have more detailed measurements of a log, including which block or block range it belonged to.

4.2.4 Transit

---

[6] The forms and reports are not intended to provide a full Chain-of-Custody for individual operations, nor do they make claim to verification of any such system.

Upon actually using the tags, concessionaires must fill out a Removal Permit which details, for each product and species of wood harvested, which tags were used on the logs (remembering that one tag is attached to one log).

4.2.5 Processing facility input

Intermediate wood processing facilities, such as sawmills, will report all raw material purchases on a monthly basis using the Wood Products Supply form (see Exhibit 4-2). Recording GFC tag number is only applicable to those entities buying primary product (logs or chainsaw lumber). Data will be entered into the processing database by GFC.

4.2.6 Processing facility production

On a monthly basis, intermediate wood processing facilities will report their sales of wood products, using the Wood Products Sales form. It is very similar to the Wood Products Supply report, except that each detail line refers to the item sold, rather than an item bought. Also, each line indicates the purchaser of the product. Recording GFC tag number is only applicable to those entities selling primary product (logs or chainsaw lumber). Data will be entered into the processing database by GFC.

4.2.7 Export sales

All entities wishing to export forest products will complete the Application for Export Certificate (see Exhibit 4-3), following the approval of which they will complete a Commercial Invoice. Data will be entered into the export database by GFC.

4.3   Reports

4.3.1 Tag Usage Report

This existing report has been modified to include the following new parameters:

1. Station – in cases where a tag was used, the station where the corresponding permit was surrendered.
2. County – the county in which the permit was surrendered

4.3.2 Permit Usage Report

This new report will have the following inputs:

1. Date Range
2. Permit Number
3. Concession Name or number
4. Station at which the permit was surrendered
5. County at which the permit was surrendered

The outputs of the report will be:

1. Concession number
2. Concession name
3. Permit Number
4. Date of issue of permit
5. Date of return of permit

6. Status of permit. The status can be one of four states, based on the date of issue and return.

Status can be[7]:
- Outstanding – not returned, or used, but still within the 30 day validity period
- Returned and Used – returned within the validity period and used
- Returned and Expired – used after the period of validity and returned to GFC
- Returned, Unused and Expired – returned after the validity period and unused.
- Returned, Unused and Valid – returned within the validity period and unused.
- Expired - used after the period of validity and not returned to GFC

4.3.3 Production and Tag Usage Report

This report combines the Tag Usage and Production reports. The inputs are as follows: date range, concession name/number and permit number. The outputs are:

1. Permit Number
2. Tag Number
3. Number of pieces
4. Product
5. Species
6. Mean diameter
7. Length
8. Units
9. Quantity
10. Block No.

4.3.4 Sawmill Input/Output

This new report compares the inputs and outputs of sawmills. The inputs are:

1. Date range
2. Sawmill name
3. Licence number
4. County (of the licensee)
5. Species

The outputs are:
1. Date
2. Species
3. Input Quantity
4. Output Quantity
5. Recovery Rate (a percentage which is calculated as input/output x 100)

4.3.5 Purchase Input Report

---

[7] For the moment, this report will show two status indicators – Expired/Valid and Used/Not Used. There is currently no facility for inputting issued permits, only used ones. This means that the third status indicator – Returned/Not Returned - will be added when the issued facility is developed later.

This report searches for individual lines on the Wood Products Supply form. The inputs are:

1. Date range
2. Facility type (drop down list)
3. Partial facility name (assisted search box of all licensees and concessionaires)
4. Product
5. Species
6. Supplier
7. Invoice Number

The outputs are:

1. Date
2. Product
3. Species
4. UoM
5. Quantity
6. Supplier
7. Invoice Number
8. Tag Number
9. Permit Number

4.3.6 Sales Input Report

This report searches for individual lines on the Wood Products Supply form. The inputs are:

1. Date range
2. Facility type (drop down list)
3. Partial facility name (assisted search box of all licensees and concessionaires)
4. Product
5. Species
6. Purchaser
7. Invoice Number

The outputs are:

1. Date
2. Product
3. Species
4. UoM
5. Quantity
6. Purchaser
7. Invoice Number
8. Tag Number
9. Permit Number

4.3.7 Application for Export for Forest Produce

The database can be queried by exporter name and/or application number. The outputs are:

1. Exporter and licence number

2. Removal permit number
3. Location of produce
4. Place of loading
5. Time and date of loading
6. Supplier data

4.3.8 Application/Invoice Query

The purpose of this query is merely to be able to find and view the application associated with a particular invoice. Since there is already a search function for invoices, results will include links to view the corresponding applications for each invoice found.

