

NATURAL RESOURCE SECTOR

Technology and Transformation Plan 2012/13

Leading Workplace Strategies Natural Resource Sector Initiatives

Final Draft

January 3, 2012

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1 Executive Summary

As part of the Natural Resource (NR) Sector's Transformation and Technology (T&T) Plan, the Sector is being asked to identify initiatives to support leading workplace strategies (LWS) that will enable us to align our work environment with our work patterns to support employee productivity and organizational agility. In addition, we will describe the vision that will lead to the development of these initiatives for fiscal year 2011/12, which are intended for full implementation in fiscal year 2012/13.

In order for British Columbia's Natural Resource Sector to remain globally competitive, responsive to the increasingly complex needs of our clients, and environmentally responsible, management of the land base requires a bold, new and effective approach. These drivers are behind the changes to integrated functions and client-centred services. Economic factors and workforce demographics are also factors which compel us to look for more flexible operating frameworks, improved business processes and enhanced/integrated systems so we can respond consistently, regardless of the state of the economy or workforce shortages due to attrition.

The implementation of LWS initiatives within the Sector will allow us to work differently and gain efficiencies. Technology also plays a big role in this change, as we must provide employees with the tools and training they need to most effectively carry out their work.

The NR Sector plan supports the agenda outlined in *Being the Best* and *Citizens@ the Centre*, highlights our current and desired future state, and identifies leveraging opportunities to help make the shift as efficient and cost effective as possible. Additionally, the Sector intends to optimize existing space over the next few years by taking into consideration:

- Commonly identified work-styles (mobile vs. traditional work-styles)
- Program and service delivery changes; and
- Changes in our workforce projections over the next 9 years

LWS for the NR Sector will focus on strong executive leadership, culture change, flexibility and sustainability. The benefits of LWS allow the Sector to adapt and respond rapidly to changes. This is the primary benefit for the NR Sector as our business is economically driven. We can grow and shrink with limited to no impact on space leases.

Given business and workforce pressures and the technology now available to us, what are the Leading Workplace Strategies that we can, and should, now consider?

The overarching strategies identified for the NR Sector are:

- Engaging all levels of NRS staff in ways that LWS can be enabled to enhance the operation of our sector, including the effective management of staff with different work-styles
- Assessing the work-styles and functions of all levels of NRS staff and how they will change over time as the strategies are implemented
- Changing the way offices are designed to support a mobile and flexible workforce, and implementing co-location strategies to maximize government space to provide integrated services to citizens
- Providing the necessary tools, technology and supports to accommodate non-traditional work-styles

This plan, employing sound human resources practices, technology and real estate management, will create the foundation to transform the NR Sector's, and ultimately the BC provincial government's direction on where and how business is conducted. It will also allow us to provide employees with flexible work options based on preference and work-style and enable us to more easily accommodate the needs and values of the four generations of employees currently comprising the Sector's workforce.

Recognizing the diversity of the business and services provided by the Sector and its workforce is key. Implementation of the LWS work styles gives employees greater flexibility and mobility to perform their job. The Sector needs to leverage these tools to enhance services to citizens and employee productivity.

The following issues will need to be addressed as the Sector moves forward with LWS initiatives:

- Ensure that employees are successfully completing their work obligations
- Understand the flexible work options that are available within the BC Public Service and ensure that, core hours are maintained and staff are available to provide service to clients
- Ensure employees' home offices meet the required standards for teleworking arrangements

Our approach is to educate all levels of NRS staff on how these changes can positively affect our teams, promote an understanding for employees, and embrace LWS as a means to improve and support our business.

2 Current Situation

The recent reorganization of the Natural Resource Sector solidifies the integrated approach to resource management that we have been moving toward over the past few years to enable us to fully realize our "one project, one process" model. Roles and functions of each ministry in the Sector are being fully integrated as a complete system, which means that teamwork and coordination across and between agencies will continue to be enhanced.

As we strive to build an environment and culture that optimizes staff involvement, innovation and productivity, we are continually looking for ways to do our work more efficiently, effectively and collaboratively and to build a positive work environment.

We have undertaken some co-location initiatives, particularly as leases expire, within the NR Sector. As a result, staff from two or more sector ministries are now sharing space, tools and resources. These co-locations have resulted in enhanced collaboration, information sharing and knowledge transfer across ministries and non-traditional business lines.

In Kamloops for example, Ministry of Agriculture, Ministry of Energy and Mines, Ministry of Forests, Lands and Natural Resource Operations are now all under one roof with Front Counter BC managing the front end of the business. For the citizen, they are served by one front end operation. With tools like LWS, this office could potentially include other natural resource agencies.

In Williams Lake, the natural resource agencies are also under one roof as a result of a co-location completed in July 2011. Front Counter BC also provides the front end service counter for the agencies providing citizens with a common experience. Other communities such as Prince George and Cranbrook are co-location projects that mimic similar scenarios. These co-locations open the door of opportunities for LWS initiatives. This sector is well positioned to model LWS.

“Work is what you do, not a place you go. The next generation of workforce will know that and be ready and able to work anywhere.”¹

3 Future Situation

The NR Sector Vision – One Land Manager

Achievement of the Sector’s vision will require:

- ▶ Agency roles coordinated and delivered as one government team
- ▶ Timely, predictable project approvals
- ▶ Coordinated referral and consultations regarding First Nations and environmental issues
- ▶ Increase the efficiency and effectiveness of the British Columbia Public Service
- ▶ Single point of entry (e.g., Front Counter BC) means a single point of responsibility, for a more efficient and consistent process
- ▶ One government employee, within one ministry, will secure all the necessary decisions for a project

LWS initiatives will enable us to work together more collaboratively and with enhanced flexibility as opportunities to share and create innovative workspaces are identified. Given our workforce demographics and the impact of the economy on resources, we need to increasingly concentrate on new ways of doing work and using technology to deliver our services in a more coordinated and effective way.

The future is about providing work/life balance by offering a choice of when and where work can be done; increasing productivity by matching work settings to function, and supporting collaboration to strengthen communication, teamwork, innovation, knowledge sharing and learning. The future is also about being an attractive employer to new talent and providing incentives and alternatives to retain current talent. LWS offers initiatives to assist with increasing choice for staff in support of work life balance.

