



Information Access Team

Phase II Final Report

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Executive Summary

Process

Phase I of the Streamlining project resulted in a number of recommendations related to information access. During Phase II, these recommendations were further addressed through a series of meetings of an Information Access (IA) Team, two surveys addressing the information access needs of district staff, and work on electronic activity notification by a small group of staff from C&E, IMG, and RTEB. The IA Team developed business proposals to address the recommendations from Phase I from an operational perspective.

Business Proposals

The Information Access Team recommends that the following business proposals be adopted:

1: The Information Mall

Develop a central website ("Forest Information Mall") to provide operational staff with one-stop shopping to the information and systems they need to do their jobs.

2: Consolidated spatial information

Provide district, regional, and licensee staff with consolidated access to spatial information that is currently in many silos.

3: Core information

Core spatial information that is the foundation to many different business areas should be consolidated, shared, and updated accordingly.

4: Streamlined user access

Consolidate user access protocols for both systems and information.

5: Data quality

Prioritize data clean-up and ensure there is an integrated MoF/MSRM data custodianship structure for forest information to support data quality improvements.

6: Activity notification

Develop a provincially consistent electronic process to support notification of harvest and road construction activity.

Benefits

The main benefit of implementing Information Access business proposals will be that the information and systems required to meet core business needs will be readily available:



- There will be a single, task-sensitive access point to information and systems
- Access procedures will be simplified
- Spatial information for planning and reporting will be consolidated
- Data will be current, standardized, and quality-assured
- Systems will better support business requirements.



1. Introduction

1.1 Purpose of this report

This document describes in detail the business proposals made by the Information Access (IA) Team of the Streamlining Project to streamline forest information management at the operational level. These concepts were developed by operational staff from across the province, in many cases with some degree of verification by licensee staff.

The business proposals in this report were made available for province-wide review. The comments received suggested that changes to the proposals were not needed.

A Business Integration Group will work with responsibility centres to implement these and other Streamlining business proposals. In some cases implementation will require further work to understand business needs; in others business proposals can be implemented immediately with the development of an integrated set of tools such as systems, policies, procedures, guidelines, and training.

The Information Access proposals are now in the first stages of implementation. Requirements gathering has begun in order to implement Proposal #1 (Forest Information Mall), which will incorporate elements of most of the IA proposals.

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1.2 The Streamlining Project

The Streamlining Project is a collaborative effort between the Ministry of Forests (MoF), the Ministry of Sustainable Resource Management (MSRM, now the Ministry of Agriculture and Lands), and the forest industry to streamline forest information requirements and processes, in order to reduce the effort necessary to carry out operational planning work. The project will also improve the tools used to collect, transfer, or report on forest information. The Streamlining Project involves the entire core forest information cycle, from up-front information access for operational plan and appraisal submissions through to free-growing declarations.

This report reflects the completion of the second of three phases of the Streamlining Project. Phase I consisted of information collection and analysis resulting in a suite of recommendations. Phase II involved the further development of these recommendations through improved policies, standards, and business processes. Phase III will shift the focus to developing the tools needed to support the recommended improvements from Phase II. These tools include procedures, guidelines, training, and systems.

1.3 Information Access Challenges

1.3.1 Challenges Identified

Phase I of the Streamlining project identified a number of challenges related to operational staff's access to the information necessary to conduct day to day work.

In general, information needed by government and licensees for operational planning is often difficult to access: it is located in a number of different information silos, and those silos have different access provisions, such as multiple user IDs. Once operational staff access a system, it is often difficult to separate relevant information from information required for other agencies. Once the information is separated, in order to make the information functional, it needs to be spliced or layered with other information located in other systems. Unfortunately, different information standards and protocols inhibit this functional splicing.

Some other difficulties include non-standard data formats, incomplete data, variable quality of data, and a lack of clarity regarding which version should be used. Information quality issues need to be addressed with clear, practical standards, data clean-up, and robust business procedures.

1.3.2 Phase I Recommendations

Phase I of the Streamlining project made over 50 recommendations to improve the forest information cycle. Of these recommendations, eight applied to information access:



1. Provide all government staff, agents and licensees with simplified access to base mapping information to facilitate operational planning. What base mapping information actually comprises must be determined.
2. BCeID process needs to be simplified and more actively communicated.
3. Coordination of the sharing of information held by MoF, MSRM through the LRDW is required.
4. Information known by government and required for the licensees' operational planning purposes (land status, wildlife habitat areas, etc.) should be made available through a portal, with regular updates to licensees.
5. An assessment of forest information data quality should be completed. Areas of focus should be on the widely used or critical data such as in the CLIENT, RESULTS, and FTA systems.
6. DEA access procedures need to be communicated or improved to facilitate improved access to base maps.
7. C&E, Forest Practices Branch and RTEB need to discuss the use of notification as a streamlined tool to start the commencement of silviculture obligations if possible.
8. C&E to work with MSRM staff to gain improved access to all available site information in the LRDW and (ILRR), such as slope gradients, vegetation cover, legal encumbrances/values nearby or downslope.

1.4 Phase II Process

An Information Access (IA) Team was formed with representation from Operations Division (district and regional staff), the systems branches from MoF and MSRM, and corporate input from both ministries, in order to further develop the Phase I information access recommendations #1 through #6.

A series of regular IA team meetings and reviews were held. A survey sent to districts asked what types of applications, general information, and programs district staff and industry staff require in order to meet their business needs. About 50% of districts responded, providing the basis for a number of the IA team recommendations.

Two of the Phase I recommendations related to Information Access (#7 and #8) were assigned to the Streamlining Business Process Alignment Team. These recommendations were developed further through a survey sent to C&E district staff to determine operational mapping needs for C&E staff, and by a small group of staff from C&E, IMG, and RTEB developing electronic activity notification. For communication and implementation purposes, these business proposals are rolled into the Information Access Team business proposals.



1.5 Working Principles

The business proposals developed by all of the Streamlining teams are based on the following key assumptions:

- Information will be shared within government where possible
- The focus is on the business - not the systems
- Solutions will meet licensee and district operational needs for all licensees - big and small
- Clarity and integration of the business will enable future systems improvements (transition to full e-business)
- Major business processes will be provincially consistent
- The comparison of planned, permitted, and actual activity will be possible (C&E, Revenue, Monitoring)

1.6 Relationship with other initiatives

The Streamlining Information Access Team work is directly linked to a number of related, ongoing initiatives.