4.3.9 Reconciliation Report

This report is meant to allow users to follow the chain of custody of forest produce as far as possible. The database can be queried by date (range), exporter's name, suppliers' permit #s, suppliers' name, suppliers' invoice/receipt #. The output is a list of products, species, quantity, unit of measurement, date and supplier.

Guyana Forestry Commission   Form: Production Register

Concession #		Compartment/Block	
Date from opened		Tag # from:	
		Tag # to:	

Permit #	GFC tag #	Pcs	Product	Diameter (cm)				D	Length (m)	Units	Quantity	
				D1	D2	D3	D4				Log	Other

Completed by: Designation   Date
Signature: Location

Checked by: Designation   Date
Signature   Location

Exhibit 4-1. *GFC Production Register template*

Guyana Forestry Commission — Form: Wood Products Supply

Year	
Month	
Facility Name	
Facility Address	
Facility Type	
Licence #	

Date	Product	Species	Units	Quantity	Supplier	Invoice #	GFC tag #	Permit #

NOTES

Facility Type:	Sawmill, dressing, lumberyard, manufacturing, exporter
Licence #:	GFC licence as applicable
Date:	Transaction date
Product:	Log, chainsawn lumber, dressed lumber, furniture etc
Units:	Units of measurement (m3, pieces, BM)
Quantity:	Volume, number, weight
Invoice #:	Or receipt #
GFC tag #:	Necessary for primary processor of logs or chainsawn lumber
Permit #:	As applicable

Exhibit 4-2. *GFC Wood Products Supply template*

Guyana Forestry Commission   Form: Wood Products Sales

Year	
Month	
Facility Name	
Facility Address	
Facility Type	
Licence #	

Date	Product	Species	Units	Quantity	Purchaser	Invoice #	GFC tag #	Permit #

NOTES

Facility Type:	Sawmill, dressing, lumberyard, manufacturing, exporter
Licence #:	GFC licence as applicable
Date:	Transaction date
Product:	Log, chainsawn lumber, dressed lumber, furniture etc
Units:	Units of measurement (m3, pieces, BM)
Quantity:	Volume, number, weight
Invoice #:	Or receipt #
GFC tag #:	Necessary for primary processor of logs or chainsawn lumber
Permit #:	As applicable

Exhibit 4-3. *GFC Wood Products Sales template*

APPLICATION FOR EXPORT OF FOREST PRODUCE

(to be completed in ink and in triplicate)

Name of Applicant:	
Address of Applicant:	
Removal Permit(s)/PP # (s):	
Suppliers Name (s):	1. 2. 3. 4. 5.
Suppliers Invoice/Receipt #'s:	1. 2. 3. 4. 5.
License #:	
Location of Produce:	
Proposed Place of Loading for Export:	
Expected Date & Time of Loading:	

Signature: Date:

FOR OFFICIAL USE ONLY

GFC Document #:

The above information has been checked and found to be true and correct.

Name of Officer: Date:

Officer Remarks:

Exhibit 4-4. *GFC Application for Export of Forest Produce template.*

GFC/ITTO-Funded Project

Improving the Detection and Prevention of Illegal Logging and Illegality in Shipment and Trade of Wood Products in Guyana

PD 440/07 Rev.1

CHAPTER

Introduction
Indicators of Illegality
Chain of Custody Protocols
Forms and Reports
User Protocols
TORs for the Legality Unit

5   User Protocols

5.1   *Databases*

5.1.1 Data Entry

5.1.1.1 Licence database

Entry into the licence database will be done at GFC's Head Quarters (HQ). Data will be derived from all licences that GFC issue for producers, processors and retailers.

5.1.1.2 Production database

Entry into the production database will be done both at GFC HQ and at GFC satellite forest stations in the VPN. Data will be transferred within the VPN via the WAN. Data sources will be both the removal permits and production registers submitted fortnightly. The relationship between the two documents is not strong enough for one to be created from the other, so the Production Database is set up in such a way that either one can be created first. For the production database it should be noted that all concessionaires need to submit Production Registers, regardless of their size but the association of block ranges to a tag range is optional, as it is only necessary for large concessions. Also, a block range may be associated with multiple tag ranges but tag ranges associated with block ranges will not necessarily be the same as those associated with a concessionaire.