¹ Sir Gus O'Donnell, Cabinet Secretary and Head of the Home Civil Service, UK

Due to the size and complexity of the NR Sector (approximately 5,700 active employees in over 70 locations), the achievement of these goals will occur in stages. First steps and key areas of focus for early LWS implementation will therefore be identified.

4 Key Strategies

The following outlines the steps the Sector will undertake to begin its review and documents our plan of action.

In order to successfully implement LWS within the NR Sector, a staged approach will be undertaken to identify the areas where LWS should first be initiated and our best opportunities for success.

The following outlines the key strategies and initiatives that will enable the successful implementation of LWS within the NR Sector.

4.1 Strategy 1a: High-level Office Space Requirements

4.1.1 Reduction of space needs due to attrition – workforce shrinking

As with the overall BC Public Service, the sector's workforce is shrinking. While this is not necessarily a strategy or an initiative, it is a reality that forces us to rethink our space needs. Our July 1, 2010 demographic data tells us that by March 31, 2020, 40% of our regular staff are projected to retire, compared to 37% across the BC Public Service.

Figure 1. Projected Headcount for the Natural Resource Sector

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4.1.2 Continue with co-locations

A strategy that is working well with reducing the space requirements is our co-location projects. As leases expire, staff from different NR Sector ministries have been co-located. The next step will be exploring opportunities for Sector staff to work together in shared office space to provide our clients with “one stop shopping”, as we have with the Front Counter BC model of service delivery. This approach supports the Sector vision of “One Land Manager” and will enable us to reduce our space needs and our carbon footprint.

The development of a sector co-location strategy is intended to result in efficiencies in service delivery and ease staff workloads as we reduce duplication. Leases coming due in 2011/12 will be explored with the co-location strategy principles in mind. As a result of the co-location strategy, staff moves will occur within geographic locations on a case-by-case basis as leases expire to better integrate functional units and business lines. This will result in changes to existing teams, so an increased focus on teambuilding

and assisting staff through these changes will be very important. Workspace innovation concepts such as LWS will help to realize further cost savings, while supporting the need for flexible work-styles and providing integrated service access for citizens.

Adopting LWS initiatives across the sector to support reduced physical workspace and increased mobility among workers will be key. With the combination of co-location, introduction of LWS initiatives and implementation of tools and technology to support these changes, the realization of the Sector's vision and the creation of a more positive work environment becomes more achievable.

Co-locations have been managed in partnership with Shared Services BC (SSBC) by identifying pockets of vacancy in existing leases as other leases come up for renewal. Applying LWS initiatives to similar situations will further enhance this strategy.

4.1.3 LWS in Action

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4.1.4 Flexible Work Arrangements

The Ministries of Agriculture and Aboriginal Relations and Reconciliation have had their own Flexible Work Arrangement Guides in place for some time. These resources provide employees with information about flexible work options, such as telework, and support managers to work with staff in creating flexible work agreements that work for both the employer and the employee.

Increased promotion and support of flexible work arrangements across the Sector over the coming months, combined with the necessary tools to support the various types of work arrangements, will enable more mobile work-styles, and create consistency across the sector on how to approach LWS.

4.1.5 Front Counter BC

As noted earlier, Front Counter BC is currently operating successfully and can be used as an example to build on when looking at co-location to reduce lease requirements while providing citizen centred services in support of the Sector's vision.

Since 2004, Front Counter has evolved and grown and now has eight Service Centre offices around the province, one in each region. Natural Resource Authorization Coordination (NRAC) is an important part of the NR ministries and agencies strategy to address the provincial government's commitment to integrated service delivery.

Front Counter BC is now working with the Ministry of Forests, Lands and Natural Resource Operations district offices to provide enhanced services for natural resource clients. Over the past 6 months, Front Counter BC has been implementing an expansion strategy by working with staff and managers in 20 district offices to enhance their facilities to incorporate Front Counter BC design elements to provide a consistent look and feel and train staff to deliver basic Front Counter BC services. The goal is to have

these district offices offer an enhanced front end client service experience to businesses and citizens within their community and surrounding areas.

As of June 22, 2011, facility improvements have been completed at 16 of the locations and 12 are now offering Front Counter BC services. The remaining offices will begin to deliver these services over the next six months as facility work and staff training are completed.

4.1.6 Conservation Officer Service

Conservation Officers have recently realized great mobility and flexibility in their work with the addition of iPad and iPhone tools, which enable them to access critical information on the ground and support the ideals behind the LWS. We are also looking at other functional groups that might be logical “early adopters” of LWS in the Sector.

4.1.7 LWS Space Tours

Workers often need different settings during a work week to most effectively accomplish their work. LWS provides a choice in settings, which include team space, non-territorial workspace, traditional dedicated workspace, quiet rooms and support to work from home. The NR Sector has already taken steps to inform staff about different options in work settings by participating in several tours conducted by Shared Services BC at 4000 Seymour. The tours included a variety of staff from Assistant Deputy Ministers’ s to line staff and were intended to show what LWS looks like, sounds like, feels like and how it operates.

4.1.8 Residential Tenancy Branch (RTB) – Service Delivery Transformation

The RTB conducts approximately 20,000 dispute resolution hearings annually. The recent years, RTB has transformed the way hearings are conducted, moving from primarily face-to-face hearings to primarily teleconference hearings. This has changed the way that RTB uses space. Office renovations to support this shift will be completed by March 31, 2012.

The reduced need for large hearing rooms has resulted in a more efficient use of office space and will result in a reduction in the overall footprint of RTB’s largest office (Burnaby).

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s.17 This is an opportunity to build tools that will provide increased opportunities for employee mobility and flexibility.