1.6.1 Land and Resource Data Warehouse (LRDW)

Government is currently undertaking corporate initiatives to centralize and make available provincial spatial data through the Land and Resource Data Warehouse (LRDW) and Integrated Land and Resource Registry (ILRR).

1.6.2 FSP Initiatives

1.6.2.1 FSP Tracking Project

The FSP Tracking Project is working collaboratively with branch, district, and regional staff as well as a number of FSP-related initiatives to develop a simple tool to track FSP results and strategies by FDU. See:

www.for.gov.bc.ca/hfp/FSP/index.htm

1.6.2.2 FSP Information Support Project

The *Forest and Range Practices Act* (FRPA) requires forest licensees to submit Forest Stewardship Plans (FSPs) beginning January 1, 2006. These plans replace the current Forest Development Plans (FDPs). Development of these plans requires that a large amount of information be accessible for review and analysis by those preparing plans.



The Ministry of Forests (MoF), Ministry of Sustainable Resource Management (MSRM) and forest industry are working cooperatively through the Provincial FRPA Implementation Team (PFIT) to develop a process to identify key information that must be made available for forest stewardship plan preparation. This initiative is known as the FSP Information Support project. See: www.for.gov.bc.ca/hts/fspdev

The project has developed a plan with short-term and long-term goals and objectives to improve information access. The short-term objective is to get all information required to prepare FSPs available in one form or another through whatever distribution means possible by the end of April 2005. Short-term goals are to identify critical information requirements; provide a website of district FSP information contacts and information resources; assist districts to obtain corporate data and make their local data available; and review, verify, and document data provided. The long-term objective is to simplify access to all information by identifying solutions to resolve corporate business, data, and infrastructure issues. This long-term objective will be achieved by reducing the use of local data sources; improving corporate data distribution systems; providing more information via electronic means; and using the FSP development process as a business driver to raise issues and propose solutions to various internal and external agencies.

The Streamlining project shares many objectives with the FSP information Support project, and works in collaboration with it.

1.6.3 Business Information Centre

The Information Management Group of the Ministry of Forests has developed an internal website called the Business Information Centre (BIC) that helps span the divide between the business and the systems that support it. See:

www.for.gov.bc.ca/his/BIC/index.htm (currently internal to government only)

The BIC includes high-level business process mapping completed by the Business Process Alignment Streamlining team, and shows the linkages to business information and to systems. The BIC is fully supported by the Streamlining Project as it addresses some of the business proposals described in this document, and could play an important role in implementing these changes.

1.7 Report organization

This report is organized into eight sections. Sections two to seven provide information on the six business proposals. Section eight describes remaining questions and outlines the benefits of implementing the proposed changes.

Although these discussions and business proposals were based on the Phase I Streamlining recommendations, there is not a one-to-one correspondence between the Phase I recommendations and the Phase II business proposals.



Phase I recommendation #6 (“DEA access procedures need to be communicated or improved to facilitate improved access to base maps”) was not directly addressed by the Information Access Team. This recommendation is addressed indirectly through proposals one (the Forest Information Mall), two (consolidated spatial information), and three (core information).

Two of the Phase I recommendations related to Information Access were assigned to the Streamlining Business Process Alignment Team. The results of that team’s work are included in this report in Section 3 (Consolidated Spatial Information), Section 4 (Core Information) and Section 7 (Activity Notification).



2. Information Access Proposal #1: The "Forest Information Mall"

Develop a central website (the "Forest Information Mall") to provide operational staff with one-stop shopping to the information and systems they need to do their jobs.

2.1 Background

All of the districts, licensees, and consultants who responded to an Information Access Team survey inquiring about their information access needs indicated that they would like to see a centralization of data and systems and a re-organization of MoF websites, with an improved search capability.

Operational staff spend an inordinate amount of time trying to access the information they need to do their jobs. The current challenge is not just one of licensee access to data and systems – existing information can not even be located by many district staff, due to the maze of MoF and MSRM websites and applications. Lack of communication within MoF has created a knowledge deficit that varies from district to district in regard to the various applications, programs and tools available. Several districts are not aware of the existence and/or location of one or more of the available systems (e.g. Corporate Reporting System (CRS) and MapView).

The greatest information access time expenditure for district staff and licensees is in locating and accessing spatial data, but accessing up-to-date information on applications and tools and answering questions take up a considerable amount of time as well. Though no empirical data were gathered, this time expenditure was estimated by staff to range between 5% and 25% of a typical workday, depending on the job function. Operational staff unanimously requested access to data and systems via a central website.

Many ministry staff suggested they would like to see a website in which they would see an icon for their particular job type (Resource clerk, Engineering, etc.). The icon would then take them to a webpage that would list all the applications, forms, and other information needed for their work.

2.2 Business Proposal Details

A one-stop shopping central website (the "Information Mall") should be created to facilitate information exchange, focusing on the business needs of both Ministry staff and Ministry clients. The implementation of this concept should be managed as a collaborative MoF/ MSRM project, including a project manager and operationally focused implementation team. It should build on the work done to date and be supported by extensive consultation with stakeholders.



We envision a Forest Information Mall that will provide both licensees and government staff with access to the information and systems described in Table 2.1.

Table 2.1: Attributes of the Forest Information Mall

<i>Item</i>	<i>Detail</i>	<i>Current Source</i>
Spatial and other information needed for planning and reporting	FRPA objectives, resource features, inventory, etc.	LRDW, ILRR, TRIM, RESULTS, FTA, SPAR, etc...
	Local district information	Local district data storage
Systems	All relevant MoF and MSRM systems, including viewing tools for spatial information, applications updates/upcoming changes, and automatic systems notifications	Multiple websites
Data and systems access application process	Simplified, consolidated user access procedures and security (see Proposal 4)	Multiple websites
Business Process Information	High level information, including business process flows, about each of the tasks clients might take on in the forest information management process, from operational planning to activity notification to silviculture reporting	BIC website
MoF data, systems, organization information	Background information on MoF data and systems	BIC website, MoF homepage
	Gateway to different MoF websites	
Policies, legislation, guidelines, standards	Including upcoming changes	Various MoF websites
Manuals, checklists, forms	--	Various MoF websites e.g. RTEB website at www.for.gov.bc.ca/hth/ , Revenue website at http://www.for.gov.bc.ca/hva/
Forestry user forums	Communities of practice. These would reduce pressure on the various help desks.	Various
"Expert locator"	Government staff expertise directory allowing users to determine the best contact person for their particular concern (via a database or	--



<i>Item</i>	<i>Detail</i>	<i>Current Source</i>
	search engine)	
Improved search engine	--	--
Help/ training	Help and training services, including a glossary (MoF abbreviations, error messages), FAQs	Various websites and systems
User feedback	Functional user feedback for all aspects of the business	Varies among websites

The Information Mall should be built using a one-stop, "what do you want to do?" approach that presents information to users in terms of what they are trying to accomplish, then leads users to other web sites where information about each specific task and access to the associated system is provided. The website would be structured around three main business functions: Planning, Notification, and Reporting. Figure 2.1 gives an example of this approach.