The user will be able to type the beginning of the concession number then click the List of Values (LOV) button to see a list of matches from the database. After choosing the desired value, it will appear in the textbox (#1 in Exhibit 5-1). After choosing the concession number, the corresponding concession name will be shown in label #2. Clicking button #3 will enable a user to add a detail line to the current header. Clicking any Edit link (#4) will enable a user to edit the corresponding detail line of the current header.

The labels on this screen (#1 in Exhibit 5-2) will display the concession number and date the form was opened for the header for which the detail is being edited/created. This LOV (#2) will assist the user in choosing only permits that belong to the selected concession. Box #3 will only become available after the user has chosen a permit number (this assumes the Removal Permit has already been entered) and will only allow the user to enter a tag number that has been used on that permit. The Product and Species labels (#4) will display the respective corresponding values after the user has chosen a tag number. #5 will be calculated from the preceding diameters. Only a UoM associated with the chosen product will be allowed (#6).

For assignment of tag ranges to concessionaires at the satellite stations, the user places the cursor in the appropriate textbox in the application, and then scans the tag (or enter number manually) in order for the tag number to appear in the textbox. When both limits have been entered, and the remaining information provided, the user will click the submit button to assign the tag range to the selected concession.

5.1.1.3 Processing database

Entry into the processing database will be done at GFC HQ from the Wood Products Supply and Wood Products Sales forms. Information will include names of products, species and permit numbers, which comes from the Production Database, as well as licence numbers and licensee names, which come from the Licence Database.

Edit/Create Header

Exhibit 5-1. *Edit/create a header in the Production Database.*

Concession No.:

Edit/Create Detail

Header Information

Concession No.:   Date Form Opened:

Permit No.:   ...   ②   GFC Tag No.:   ③

Product: ④   Species:

Pieces: Quantity: ⑤

Diameters: Average Diameter:

Length: UoM: ...   ⑥

Block No.:

Save   Delete   New

Save

Exhibit 5-2. *Edit/create detail in the Production Database.*

Permit No.

5.1.1.4 Export database

Entry into the export database will be done at GFC HQ from the Application for Export Certificate form and the commercial invoices. Document numbers from the Processing database and licence information from the Licence database will need to be used to create the application document. See section 5.2.3.4 for details on entering data.

Edit...

Edit...

Edit...

Edit...

5.1.2 Data sharing

Data can be shared between GFC HQ main database and the databases held at the satellite GFC stations. Data can also be uploaded to the handheld barcode scanners for off-line scanning where the scanner will be used out of range of the VPN. It is proposed that on a fortnightly basis all field scanners will be returned to one of the satellite forest stations where they will be docked and the current data from the Production Database will be uploaded.

The updates downloaded should not overwrite or delete existing information. Is it intended that these offline databases only contain information about tags that are supposed to be used in that area of the country, in order to minimise the amount of information that will need to pass along the VPN, as well the amount of storage that will be required on the scanners.