4.2 Strategy 1b: Mobile and Flexible Workforce

The NR Sector's Workforce Plan currently identifies four broad areas of focus specific to our workforce that will continue to be our sector priorities over the next three years. Those are:

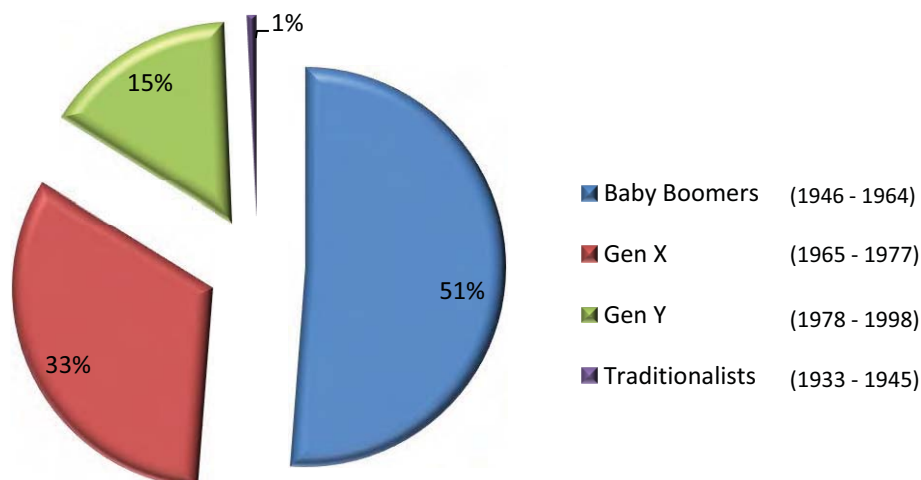
1. **Staff and Work Mobility**
2. **Preparing for Future Workforce Needs**
3. **Learning and Development**
4. **Change Management**

NR Sector agencies have a shared accountability to deliver on corporate priorities and the alignment of resources to areas of the province with high workload demands is an important part of our workforce plan. LWS initiatives will greatly assist the Sector in addressing these focus areas. Staff and work mobility will be increased through the introduction of LWS ideals, our future workforce needs will be better supported with tools, technology and collaboration promoted in the principles of LWS, co-location opportunities provided via LWS will increase the learning and development of Sector staff on other services provided by Sector staff making them more knowledgeable staff and all of this will occur with the underlying need to ensure change management strategies are implemented and supported throughout the Sector.

The BC Public Service is leading the way with innovative solutions to address expected shortages of skilled workers. By enhancing the tools, technology and collaboration in our work across the sector and using the principles of LWS, we will be an attractive employer for current and future employees.

Our demographics tell a story, with an estimated 40% of Sector staff projected to retire by March 31, 2020 and more than half of the sector's workforce falling into the "Traditionalist" (1%) and "Baby Boomer" (51%) age categories. We must therefore continue to integrate creative retention strategies to appeal to the varied values within the generational mix, and to attract new talent. LWS provides an opportunity to accommodate these different work-style preferences.

Figure 3. NRS Generational Breakdown as at September 7, 2011



4.2.1 Staff and Work Mobility

The following describes the Sector's approach to building a mobile and flexible workforce.

Redeploy Staff:

- Retain the skills and experience of targeted employees through redeployment to other funded vacancies within the NRS community and aligning staff resources with priority work.

Co-locate Staff:

- As leases expire, co-locate sector staff within geographic locations to better integrate functional units and business lines.

Redeploy Work:

- Review the current capacity (workload) of units within the NRS community and determine whether these units can take on additional work (i.e., ensure workload is equitably distributed to the highest priorities).

Redesign Work:

- As outlined in the NRS Transformation and Technology Plan, review business processes, policies, practices and systems requirements to identify where efficiencies can be realized.

Redesign Jobs:

- Continue to develop generic job profiles, career development matrices and competency profiles that assist with staff mobility and the development of internal capacity.

In order to accomplish our goal of a mobile and flexible workforce, we must first build a culture that will embrace LWS. The following identifies the actions we will take to support cultural readiness within the Sector.

4.2.2 Executive Engagement –‘Preparing our leadership team for this change.’

LWS is a coming reality to our work. To enhance executive commitment we will engage with the five NR sector Executive teams to discuss the best approach for their ministry, their state of readiness, ensure the reasons for the transformation that government is taking is understood and promote how these changes will benefit their ministries. This is a cultural change that requires change management support and strong leadership.

4.2.3 Engagement Sessions

Engagement sessions will be another key to the success of LWS initiative. We will work with all levels of NRS staff to create understanding and remove myths about LWS (that this initiative is not about removing authority, reducing the workforce, etc.), and focus on the benefits (the best tools and work environment for all employees to complete their tasks). We will also engage employees in thinking about parts of their jobs that could be done differently and educate them regarding the choice of settings that are available to get their work done (e.g., traditional dedicated workspace, team space, non-territorial workspace, quiet rooms, support to work from home). We will also inform staff about the LWS workspaces that currently exist (e.g., Shared Service BC's LWS space in Victoria) and set up in-person or virtual tours for employees who want to see what LWS looks like.

We recognize LWS requires a shift in the way we have traditionally thought about the way we work, where we do our work, and how we evaluate that work. As a result, we must ensure staff and supervisors are supported through this change.

4.2.4 Identifying LWS Champions

Key individuals or executive champions within our organization will be identified who will become LWS advocates. For example, an Executive Director may wish to become mobile and give up a dedicated office or a well respected member of a team may offer to relinquish some of their personal space to create a collective work area.

4.2.5 Developing the Budget Support for LWS Initiatives

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4.2.6 Building on Cross-Sector Partnerships

Regular conversations about LWS initiatives will occur at meetings of the NR Board of Deputy Ministers. This will facilitate the building of cultural readiness for LWS across the Sector and an effective change management plan, identification of new opportunities for partnerships related to LWS initiatives, a common approach to flexible work arrangements and more effective space utilization. The Board will also monitor the progress of existing sector initiatives, adjust course as necessary, and ensure the necessary information, tools and supports are provided to supervisors.