Figure 2.1: Information Mall sample structure. Several of the menu choices (e.g. Business Process; Standards and Definitions) would link directly to the appropriate page of the BIC website.





The difficulty licensees and districts have had in accessing the information needed for FSP development is an example of how the current system doesn't deliver, in a consolidated format, the type of information end users need. Several districts developed their own "mini-mall" to address the FSP information needs. These district projects show the utility that can be derived from a one-stop-shopping approach.

2.3 Suggestions for Implementation

The Forest Information Mall could begin as a single, user-friendly access point to existing websites (e.g. LRDW, MoF department websites, Oracle applications) and links to local data sources for data not yet available elsewhere.

2.3.1 Business Information Centre

The Information Management Group of MoF has developed a business process-focused website called the Business Information Centre (BIC) that meets several of the goals of the Forest Information Mall vision. See:

www.for.gov.bc.ca/HIS/BIC (Currently accessible only to government users.)

The BIC is an important source of both process and system-related information and we hope that it will be a key component of the Information Mall in the future. For the time being, it is an excellent first step toward consolidated information.



3. Information Access Proposal #2: Consolidated Spatial Information

Provide district, regional, and licensee staff with consolidated access to spatial information that is currently in many silos.

3.1 Background

Government is currently undertaking corporate initiatives to centralize and make available provincial spatial data through the Land and Resource Data Warehouse (LRDW). The Information Access Team supports this kind of information consolidation.

However, in order to access the spatial information required to meet core forestry business needs, operational users currently need to access information from a number of corporate and district locations. These include the LRDW, the ILRR, TRIM, RESULTS, FTA, SPAR, and others. Of the data available in the LRDW, there are some challenges in using it:

- Lack of clarity of how the different data layers in the LRDW should be used; it is often difficult to separate forestry information from information required for other agencies. End users vary in their abilities to use the Discovery Tools to access LRDW information.
- Unclear process for mapping spatial data to associated attribute tables
- Incompatible formats between some business themes
- Incomplete data
- Variable data quality and currency

Further, many applications are not linked with the LRDW via automatic update processes to download the latest spatial information to the LRDW, resulting in duplication and version confusion.

In addition, many users indicate problems with the Citrix servers and connections (availability and stability).

Due to the difficulties in locating data, systems connection problems, and the lack of an update process for some data layers, currently many districts are downloading large amounts of data (spatial and non-spatial) to local storage. This means that their data is not always current or accurate.

Digital Exchange Agreements are used to regulate licensee access to some of the data. However, most of the districts surveyed (90%) are sharing spatial data with licensees above what is allowed in DEAs, whether or not the licensee even has a DEA. This sharing is being done to keep business continuity, and to avoid undue bureaucracy.



However, most respondents did not like working outside established policies, and asked that the policies be changed to meet the business needs at the district level.

3.2 Business Proposal

All forestry spatial information should be "analysis-ready", and accessed via single gateway using task-sensitive tools.

3.2.1 Technical users

Technical staff using the LRDW need tools to

- Tag layers for specific business areas or tasks
- Indicate which attribute tables should be used with which layers, and for what purpose

Operational staff recommended that:

- Access should be via a real time connection to LRDW, not a request form for spatial data dissemination at a later date.
- Permission to access data should be granted via BCeID and government IDIR user IDs (see Section 5 on user access).
- Performance of LRDW network connection needs to be improved.
- There is a need for a versatile translation tool. Some districts desire data in multiple formats. FME may meet these requirements in an affordable manner.

3.2.2 Viewing tools

Operational end users need to view map information, turn layers of information on and off, and perform basic thematic analyses. Viewing tools for operational staff should have the following attributes:

- Task-sensitive views/ user-designed templates
- User layer and feature control
- User-friendly mapping tools:
 - Task-oriented menus
 - Smart search capability (e.g. for a tenure or cutblock)
 - Easily printed
 - Editing capability



3.2.2.1 C&E mapping needs

A survey was sent to C&E enforcement staff in all districts asking for their input regarding their mapping needs, in order to develop effective access to information, tools and maps for carrying out routine operational Compliance & Enforcement functions at the district level.

30 responses from 9 different districts were received and compiled. The results of this survey are presented in Appendix 1 as background information for the development of C&E mapping tools.

3.2.2.2 Training

In order for staff to make use of the existing viewing tools, there is a need for more comprehensive training on which tools are appropriate for specific tasks, combined with customization of certain tools to meet specific business needs. Better information will allow districts to make the best business choice. Any development of new tools should include a training component.

3.2.3 District data updates

Often the most up-to-date data resides in districts. A more efficient process is needed for loading district data updates into the LRDW (for information for which the district has data stewardship responsibilities).

3.2.4 Data submissions that are not to standard

Operational staff canvassed by the IA team raised the concern that when licensees voluntarily submit additional data that does not meet government information standards, the data is not accepted. In some cases, this data is the best information available, but it is not accessible to users.

The Information Access team recommends that such information be made available via the LRDW (linked via the Forest Information Mall), with the data quality issues flagged and acknowledged in the metadata. This approach needs to be integrated with the standards that will be required for simplified, consolidated information exchange. For example, mandatory reporting information would need to be submitted to standard, but additional voluntary, or 'old' information may not. The key is that all agencies and the industry are working from the same set of the best known information, which is as current and accurate as possible, but which is flagged for any data issues/gaps that have been noted.