5.1.3 Reports

5.1.3.1 Production Register headers

The user may type in the beginning of the concession number in the box (#1 in Exhibit 5-3) and the search will return matching register headers. In #2 the user may type in a partial concession name. Clicking on the Edit link of any header (#3) will enable the user to edit the header. The user will be able to use this paging control (#4) to scroll through what could be a long list of headers. This way the application will run faster and the user can quickly get to the desired record.
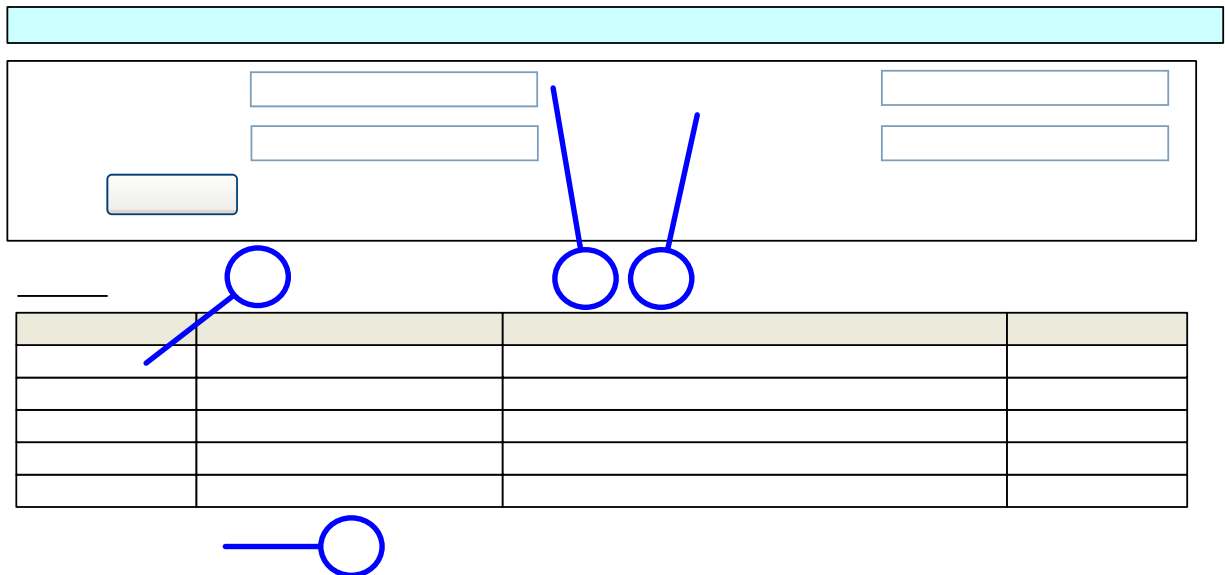

Exhibit 5-3. *Search for headers screenshot.*

5.1.3.2 Wood Products Supply report

The data input screen requires the licence number of the entity to be input; a browse option links to the Licence database if the licence number is not known (#1 in Exhibit 5-4). Clicking on the Get Information button (#2) will cause the (read-only) Licence Info section to be populated with the relevant information. Any Wood Products Supply Reports associated with the licence will also be displayed in the Found Reports section.

Clicking the Edit link (#3) will allow the user to edit the corresponding report in the section below. This is a standard form, with the exception that saving a new header (#4) will then allow the user to add in detail lines, using inline grid editing. Either Permit no or invoice no must be entered; if Permit No is entered, only species on that permit and tags on that permit will be allowed. As usual, cascade the

validation for species/product/uom and validate other party against other party type. Clicking the Edit button (#5) will allow the user to edit the detail line in the grid.
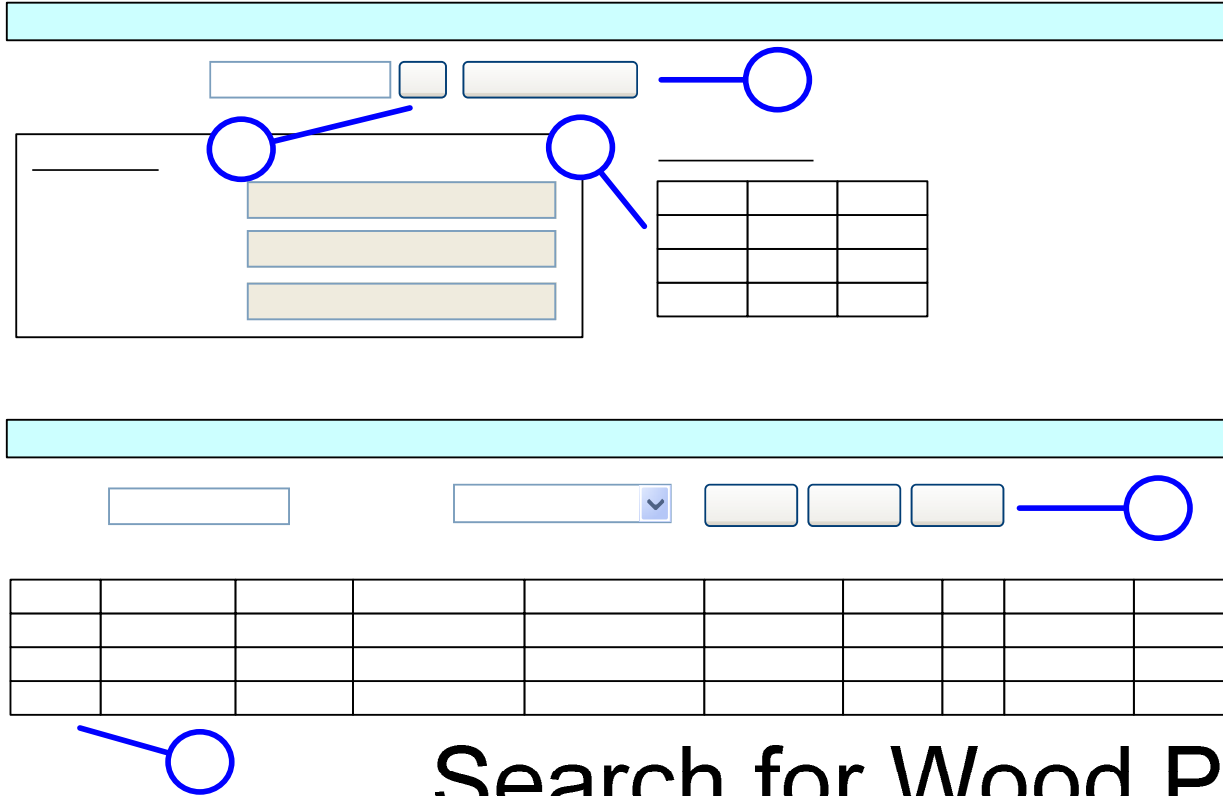
Search for Wood Produc