4.3 Strategy 2: Sector/Ministry Transformation Vision and Business Strategies that could be enabled by LWS Initiatives

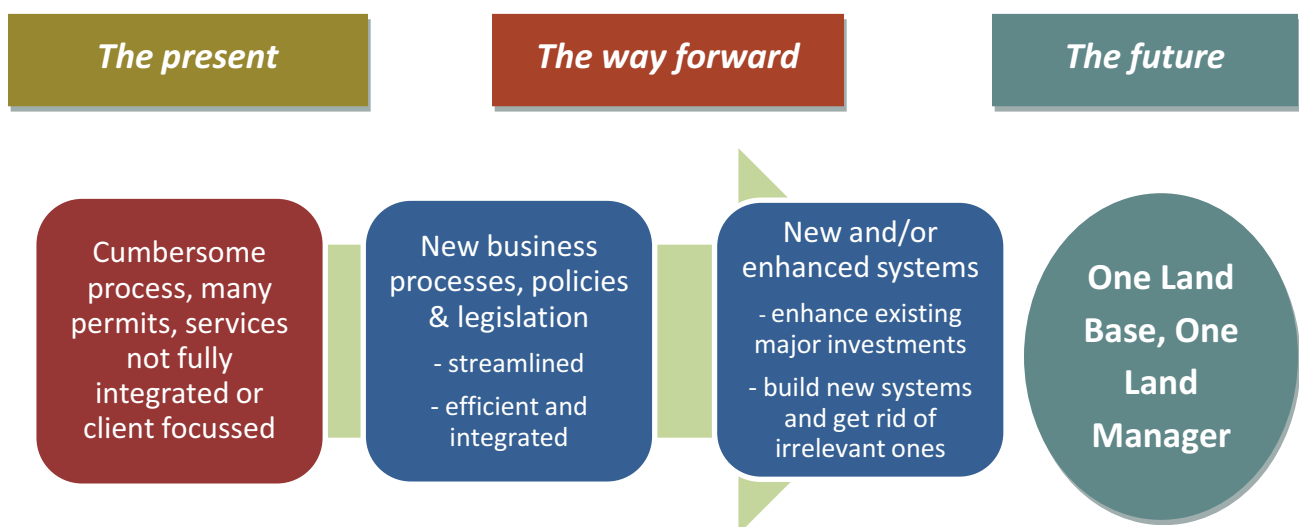
Effective management of the land base requires a bold and integrated approach to resource management so the sector can remain globally competitive, environmentally responsible and responsive to client needs. A new paradigm that drives the change for efficient, integrated and client centre services is needed. This shift is built upon a more flexible framework, improved business processes, and enhanced or new systems. It means that BC's land base is managed in a coordinated and seamless way so the vision for the sector can be realized:

- establishing one process for one project, one land manager
- improved client centred and integrated services
- shifting from face-to-face interactions to more online service delivery and consultation options

This transformational vision for the sector will be further achieved by leveraging LWS initiatives. For example, co-locating staff wherever it makes good business sense, as we have with Front Counter BC, will facilitate excellence in service delivery, teamwork, collaboration, innovation, communication and reduced workloads. Also, the sharing of integrated space by staff from different ministries will make the “One Land Base, One Land Manager” model visible to our clients and will enable groups of talented people with varied backgrounds, knowledge and skills to come together and provide comprehensive and coordinated service to our clients.

The offering of greater flexibility and mobility to our workforce related to work-styles and workspaces will also make us a more attractive employer, thereby assisting with our attraction and retention efforts and building a more positive and productive work environment for employees in the NR Sector.

Figure 4. Natural Resource Sector Vision



Service delivery changes will inevitably occur throughout the NR Sector as we continue to align our priorities to the three Gov 2.0 strategic shifts, as outlined in the table below. In order to best utilize LWS initiatives to support these changes, we will continue to engage in conversations with leadership teams and employees throughout the sector to identify opportunities to optimize space over the next few years and support employee flexibility and mobility.

Table 1. Alignment of Natural Resource Sector Priorities

Strategic Shift	Alignment of Natural Resource Sector Priorities to these Shifts
Business Innovation/ Self Service	One Project, One Process streamlines and coordinates all necessary authorizations for a single land based project in order to provide better service to clients and improve the natural resource sector's internal administration efficiency. This priority is focussed on improving the client experience, timelines of interactions and approvals related to the land base and reducing costs. It will implement one consultation and referral process for the use of land and will be flexible in its ability to bundle authorizations or manage them separately. This priority will allow use of a common tool set, allow tracking of impacts to the land base and be nimble in its ability to allow for transfer of statutory authority.
Citizen Participation/ Self Service	Open data are accessible, reliable and useable by clients and businesses which meet their information needs for planning, investment decisions, transparency and engagement. The priority is focussed on making raw data available and useable to clients for their use.
	Public consultation uses technology as a key component for public engagement in order to successfully manage complex resource management issues. This transformation for public engagement has two overarching shifts. It calls for a set of tools and procedures to be created and a common web portal for all sector engagement activities.
Self Service	E-service delivery is a coordinated and integrated set of services supporting natural resource regulatory agencies to deliver fast and efficient client centred services. E-service delivery can be viewed as a spectrum of service offerings designed to meet a range of service needs. This priority is about delivering simple client centric transactional service, currently performed manually, to be made available online.

4.4 Strategy 3: Employee Work-style

In order to align our work environment with our work patterns, we will identify the work-styles of our current composition of employees within the Sector and determine how we expect this to shift over time as our LWS initiatives are implemented.

Given the significant size of the employee population of the NR Sector and wide variety of job functions, we are unable to provide the current composition of employees in the Sector by LWS work-style at this time.

As identified below, we will, however, assess the work-styles of Sector employees over the coming year and determine how we expect these styles to shift and identify areas of opportunity for early adopters as LWS initiatives are implemented.

4.4.1 Internal Survey

Administer a survey to all staff within the NR Sector. Self identification is the first step in understanding current work-styles (Teleworker, Resident, etc.).

This survey can only be administered after employees have been engaged in conversations about LWS and understand the intended goals. As previously mentioned, we must first undertake identified actions that will support cultural readiness for LWS and alleviate concerns through education and conversation.