3.2.5 Digital Exchange Agreements (DEAs)

The Information Access Team did not make specific proposals regarding DEAs, as information exchange standards are an implementation issue. Government has a



business need for corporate standards for information submission. However, the IA team found that the current approach with multiple DEAs per user is unduly burdensome to licensees. In addition, only a small proportion of licensees have entered into DEA for the TRIM base maps.

An implementation strategy is needed that meets both corporate needs for information submission standards, and user needs for straightforward and prompt access to information. Also, licensees want access to the full suite of information they need to conduct a business process, not separate access protocols and agreements for different components of the information.

3.2.6 Forest Stewardship Planning Information

3.2.6.1 Access to information for FSP development

Forest Stewardship planning is currently an urgent business driver, but access to the information needed for FSP development is not yet readily available. Providing access to the core information required to support FSP development is a priority starting point. The FSP Information Support Project (www.for.gov.bc.ca/hts/fspdev) is working to make this information available in an administratively efficient manner. The project is compiling a list of known information by district or management unit (i.e. TSA) that may be available either locally or through the LRDW.

3.2.6.2 Access to FSPs

In addition to licensees' need to access the information required for FSP development, Compliance and Enforcement staff need to have access to FSP submissions in order to enforce statutory forest management requirements. This recommendation is being addressed by the FSP Tracking Project (www.for.gov.bc.ca/hfp/FSP/index.htm).

3.2.6.3 Access to baseline information

MoF business areas need access to baseline information about the lands covered by an FSP, in order to compare future accomplishments with the existing baseline. This comparison allows MoF staff to evaluate whether the results outlined in an FSP are being met. Consolidating access to spatial information will provide MoF staff with this access to baseline information.



4. Information Access Proposal #3: Core Information

Core spatial information that is the foundation to many different business areas should be consolidated, shared, and updated accordingly.

4.1 Provide access to core information

This proposal addresses the Streamlining Phase I recommendation that access to base mapping information be simplified in order to facilitate operational planning.

There is a set of **core spatial information** that is the foundation upon which many different business areas overlay business specific information. Core spatial information includes (1) biophysical base information, and (2) common features. See Table 4.1 for details.

Table 4.1 Core spatial information

Biophysical Base	Common Features
Contour lines	Crown lands features
Roads	Land ownership and status (including administrative boundaries)
Water	Riparian features (Stream class, LMZ, RMZ, RRZ, Key lakes, Fish bearing streams, etc.)
	Forest cover and vegetation (VRI)
	Higher level planning layers (Sub Regional Plans, , Wildlife zones/habitat, Visual Landscape Inventory, Archaeological Overview Assessments, Endangered Plants & Animals, etc.)
	Imagery (e.g. Orthophotos)
	Wildlife Tree Patches and Old Growth Management Areas (OGMAs)
	Biogeoclimatic Ecosystem Classification

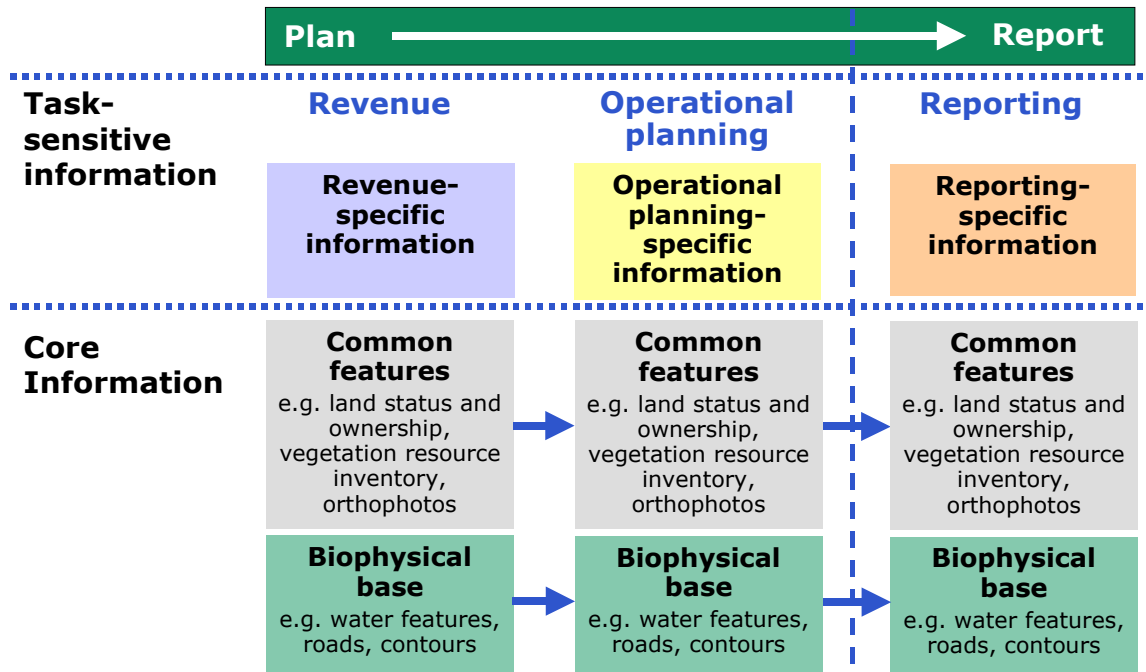
The above minimum core information is needed to meet operational and planning requirements for all business functions, as identified in an Information Access team survey of district staff and licensees. Some business areas require viewing access only (e.g. C&E), while others require download access. Information was requested in ArcGIS compatible format. Imagery/orthophotos were requested in GEOTIFF format (or in a format that allows quick reprojection).

We recommend that core information be consolidated, shared openly, and updated regularly.

4.2 Task-sensitive information

In addition to this core spatial information, different departments and organizations (Planning, Tenures, Engineering, Silviculture, C&E, consultants, and licensees) need access to business-specific information (Figure 4.1). This task-sensitive information needs to be accessible via tools which have been customized for different business areas (see Section 3.2.).

Figure 4.1: Core and task-sensitive information





5. Information Access Proposal #4: Streamlined User Access

Consolidate user access protocols for both systems and information.

Currently there are multiple websites and protocols for accessing forestry systems and information. Based on operational staff requirements, the Information Access Team recommends that user access protocols be consolidated and simplified. New access protocols should recognize that the users of forestry systems and information are clients well-known to government.