Exhibit 5-4. *Wood Products Supply report.*

Licence #:

5.1.3.3 Wood Products Sales report

This report format is the same as the previous except that purchasers will be returned rather than suppliers (see Exhibit 5-5).

Licence Info
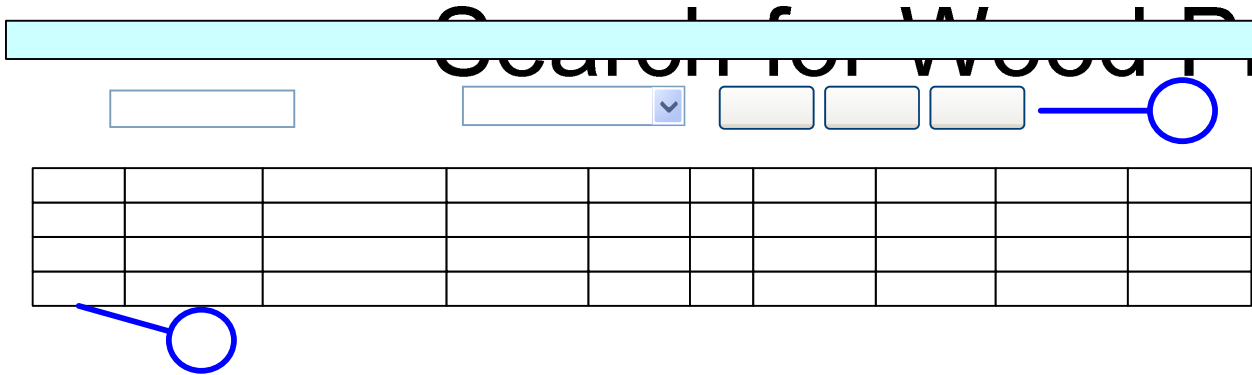
1

Facility Name:
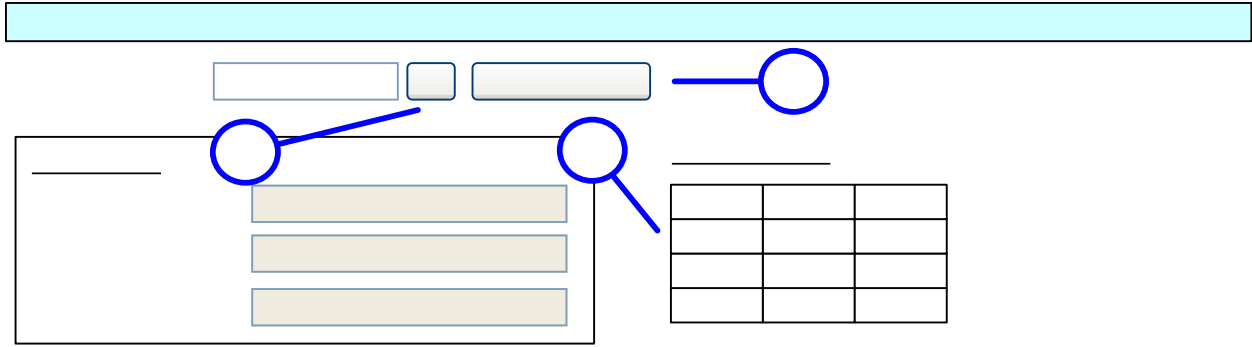
Facility Address:

Facility Type:

Exhibit 5-5. *Wood Products Sales report.*

Search for Wood Produc

Licence Info

1

Facility Name:

Facility Address:

Facility Type:

Edit/Create Report

Year:

5.1.3.4 Export report

Generating this report is in two stages. First, a search is done of the exporters list, then a list of the details including all suppliers for the order. The user will be assisted in finding the name of the desired exporter, and after clicking the button (#1 in Exhibit 5-6), the associated Applications will be displayed in the box below. Clicking an Edit link (#2) will allow the user to edit the corresponding Application.

The input of permit numbers is no longer free form, but individual and validated. Validation is attempted against the production database. If it fails the value is still accepted, but an indication of the validity is shown in the listing. Similarly, validation of suppliers' names and invoice numbers is attempted against the processing database, and an indication of the resulting validity shown in the listing.

Some read-only details about the current Exporter will be displayed (#3 in Exhibit 5-6), so the user can have a context to work with. The names of the exporter's suppliers, and their corresponding invoice or permit numbers will be completely managed from this grid (#4). Therefore, an indication of the type of number will have to be chosen. Then, a test validation will be done on the number. If the validation fails, do not hold back the transaction.

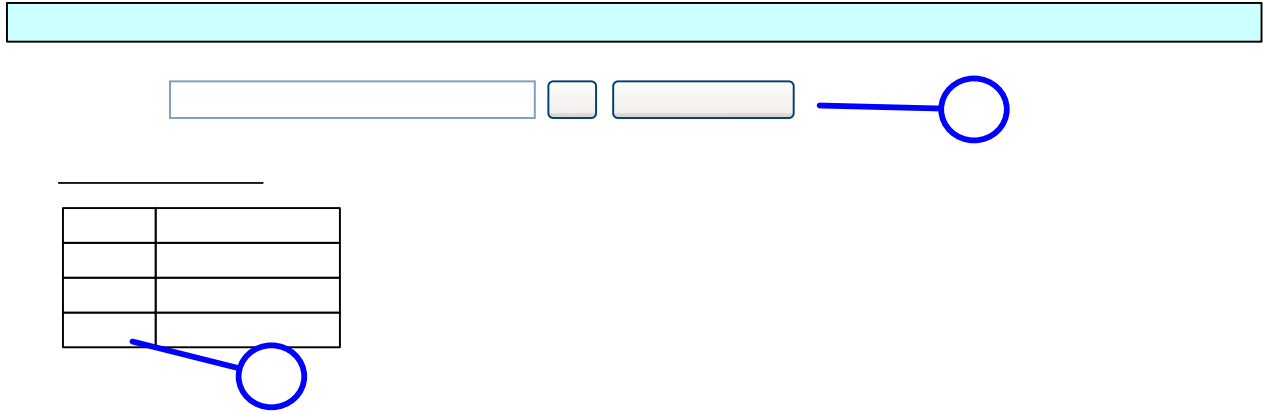**Exhibit 5-6.** *Search of forest produce applications.*

Search for Export of For

Exporter:

Found Applications
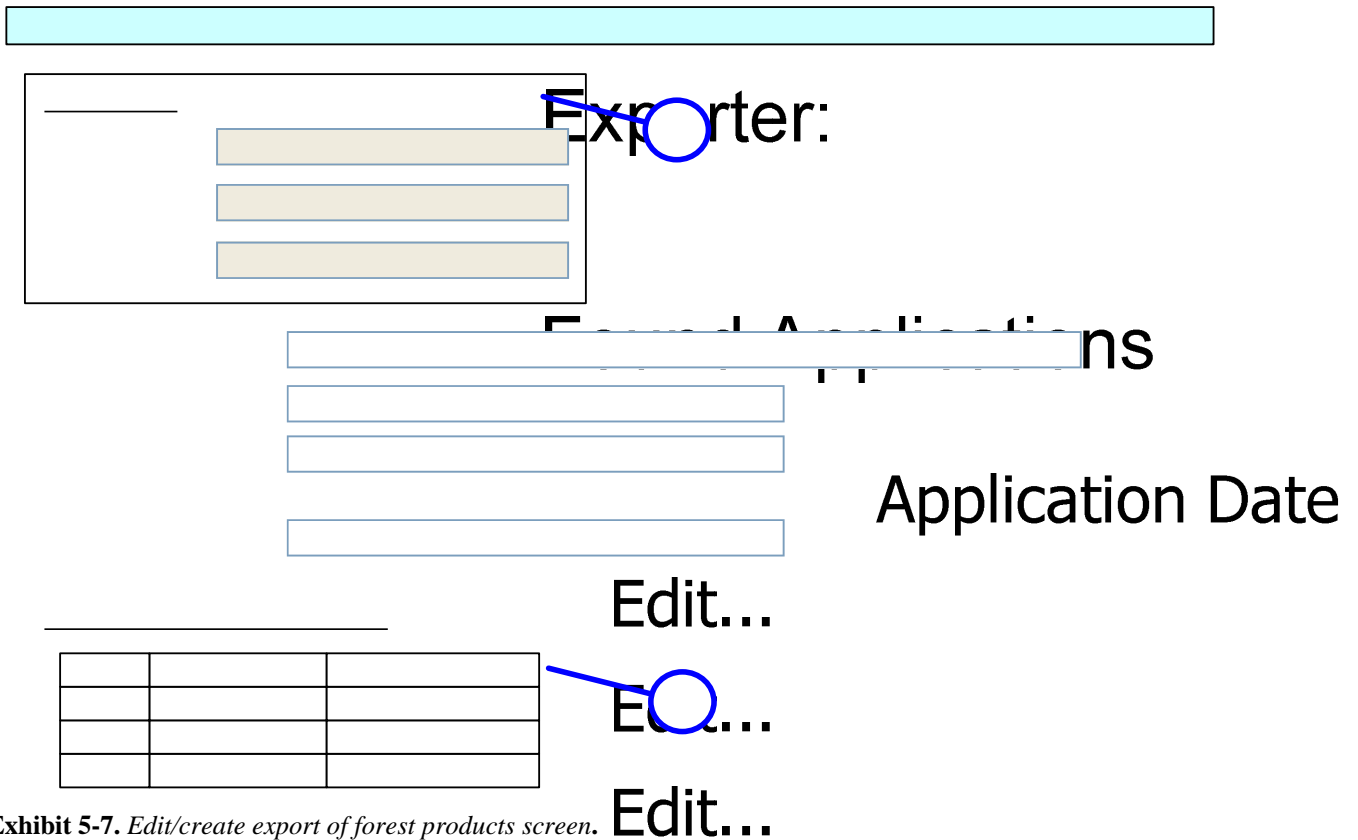
Application Date

Edit...

Edit...

Edit...

Exhibit 5-7. *Edit/create export of forest products screen.*

5.1.3.5 Reconciliation report

This report will be used to assist a tracking of material back through the supply chain. The user will be assisted in selecting the exporter (# 1 in Exhibit 5-8). The user can select a permit from suppliers of the selected exporter (#2), or may select the name from a list of relevant suppliers (#3) or from invoice numbers (#4). Selecting the supplier's name will restrict the list of invoice numbers from which the user must choose. After entering the required criteria, the user may click the "View Results" button to see the report (note: *either* the permit number *or* the supplier's name *or* invoice number must be entered)

This report initially will be a list of detail lines from the chosen exporter's Wood Products Supply reports that correspond to the selected supplier; the report will show all the items sold to the exporter by the first supplier. Clicking on a supplier link (#5) will cause the report to be replaced by a similar one, with a slightly different meaning. This one will consist of detail lines from the Wood Products Supply reports of all those suppliers who supplied the chosen supplier with that species before the time of the supply transaction. Using this method of tracing the history of products, the GFC can get an idea of whether a transaction was legal or not. At any point the report can be printed.