Telus has developed a survey tool called “Teletrips” which is currently being used in a pilot project. If the pilot is successful, the NR Sector will use the same survey instrument. The survey asks workers to define the key aspects of their job, which then helps them identify the appropriate work-style. The results of the survey can be modified by the workers themselves, allowing them to change their work-style. As a result, supervisors will need to review the survey results of their teams and engage in conversations with staff as required to ensure a common understanding of the results.

Following the close of the survey, a cross-sector team comprised of facilities, IT and strategic HR staff will be formed to review the results and work with the NR Board in developing strategies to implement LWS initiatives.

4.4.2 Identifying the Best Starting Places

While we are not able to define the current work-styles of all sector staff, we are exploring opportunities for early adoption of LWS initiatives. As previously mentioned, some functional groups (such as the Conservation Officers) are already early adopters and we are looking at other potential groups.

4.4.3 Providing Support to Supervisors

A major implication related to the Gov 2.0 strategic shifts will be the need for increased flexibility. As staffing resources diminish, those who remain will need to be increasingly flexible about how we meet the needs of the public. Job roles must constantly evolve to keep up with the pace of change and ongoing EPDP conversations will be more important than ever. As a result, we must ensure supervisors are properly equipped to manage the performance of employees with different work-styles and those in remote work locations.

There is often inherent worry for some supervisors and managers about how to appropriately supervise, provide direction, build relationships and provide performance management for staff who no longer are sitting in the office or workstation beside them. Ensuring a full education and support system is in place to address these concerns is also a critical and integral piece of the success of this plan.

There are currently several initiatives underway within the NR Sector related to employee performance and development that will assist in this regard. Examples include: Supervisory Leadership Panels in the Ministry of Environment which involve the sharing of supervisory best practices by current supervisors and could focus on LWS in the future; the use of 360 degree feedback tools throughout the Sector; the implementation of Leadership Development Panels in the Ministry of Environment for excluded managers; and the creation of a Supervisory and Management Excellence Framework in the Ministry of Forests, Lands and Natural Resource Operations.

We must also build a supportive culture for supervisors within the Sector, who can play a pivotal role as champions for LWS initiatives. We must ensure they have an understanding of LWS initiatives (e.g., through engagement sessions, LWS site tours, etc.) and are equipped to respond to employees' questions and concerns.

4.4.4 Supporting Employees through Change

Workplace change is necessary so we can adjust to shifting priorities while positioning ourselves to meet the challenges ahead associated with workforce demographics, service delivery, increasingly complex land use issues and economic pressures. The implementation of LWS initiatives will help us address our challenges, but will also result in changes in the way we do our jobs.

A number of change management activities have already occurred across the province, including workshops for staff on how to deal with change and workshops for supervisors and managers on how to support staff through change. However, as the Sector continues to evolve and increasingly focus on a corporate approach to work - collaborating and responding to public and business needs in non-traditional ways - ongoing change will be inevitable as these new working relationships will also lead to changes in our business operations.

We must ensure staff are supported as we continue to transform and evolve. A change management toolkit, which provides information, tools and resources to both supervisors and employees within the NR Sector, is currently under development and will soon be available to all Sector employees. Effective communication and an organizational culture that enables creativity and innovation will also be critical as we continue to implement LWS within the Sector.

5 Conclusion

The Natural Resource Sector's Leading Workplace Strategies initiatives support the agenda outlined in *Being the Best* and *Citizens @ the Centre*. Our plan also addresses the three main trends identified in the Transformation and Technology Plan for 2011/12:

- Workforce function (mobile vs. traditional work style)
- Program and service delivery changes; and
- Changes in workforce projections over the next 3-5 years

By undertaking the identified steps, the NR Sector will be able to successfully implement LWS initiatives, which has the potential for an unlimited combination of scenarios depending on location, function and operational need.

Figure 5. LWS Success Formula



This “culture change” requires change management support and strong leadership. Keys to success are engaging the workforce, creating an understanding of options and benefits, and developing unique solutions that meet key business needs.

This demonstration of strong leadership, partnerships, shared accountability and support for LWS at the Board level will go a long way in ensuring the successful implementation of the Sector's LWS initiatives.

NATURAL RESOURCE SECTOR

Transformation and Technology Plan 2012/13

NR Sector Specific Deliverables

Version 1.0

November 4, 2011

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1 EXECUTIVE SUMMARY

The Deputy Ministers' Committee on Transformation and Technology (DMCTT) directed sectors to focus Transformation and Technology (T&T) plans on specific actions and projects in support of the three strategic shifts of business innovation, self-service and citizen participation. Sectors were required to respond to 4 Corporate Initiatives: Open Data, Open Information, Internet Strategy and Leading Workplace Strategies. Furthermore, each Sector was provided with Sector Specific direction from DMCTT.

As part of the NR Sector specific direction, an update on the progress and changes to the 2011/12 Vision, Business Context and Strategic Initiatives are provided. This update includes an overview of what the Sector has accomplished regarding:

- One Project, One Process;
- Open Data;
- E-service Delivery; and
- Public Engagement.

The update provides details on the plans the NR Sector has developed to implement Sector wide strategies to support open data, e-service and public engagement. As a general approach, the Sector will develop generic frameworks that will support the "One Project, One Process" model and can be used to support other Sector business.

DMCTT also gave specific direction to provide NR Sector business context in alignment specifically with "One Project, One Process". There are 5 specific deliverables DMCTT directed the NR Sector to focus on including:

- Potential for Integrated Case Management (ICM) Alignment;
- Internet Strategy Alignment;
- Legacy System Alignment;
- Transformational Business Case Alignment; and
- On-line Services Alignment

For each of the specific deliverables focussing on "One Project, One Process", strategies were developed that outline the approach to be implemented to support the "One Project, One Process" model. For the Internet Strategy Alignment, where a Sector wide approach has already been established, "One Project, One Process" will be incorporated into that strategy. For the other strategies, where a Sector wide approach has yet to be established the Sector will develop a generic framework that will support the "One Project, One Process" model and can be used to support other Sector business.

Throughout the "One Project, One Process" specific deliverables, the strategies focus on Sector wide and corporate solutions, ensuring alignment with corporate Information Management / Information Technology (IM/IT) enablers wherever possible, e.g. Identity Management.