The solution needs to work for all types of users - major licensees, woodlots, community forests, timber sales licensees, and consultants who need to access systems and data. Most forest information cycle transactions are undertaken by users who would prefer consolidated, web-based application and access procedures. However, we do not recommend a one-size-fits all approach. In some cases, alternative access methods will be required, particularly for small and/or temporary tenures, or for very specific types of access to one or more systems. In all cases, communication regarding access and security processes must be clear and targeted to the specific needs of different forest tenure holders.

5.1 Simplify front-end access

Acquiring access to the systems that contain forest management information should be simplified, with a simple, web-based application process for MoF systems, MSRM systems, and BCeIDs. This application process would be available via the Information Mall (on the Internet, not just internally; see Proposal #1).

In designing this type of solution, there may be a need to design an alternative method for users who are not frequent Internet users.

5.1.1 Single application form

There could be a single electronic user access request form obtained at this website, which might include (see Figure 5.1 for a general example):

- **Basic user information** including name, BCeID, company, client number/location/tenure¹ (including a method for select this), phone, E-mail. This could be built with drop-down selections of systems, companies, security groups (see 5.2), etc.
- **A menu of all MoF/MSRM applications** that may be accessed by industry (LRDW, ECAS, HBS, ESF, FTA, RESULTS, SPAR, etc.) Each application would have a

¹ The current method of uniquely identifying clients using client number and location rather than client number and tenure should be explored in a full business analysis process.



check box for the user to select. Once the check box is selected, additional data entry fields specific to each application would be displayed for completion.

- In the BCeID application process, there should be a field where consultants can enter any number of companies that they will be representing, and the type of access they need for each company.²
- Online help on how to fill out the page. In addition, contact number(s) for the appropriate help desks should be provided for each system.

When the form is completed, the user would click "Submit", and the information would be automatically emailed to a central location where the request would either be re-distributed or handled immediately.

Once this electronic application form is submitted, automatic notification could be provided to the person(s) responsible for granting system access. A "permission form" could then be generated which could be filled in automatically by the authorizer and kept "on file." The notification could have a variety of options: e.g. Accept, Deny, Awaiting Further Information.

² There also needs to be a field in the corresponding applications (such as FTA or ECAS) that identifies Consultant X as acting on behalf of Licensee Y. This could be built using a drop-down menu that would appear once the permissions have been granted.

Figure 5.1: Sample systems access request form (a generalized example, for the purposes of illustration only). Users would access this form via the one-stop shopping Information Mall, and use it to request a BCeID and/or access to all the systems they require.

Systems access and BCeID request form

Help

Name: _____

Company: _____

Phone: _____ Email: _____

Do you have a current BCeID?

Yes: _____

No

Please choose the application(s) for which you are requesting access from the list below

LRDW

ECAS

HBS

ESF

FTA

Why do you require access to this system?

Tenure #: _____

Other application-specific questions...

RESULTS

SPAR

Submit

5.2 Registered users / scalable security access

The Information Access Team recommends that once registered, a user would gain access to the suite of systems and information needed, and would be required to comply with a single security agreement and a single set of information quality and transmission standards.

Registered users would obtain a “package” of generic systems access privileges that are logically linked to a tenure type/security group. Once the client BCeID and systems access are granted, when the users access a system, they could choose from a list of



roles (depending on what type of access is granted) from a menu. This would eliminate the need for cumbersome user agreements for each separate user.

5.3 Rationalize security

Security around access to forest management information from MoF or MSRM should be rationalized:

- Security should ensure that checks are in place to ensure that a user only has access to client data that he or she is authorized to access. This would involve creating a list of the systems to which clients require access, and defining what they should be able to do in those systems.
- Security "groups" (Section 5.2) can be designed that are broad enough to provide a client with access to multiple systems with a single security agreement.
- Security should be "scalable", with security provisions that are commensurate with risk. There is a need to identify what is really sensitive and needs to be protected, and what is less sensitive.
- Test databases for all systems should be available in order to test security changes before they are released. The test databases should be set up just like their production counterparts so that accurate testing can take place.

5.4 Effective communication

Communication about how to get access to BCeID and systems must be effective. Once a technical solution is found, a communications strategy that reaches all users in a consistent fashion should be designed.

- With the consolidation of user access outlined above, there should no longer be a need to provide instructions on multiple websites regarding how to access each system: the access method should be the same for all systems.
- Different types of stakeholders have different needs. For example, a communications strategy that works for the major licensees will not necessarily reach the smaller clients. While there should be a variety of communication tools, they should all send the same message, with the level of detail varying depending on the audience.
- For woodlot and community forest licensees, one approach is to prepare a paper mail-out introducing them to the process in a step-by-step fashion, including:
 - Who should have a BCeID and why
 - How to get a BCeID, and how to get access to systems, including a diagram.
 - What to do if they do not have a PC, or access to one (e.g. at a local library)



- Government should be prepared for extensive phone communication to support smaller licensees such as woodlots and community forests. When the web sites are set up, BCTS could include an information package with the forms and other materials that they normally send out to new licensees.
- For most major licensees, a letter or e-mail communiqué will usually be all that is needed. It could include copies of sample new forms filled out by fictional licensees or consultants, and provide detail as to what this will provide them.

5.5 No-fee access for licensees

Licensees who provide land-base updates to standard should have no-fee download access to land-base information.



6. Information Access Proposal #5: Data quality

Prioritize data clean-up and ensure there is an integrated MoF/MSRM data custodianship structure for forest information to support data quality improvements.

6.1 Background

A number of initiatives are currently under way to address data quality issues. For example:

- VEG data in TRIM
- INCOSADA tile data
- FTA tenure data.

Research conducted by the Streamlining Project indicated that a number of other systems also have data quality problems have yet to be addressed. For example:

- CLIENT data, especially duplicate clients, duplicate names, duplicate addresses
- Road names in FTA (discussed in more detail by the Road Administration team).

In some cases, the best quality data is held in district databases rather than corporate databases, and this should be recognized in clean-up efforts as well as in providing access to data for operational planning (Sections 2 and 3).

Lack of confidence in data currency causes users to fall back on local databases in which they have more confidence than corporate databases. The problem is further complicated by the fact that there does not appear to be clear agreement of who the keeper is for core data used by both business and industry. Industry members often consider their databases more up-to-date than those held by government and thus use different datasets for planning purposes when both should be referring to the same information.