Exhibit 5-8. *Reconciliation report.*

5.2 *Barcode scanners*

5.2.1 *Using the scanner*

One of the primary purposes of the barcode scanner is to provide the forest officer with real-time, or close to real-time, information about a GFC tag at a glance. The scanners will be used at three types of location:

- At the forest stations (or any other in-transit location)
- At the wharf (or any other point of export)
- At stump (or any other forest location).

If the scanner is within range of one of the six main forest stations (in the VPN[8]), the scanner will read directly from the database on the server in that office; this will be real-time. If the scanner is out of range, it will rely on the data stored in the scanner which will be updated on a fortnightly basis; this will be off-line use. In either case, when the barcode number is scanned by the hand-held device, the following information (as an example) about that tag will come up on the screen:

Concession: Case Timbers Ltd.
Concession Code; TSA BCE 001/1997)
Tag#: 106228B
Status: Used
Expires: 2010-03-19
Block Range: AF2-AF6
Species: Greenheart

5.2.2 Identifying discrepancies

All log tag numbers reported on the removal permits are linked in a timely manner with the name of the operator to whom these were issued. Upon utilisation of tag as indicated by the removal permit, these are recorded as used in the system and cannot be reused. Also, GFC tags have specific issued dates integrated into the records and an expiry date. The scanner will indicate if a tag presented has already been used or is invalid for any other reason.

If a tag was issued to one concessionaire and is utilized by another concession Y, the barcode tracking system will detect this as the name of the issued concession will appear. The officer can also check for discrepancies between the information on the scanner based on the scanned barcode and the evidence presented either in the paperwork (such as removal permit) or on the ground (such as species, location of stump).

Also, there is a feature of the scanners that allows them to be pre-programmed to expect the correct source concession and date prior to checking a batch of logs (or chainsawn lumber) and warn when barcodes do not conform.

---

[8] The forest stations currently in the VPN are: Georgetown, Canje, Linden, Parika, Buckhall and Soesdyke.

GFC/ITTO-Funded Project

Improving the Detection and Prevention of Illegal Logging and Illegality in Shipment and Trade of Wood Products in Guyana

PD 440/07 Rev.1

CHAPTER

Introduction
Indicators of Illegality
Chain of Custody Protocols
Forms and Reports
User Protocols
TORs for the Legality Unit

6 TORs for the Legality Unit

It is proposed to establish a Legality Unit within GFC. The purpose of the Legality Unit will be to exercise overall responsibility for directing legality-related work of the GFC, maintaining databases and providing extension services in areas of law compliance to the sector as appropriate.

With such a broad mandate that is technically and geographically extensive the Unit will not directly undertake all of the work required; rather it will take a leading role providing direction, coordination and quality control. As such, the Unit will work through a network of key personnel and "leaders" who will become proficient in their respective fields. Through this network, the Unit will undertake awareness-building and training activities to both encourage legal practices and enhance capacity to reduce illegality.

The core Unit will be housed in GFC HQ under the Forest Monitoring Division and will report to that Division Head. The Unit will consist of an overall Manager, a Quality Control supervisor, two technical assistants and a secretary.

The specific TORs of the Unit will be:

1. To provide direction, coordination and quality control in all legality-related work of the GFC.

2. To work closely with existing functions within the GFC such as data entry, GIS, monitoring, legal.

3. To identify and train as required key personnel, including "leaders", within the GFC who will carry out the legality-related functions of the GFC in HQ and Regional offices.

4. To work with the Monitoring Division and Internal Audit Division to ensure proper functioning of the Timber Tracking System, including the WAN and barcode scanning.

5. To work with Forest Resource Information Unit to ensure proper functioning of the satellite-based Change Detection System.

6. To work closely with Human Resources and Administration Division to maintain the core databases and to provide quality control.

7. To work with Company Secretary and legal representatives to develop a functional definition of legality and ensure robust and effective enforcement of the relevant laws.

8. To take the lead on implementing and maintaining a Legality Assurance Scheme and to liaise with international certification bodies to provide 3rd-party verification.

9. To work with the Forest Products Development and Marketing Council to promote wood products as coming from a legal source.

10. To develop a legality database to record all incidences of illegality detected including details of offence and action taken.

11. To coordinate legality-related extension activities.

12. To undertake any other activities as may from time to time be deemed appropriate.