The 'One Project, One Process' initiative will allow the NR Sector to transform its business through the use of technology and lead to the realization of the vision of One Land Base, One Land Manager.

2 VISION, BUSINESS CONTEXT AND STRATEGIC INITIATIVES UPDATES

2.1 Deliverable: Update on Progress and Changes to Vision, Business Context and Strategic Initiatives

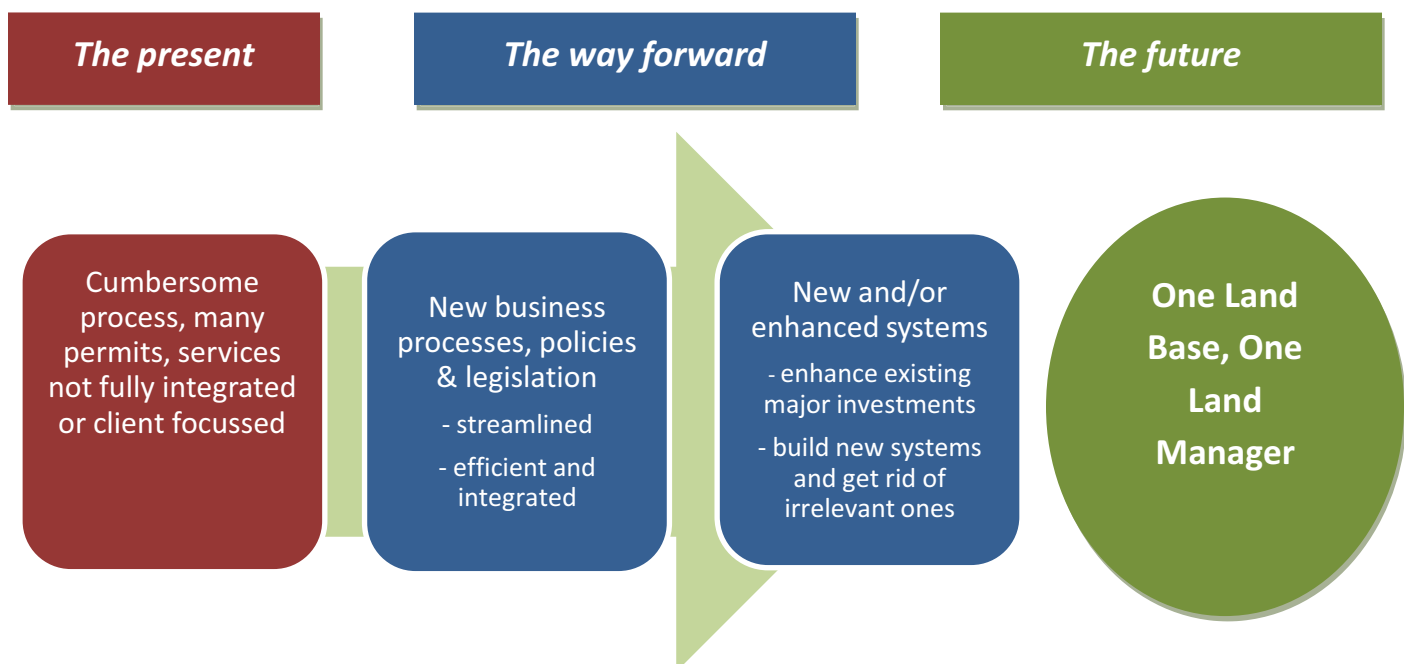
NR Sector Specific Deliverable:

Provide an update on progress your sector has made over the last year on the vision, business context and initiatives that were identified in your 2010/11 T&T plan. Also, identify and discuss any changes from your 2010/11 plan in terms of shifting priorities or new direction over the last year.

The vision for the NR Sector remains the same as last year – One Land Base, One Land Manager.

Although the NR Sector reorganized over the past year, the business context as captured in Figure 1 remains unchanged. The NR Sector’s vision and business context for the future is focused on remaining responsive to client needs, globally competitive, environmentally responsible and providing effective management of the land base.

Figure 1: Proposed Implementation of NR Sector Vision



In FY2010-2011, the NR Sector identified 4 transformational opportunities to align with the strategic shifts of business innovation, self-service and citizen participation:

1. 'One Project, One Process';
2. Open Data;
3. eService Delivery; and
4. Public Engagement.

The Open Government mandate has broadened the scope of priorities for the NR Sector to include Open Information, Internet Strategy and Leading Workplace Strategies. Each of these initiatives enables the strategic priorities already set by the NR Sector.

The 'One Project, One Process' initiative remains the highest priority transformational initiative for the NR Sector and is proving the correct strategy for the realization of the NR Sector vision of One Land Base, One Land Manager.

The NR Sector has made significant progress over the last year toward its vision and transformational initiatives:

2.2 'One Project, One Process' Update

The 'One Project, One Process' Concept

For many years the NR Sector has worked vigorously to transform its business to a web-enabled, citizen-centric model, which strongly aligns to BC Government's 2.0 strategic concepts of open data and the Internet Strategy. Examples include the broad public availability of the Sector's data through custom tools and a publicly accessible warehouse (what has become the cross-government spatial data warehouse); online access for residents to recreational licenses, electronic submissions for forest tenures and permitting; preliminary online land statusing; mineral titles available online; and the use of the FrontCounter BC, which provides multi-channel support into these services (over-the counter, telephone, online and kiosk).

Although there is a great deal of citizen access, much of it is currently through disparate systems built in isolation to meet the needs of specific business areas. Enabled by changes in organization structure and building on its momentum and experience in web-enablement, the Sector is now increasing its citizen-centric approach by integrating its services. The NR Sector goal in this space is to allow clients to easily access everything they need in order to use the land or its resources; and client access is well-supported whether online, face to face or by telephone. This 'One Window' approach would include consolidated submissions, notifications, license management and payments (one time or recurring). This is reflected in the Sector's 'One Project, One Process' initiative which focuses on Common Client linkages across Sector applications, allowing clients to submit, manage and track their NR authorizations and licenses through 'One Window'.