Operational staff need information regarding access protocols, data standards, and "ownership" of data. For example, information regarding harvested cutblocks exists in RESULTS, the vegetation resource inventory (VRI), and TRIM—but it is unclear who is responsible for maintaining the accuracy and currency of the harvested cutblock data. Although data custodianship roles and responsibilities have been established for MoF and MSRM to address these issues, these data custodianship structures are not well-understood by operational staff.

While many business areas, especially at MSRM, are working toward data cleanup (and catch-up) in a number of different ways, there does not appear to be a coordinated



effort at cleanup *across* systems or across the two ministries. There will be no benefit in cleaning up the data in one database if it continues to receive corrupt data from others. Nor will activities aimed at improving the currency of data be successful without sufficient resources to maintain it.

The currency and quality of information in core information repositories such as CLIENT, FTA, TRIM, and VEG is critical because of the numerous linkages to other systems dependent on this information.

6.2 Business Proposals

6.2.1 Data custodians

Ensure that all forestry information has a clearly articulated data custodian.

- Clear business rules should be developed for data ownership, including where data is to be located and who is to maintain data currency.

6.2.2 Data clean-up

Prioritize and resource data clean-up with business and application specialists.

- Prioritize the systems and underlying data which require cleanup. Research on systems issues conducted by the Business Process Alignment team can provide some background.
- Devise a management structure to coordinate cleanup efforts.
- Resource the initiative sufficiently. For a time, selected "data quality specialists" should be dedicated to cleanup efforts rather than trying to fit in this activity between other jobs.
- Ensure there is a structure in place for these specialists to communicate with one another during the cleanup phase and beyond.

6.2.3 Data quality assurance

Build data quality assurance, including standards, into systems and procedures. This ensures that "cleaned" information isn't subsequently corrupted.

- Data standards should be integrated across systems and business areas.
- Quality assurance procedures should be put into place for data input and for storage systems.



6.2.4 Integrated custodianship structure

Ensure there is an integrated MoF/MSRM data custodianship structure for forest management information to support data quality improvements. Options to consider:

- Ensure that data custodianship roles and responsibilities bring together business experts with systems experts so that systems address business requirements as effectively as possible.
- Develop a forum to bring together working level staff (from both MSRM and MoF) who work directly with forestry data and applications to talk about business-related data quality and custodianship issues.

6.2.5 Communication

Communicate with operational staff about data standards and custodianship roles and responsibilities.

- A concerted effort should be made to provide operational staff with clear information regarding data access protocols, data standards, and data ownership (including location and maintaining data currency).
- The process for loading district data updates into the corporate store should be clearly communicated (since in many cases the most accurate and current data resides in the districts).



7. Information Access Proposal #6: Activity Notification

Developed a provincially consistent electronic process to support notification of harvest and road construction activity.

7.1 Background

Notification from licensees of start of activity on a site has long been desired by Ministry staff. With recent legislation requiring activity notification, a clear provincially consistent process is needed.

An electronic notification methodology has been developed by a small group of staff from C&E, IMG, and RTEB, but has not yet received a widespread review. It is documented in Appendix 2, not as a proposal, but as a description, for review, of solutions being currently undertaken.

This activity notification solution does not specifically address whether or not notification could start the commencement of silviculture obligations in Ministry systems (a question asked as part of the Phase I recommendations). Another new legislated requirement to report actual activity yearly may mean that the activity start notification is not required to fulfill that need. Once the interim notification process is in place, further research will need to be done to answer this question.

7.2 Business Proposals

Licensees will provide notification of activity on a site using a web page located on the C&E website, or via fax, phone, paper, etc. This is a short-term solution; in the long term, this notification process should align with the "one-stop-shopping" information mall concept outlined in Section 2.

Technically, notification of activity on a site will be passed through ESF to CIMS, with tenure information being validated in FTA. CIMS inspectors will thus be advised, in a timely fashion, of activity on a site that might need to be inspected. In addition, this process will help reduce RESULTS submission failures due to lack of block IDs because when a block does not yet exist in FTA, a new one will automatically be created.



8. Conclusion

8.1 Remaining Questions

The Information Access Team has raised questions that need to be more adequately addressed in order to implement the business proposals outlined in this report.

8.1.1 Digital Exchange Agreements

One of the Phase I Streamlining recommendations was "DEA access procedures need to be communicated or improved to facilitate improved access to base maps."

The IA team found that the current approach with multiple DEAs per user is unduly burdensome to licensees. An implementation strategy is needed that meets both corporate needs for information submission standards, and user needs for straightforward and prompt access to information. DEAs also need to be considered in light of FSP information needs.

8.1.2 Version control

The IA team found that users are having trouble determining the correct version of spatial data to use. Procedures are required for determining the which version is the correct version to use, and to ensure that end users are always accessing the correct version, even if older or multiple versions are available.

This procedure for version control is tightly linked to the data quality and data custodianship recommendations made in Proposal #5.

8.2 Benefits

Once outstanding questions are resolved, a number of benefits to both licensees and operational staff will result from the implementation of these business proposals:

- There will be a single, task-sensitive access point to information and systems
- Access procedures will be simplified
- Spatial information for planning and reporting will be consolidated
- Data will be current, standardized, and quality-assured
- Systems will better support business requirements.



Appendix 1: C&E Mapping Needs

A survey was sent to C&E enforcement staff in all districts asking for their input regarding their mapping needs, in order to develop effective access to information, tools and maps for carrying out routine operational Compliance & Enforcement functions at the district level.

30 responses from 9 different districts were received and compiled. The results of this survey are presented here as background information for the development of C&E mapping tools.

A-1.1 General Requirements

The C&E staff who responded to the survey requested a mapping system that is:

- User designed:
 - Allows users to design their own templates and make them defaults, or choose standard templates
 - Allows users to add colour coding (standard map features and C&E specific information), labelling, text, symbols, or thumbprint photos.
 - Allows users to edit maps

- Operationally focused:
 - Allows data to be uploaded to and downloaded from GPS units, and downloaded to PDAs and laptops.
 - Accesses up-to-date, legal versions of data for investigations and case presentations
 - Works within existing framework and successful mapping templates, rather than designing another system from scratch.
 - Records info for each map such as "created by", metadata, date, etc.

- User friendly:
 - Includes drop-down boxes, point-and-click index, and simple instructions that are reviewed with users before they are finalized
 - Includes a simple search engine with several search options, that works with the information available (e.g. can search for all blocks in a given licence without having CP number)



A-1.2 Specific Requirements

A-1.2.1 Uses of map information

C&E staff were asked how they envisioned using maps and map information in future. Their responses are shown in Table A-1.1

Table A-1.1 Uses of map information

Use	Number of times chosen (/30 max)
General Access/location/navigation	27
Investigations	24
Inspection planning	22
Risk Analysis	18
Priority Setting	16

A-1.2.2 Specific map layers

The survey asked which specific layers of information people would like to have the option to include on maps. Responses are listed in order of preference in Table A-1.2.

Table A-1.2 Map layers for C&E

Map layer	Number of times chosen (/30 max)
Existing/as-built roads	30
Streams/rivers, lakes, wetlands, oceans & canals	30
Tenure boundary and ID (e.g. TFLs, woodlot, range lease, mine...)	29
Authorized harvest areas (I.e. CP Exhibit A cutblock boundaries; not yet harvested)	28
Riparian class	27
Wildlife tree patches- actual	27
Existing harvested areas	26
Countour lines	26
Land features (e.g. cities, towns, private land boundaries...)	26
Wildlife management areas (e.g. wildlife habitat areas, ungulate winter ranges, wildlife habitat features...)	25
Riparian management areas- actual	23



Map layer	Number of times chosen (/30 max)
Old growth management areas	21
Cultural heritage features (e.g. culturally modified trees, village sites, cache pits, trails...)	21
Polygon & opening boundaries	20
Tenured planned roads	20
Community watershed boundaries & water license location	20
Orthophoto overlay	19
Watershed boundaries	19
VQO boundaries and classification	18
Wildlife tree patches - planned	16
Administrative boundaries (e.g. districts and regions, BCTS boundaries, TSAs, etc...)	16
Vegetation (formerly "inventory") labels	15
Satellite photo overlay	14
Standard unit boundaries within an opening	14
Range features (e.g. fences, natural range barriers...)	13
Riparian management areas- planned	12
BEC zone, subzone, and variant boundaries	10

A-1.2.3 Map scale

Most C&E staff recommended that map scale be both fixed and variable, or entirely variable.

Based on the survey responses, we recommend that for operational purposes, map scales of 1:5,000 and 1:10,000 are needed. 1:20,000 scale is needed primarily for overview/locator maps.

A-1.2.4 Search Criteria

The survey asked which search criteria would be most useful to C&E staff when they are looking for a specific location. Responses are outlined in Table A-1.3.

Table A-1.3: Search criteria

Search criterion	Number of times chosen (/30 max)
Licence/ cutting permit/ block	30
Road permit number and section	27
Latitude/Longitude coordinates	22



Search criterion	Number of times chosen (/30 max)
Opening number	21
UTM coordinates	15

Additional search criteria suggested were place name (3 times), officer's name, Licensee name, BCGS Map Sheet #, Drainage name, FSR or road system name, and FDP or FSP (planning unit).

A-1.2.5 Printing

Survey responses regarding methods for defining print area are outlined in Table A-1.4.

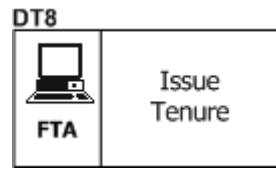
Table A-1.4: Defining print area.

Print area method	Number of times chosen (/30 max)
By using an outline tool to demarcate the area (variable scale)	21
By what's on-screen (variable scale)	15
By map sheet	10

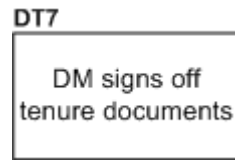
Staff indicated that they prefer to use a printer (25) to a plotter (10), but in some cases access to plotters is limited.

Appendix 2: Activity Start Notification Business Process

Legend:



Process step that involves a system. Each step is identified by a number and further explained in supporting documentation.



Manual process step -- does not involve a system. Each step is identified by a number and further explained in supporting documentation.



Decision point – implications of responding yes or no are provided. Decision points are also explained in supporting documentation.



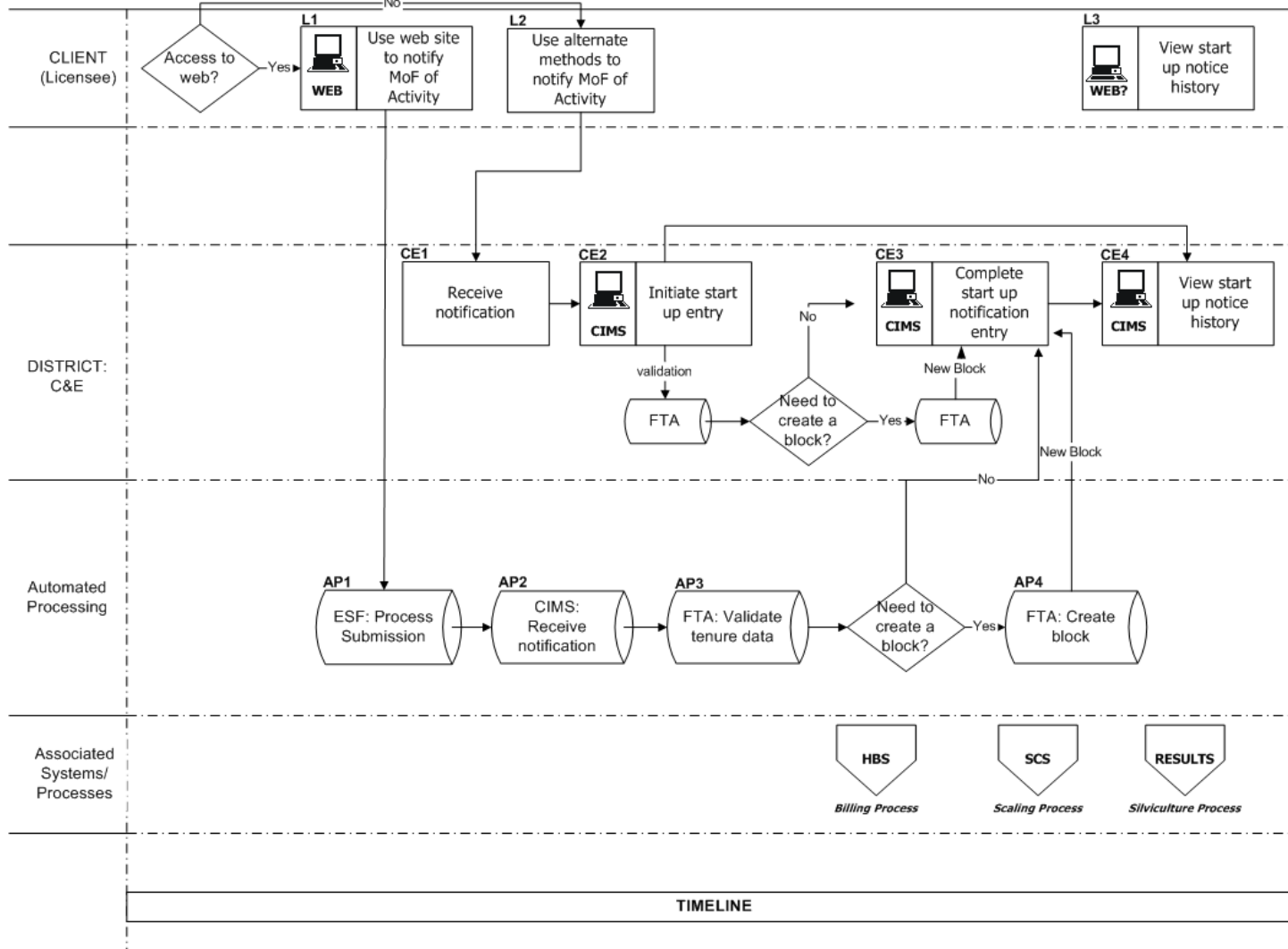
Page connector. Indicates that this process is continued on page 2, at indicator B.