'One Window' is intended to form the public face of the NR Sector and to provide access from one central location to all possible forms, applications and information clients may need to make an application to government, for the use of a natural resource.

Another aspect of 'One Project, One Process', is to streamline the handling of all NR Sector authorizations, including the bundling of those authorizations by project or activity. The process is based on integrated decision making, which places a cumulative lens on the decisions made affecting the land base. Using integrated decision making for authorizations, supported by utilizing emerging technologies will lead to better, more durable and timely decisions.

‘One Project, One Process’ means NR clients can make more effective use of their investments: it allows them to invest in the most promising opportunities by providing more information upfront; it minimizes the length of time their investments are dormant waiting for authorization decisions; and it increases the certainty of their investments by providing more durable and dependable authorization decisions.

IM/IT will be a key enabler, to deliver ‘One Project, One Process’.

‘One Project, One Process’ Progress

Within the last year the concept of ‘One Project, One Process’ has been solidified with a clear centre and strong undertakings in business preparation, process alignment, prioritization and foundational information systems planning. The strength of the ‘One Project, One Process’ model, aligned with a supporting NR Sector reorganization, has contributed to the sound progress over the last year in advancing this Sector vision.

Integrated Decision Making (IDM) is the term applied to the overarching concept of focusing Sector efforts toward 'One Project, One Process'. With the focus of IDM, business progress in the last year has been extensive. Organizational alignment includes reorganization, a dedicated branch to support major projects related to the initiative, councils, committees and working groups at all levels of the organization to address the required business changes. Process identification and alignment has begun, legislative changes are under consideration and there has been an increase of 16 FrontCounter BC offices around the province. Business initiatives have addressed streamlined authorizations, and the creation of a cumulative effects and management framework.

Systems initiatives have focused strategically and tactically. Significant work has taken place on a strategy for a cross-government systems framework that would enable ‘One Project, One Process’ as well as other Sector business. At the same time, systems initiatives have delivered business integration using existing and legacy platforms. This systems integration bridges potential service gaps as new systems are brought on stream, and provides continued support for business process alignments already undertaken.

2.3 Open Data Update

The DataBC Catalogue currently contains approximately 640 NR Sector data entries and 202 data sets, and the BC Geographic Warehouse contains thousands of NR Sector data layers and over 1.5 billion records. The NR sector has leveraged the [Open Information and Open Data Policy](#) published this year as it provides Data Custodians clear parameters for creating open data. The NR Sector delivers a significant amount of data that is well used by clients. As identified in the NR Sector Open Data Plan, the Sector will continue to maintain relevant data holdings, expand the strong governance base and make data governance consistent across the sector, identify more data to be made available through the DataBC Catalogue, and improve standards for open format delivery.

2.3.1 E-Service Delivery Update

Last year, the NR Sector envisioned a coordinated and integrated set of E-services to support natural resource regulatory agencies to deliver fast and efficient client centred services. There was also an

emphasis on moving simple client centric transactional services from manual processes to on-line services.

The NR Sector's vision of e-service delivery has coalesced into the 'One Project, One Process' initiative. Supported by the Sector's Internet Strategy, the 'One Project, One Process' initiative will deliver an flexible framework for web enablement. This framework will provide integrated online delivery of land-based authorizations. The NR Sector anticipates using this framework to then move additional Sector services online.

The Internet Strategy - NR Sector's Plan has been described and submitted in a separate document and the 'One Project, One Process' concept is described above.

The progress the NR Sector has made regarding moving simple client centric transactional services from a manual process to be made available online, is described in Sections 2.1.1 and 3.5.3 of this document. Highlights of progress specific to streamlining authorizations are as follows:

- Identified and classified all NR Sector Authorizations as government driven or client driven
- Analysis of the authorizations indicates there are approximately 250 authorizations in total and potentially 80 of those authorizations could be rationalized and moved online, including some transitioning to self service
- 60 short term streamlining opportunities were identified across the NR sector to reduce or eliminate low risk authorizations, automate key processes and increase the use of qualified professionals.

2.3.2 Public Engagement Update

In the midst of a significant organizational shift a number of steps were undertaken to support the public engagement framework envisioned for the sector.

The Ministry of Environment performed a survey of public engagement initiatives that were underway or planned, and through this work developed a study and recommendation "[Stakeholder Engagement: Current Practices & Future Directions](#)". This work provides a useful model for the sector to use as a focal point for broadening to the other ministries. It provides articulation of the key challenges the sector itself also faces, that being the myriad and varied program delivery mandates and the diverse stakeholder groups affected. Through this work the sector is well positioned to participate in the initiatives underway with respect to redefining the citizens' user experience.

A [set of guidelines](#) on available public engagement social media tools has been assembled. These provide context of the appropriate use of specific tools based on the where in the spectrum of engagement an initiative is positioning itself. This work has been beneficial in early discussions with program areas, and allows the IMB to play an active role in directing programs into the expertise being built within the citizen engagement group at Citizens Services. Initiatives advanced by sector partners include: continuing support of the Living Water Smart Blog, a hunting and fishing regulation consultation site, and a First Nations relationship building initiative considering the use of Facebook.

3 BUSINESS CONTEXT ALIGNMENT WITH ‘ONE PROJECT, ONE PROCESS’ – DELIVERABLES 1 TO 5

3.1 Deliverable #1 - Integrated Case Management (ICM) Alignment with ‘One Project, One Process’

NR Sector Specific Deliverable #1: In Alignment with the Sector’s Vision of ‘One Project, One Process’:

Articulate the potential of ICM for the NR Sector

3.1.1 Overview

Over a two-month period, the NR Sector worked with multiple parties to analyze ICM potential within the Sector. The ICM is composed of several components with varying degrees of fit to NR Sector requirements, including components of the Framework to potentially support portions of the ‘One Project, One Process’ vision. The component that shows the clearest potential for the NR Sector is the product which the ICM system is built on, Oracle Siebel.