Associated business process, and the system which supports it -- in this case, the Risk Evaluation Process, which is managed in CIMS. Associated business processes are further described in supporting documentation.



Forest Management Data Exchange - ACTIVITY NOTIFICATION PROCESS





#	Process Step	Activity Description/Questions	Info Exchange method
Licensee/Client Activities			
	DECISION: Access to web?	Legislation dictates that prior to commencement of harvesting or road building activities, the licensee must notify the MoF as to when activity will begin on the site. The client may submit notification via: Web Phone Email Fax.	
L1	Use web site to notify MoF of activity	A special web site, accessible from the C&E segment of the Ministry of Forests public web site, is available to licensees with the capacity to access the web. (In the future, licensees may be able to use their own internal software to make the submission.) The client may submit multiple start up notices at one time At any time after submission, the client can check the submission status to find out if the submission was successful or not. Basic start up data elements to be submitted are: Forest File ID (Mandatory) Timber Mark (Optional; required for Harvest site) Cutting Permit ID (Optional; required for harvest site) Cut Block ID (Optional; required for certain types of Harvest sites) Road Section ID (Optional. Required for road sites.) Start Up Date (Mandatory. Date is restricted to no more than a year in the future and no more than 18 months in the past.) Site Location (Mandatory text description) Start Up Comment (Optional text comments).	Web/ESF
L2	Use alternate methods to notify MoF	Clients with no electronic access to Ministry systems may use phone, Email or fax to inform the Ministry of start up.	Manual
L3	View start up notice history	Clients may display start up notice history via the new C&E web site.	Web
DISTRICT C&E Activities			
CE1	Receive notification	A district C&E officer receives direct notification of start up from those clients who do not notify using the web.	Manual
CE2	Initiate start up data entry	The C&E officer will go into CIMS and begin to change the activity start date using the Scheduling Tool. FTA is checked to validate the tenure information and whether or not a block must be created.	CIMS/FTA
	DECISION: Need to create a block in FTA?	The Start Up Notice module in CIMS checks against FTA. First the system determines if the site exists. If it does, then it verifies if there is a block. A new block will be created in FTA, and transferred to CIMS, if: A block for the tenure does not yet exist in FTA OR The licence covers beetle or small scale salvage activities	



#	Process Step	Activity Description/Questions	Info Exchange method
CE3	Complete start up notification entry	A timber mark must already exist in FTA for the requested cut block? Once FTA has validated the tenure data and provided a new block ID (if required), the C&E officer can complete entry of the activity start up date. This date allows the person responsible for the site to plan his inspection dates more effectively.	CIMS/FTA
CE4	View start up notice history	Authorized users can use CIMS to view start up notification history details, as required.	CIMS
Automated Processing			
AP1	ESF: Process submission	Submission made through the web site is processed through ESF, which checks for that all required data is entered correctly.	ESF
AP2	CIMS: Receive notification	CIMS receives activity start up notification and sends the submission off to FTA for validation.	CIMS
AP3	FTA: Validate tenure data	CP, RP, Tenure etc. are validated.	FTA
	DECISION: Need to create a block in FTA?	First the system checks FTA to determine if the site exists. If it does, then it verifies if there is a block. A new block will be created in FTA, and transferred to CIMS, if: A block for the tenure does not yet exist in FTA OR The licence covers beetle or small scale salvage activities A timber mark must already exist in FTA for the requested cutblock?	
AP4	Create block	If required, a new block is created in FTA and the information transferred to CIMS.	FTA/CIMS
Associated Systems/Processes			
R3	RESULTS – Silviculture Process	This block creation benefits RESULTS because results submission must have a block to be accepted; it will mean more submissions are accepted through ESF.	
R3	SCS	The block creation process benefits SCS because volumes are tracked against blocks and more blocks, especially beetle blocks, will be available for volume tracking.	
R3	HBS	The block creation process benefits HBS because a block is required for billing purposes so billing will be more efficiently carried out.	
Opportunities List			
		<ol style="list-style-type: none"> 1. Great to have satellite photography overlaid on a selected area to identify differences between what was approved and what was done. 2. Verify the start-up notification dates across CIMS and RESULTS (and FTA?) are all needed and, if so, are clearly defined. The start up date in CIMS may be well before the actual start up date held in RESULTS. An estimate start up date may not be needed in RESULTS at all because they are going to start getting the real date and they can always compare against the CIMS start up notification date. 3. Provide for ability to compare start up notification date in CIMS and identify if there is any actual start up date in RESULTS to find those sites which were not reported on. This would be a report used by C&E officers. 	



#	Process Step	Activity Description/Questions	Info Exchange method
		4. In future, spatial data could be provided on start up to indicate exactly where the activity will begin (lat/long; utm/gps, etc.) to allow the user to quickly pinpoint the area of activity without having to rely on a text explanation.	