The ICM Framework overall would require significant extension to meet the NR Sector requirements, especially in areas of public-facing internet enablement, spatial data processing, and integration with core sector and government services (such as Electronic Payments). These extensions to the ICM Framework would increase its value as a general solution across government.

Further sector-specific work would also be required, including consolidation of client information, and enhancement of existing land-authorization systems to work within the framework. Although the work required is formidable, the ICM Framework shows promise as an enabling technology for transforming the NR Sector business in line with the ‘One Project, One Process’ vision.

Next steps could include a limited IM/IT pilot of Oracle Siebel, coupled with analysis of which parts of the ICM framework bring the greatest benefit to the Sector and government as a whole.

3.1.2 Approach to gathering information

The NR Sector bases the current assessment on work done from mid-August to mid-October with the assistance of Ministry of Social Development, the ICM Solution Centre, Shared Services BC (SSBC), the Office of the Chief Information Officer (OCIO), and NR Sector business areas. This involved numerous meetings, demonstrations, technical discussions and work sessions, including:

- Director-level discussion of ICM/‘One Project, One Process’ linkages
- Presentations related to ICM technologies and related research on the ICM vendor products
- Analysis of NR Sector functional requirements
- Presentation and discussion of NR Sector core application components and ‘One Project, One Process’ applications, including access to staff, vendors and technical documentation

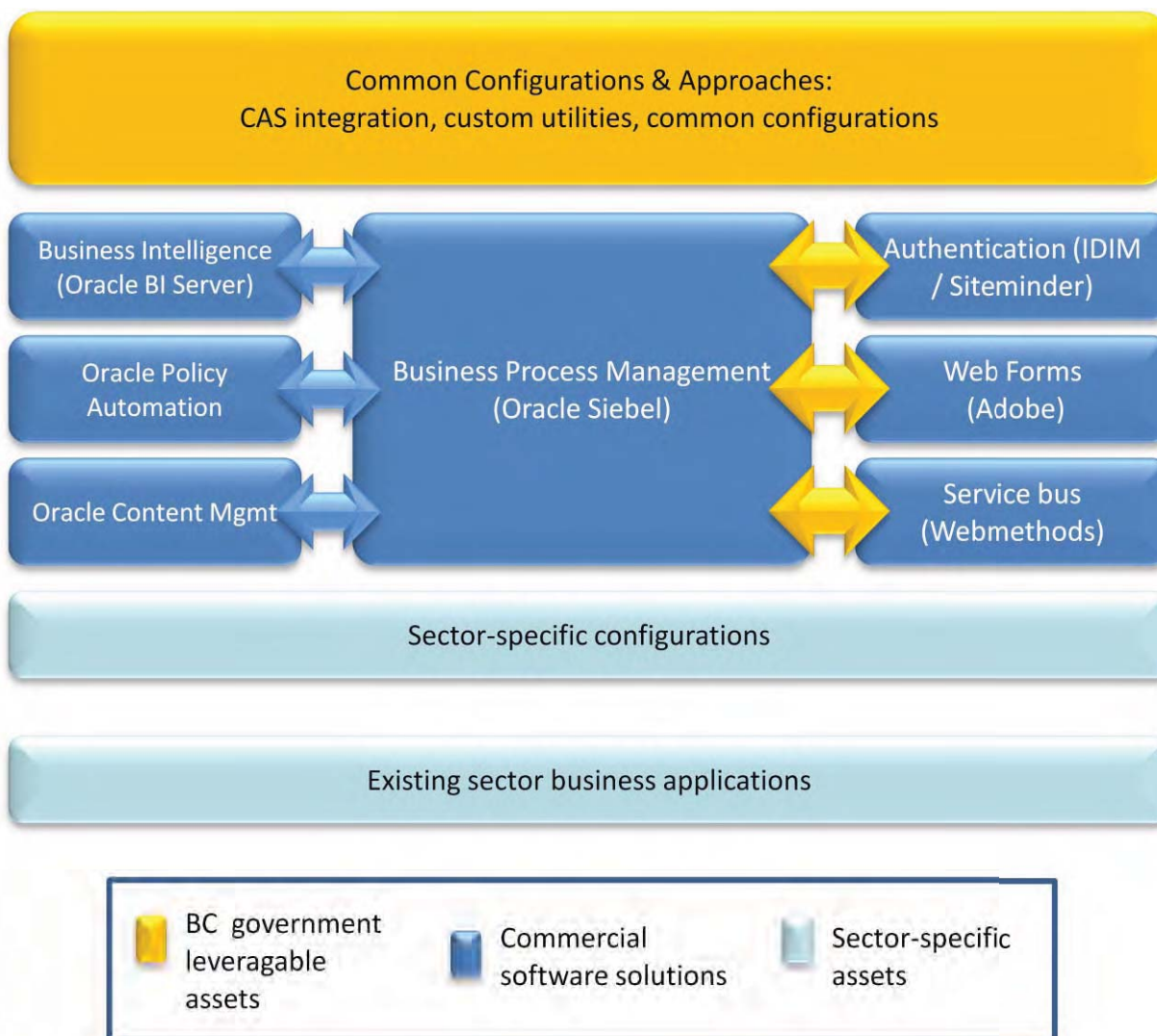
3.1.3 The ICM Framework

3.1.3.1 The existing ICM Framework

The systems vision of the ICM initiative is of a generic framework of commercial solutions integrated with common government services and supported by common approaches. It would allow lines of business throughout government to take advantage of the framework without onerous development cost, and it supports information sharing through the use of common products.

The framework is built around Oracle Siebel and incorporates a number of additional commercial products enhanced by government-specific integrations (such as with SiteMinder), common configurations, utilities and approaches. The following figure shows the current ICM Framework architecture.

Figure 2: Conceptual ICM Framework



3.1.4 Potential for use in ‘One Project, One Process’

The existing ICM Framework does not have the capabilities to meet the full requirements of ‘One Project, One Process’. The Sector would need to build on the foundation of the ICM, adding new capabilities and integrations. The most significant enhancements ‘One Project, One Process’ would bring to the ICM Framework would be spatial capabilities, client self-service capabilities, and additional integrations (such as electronic payments).

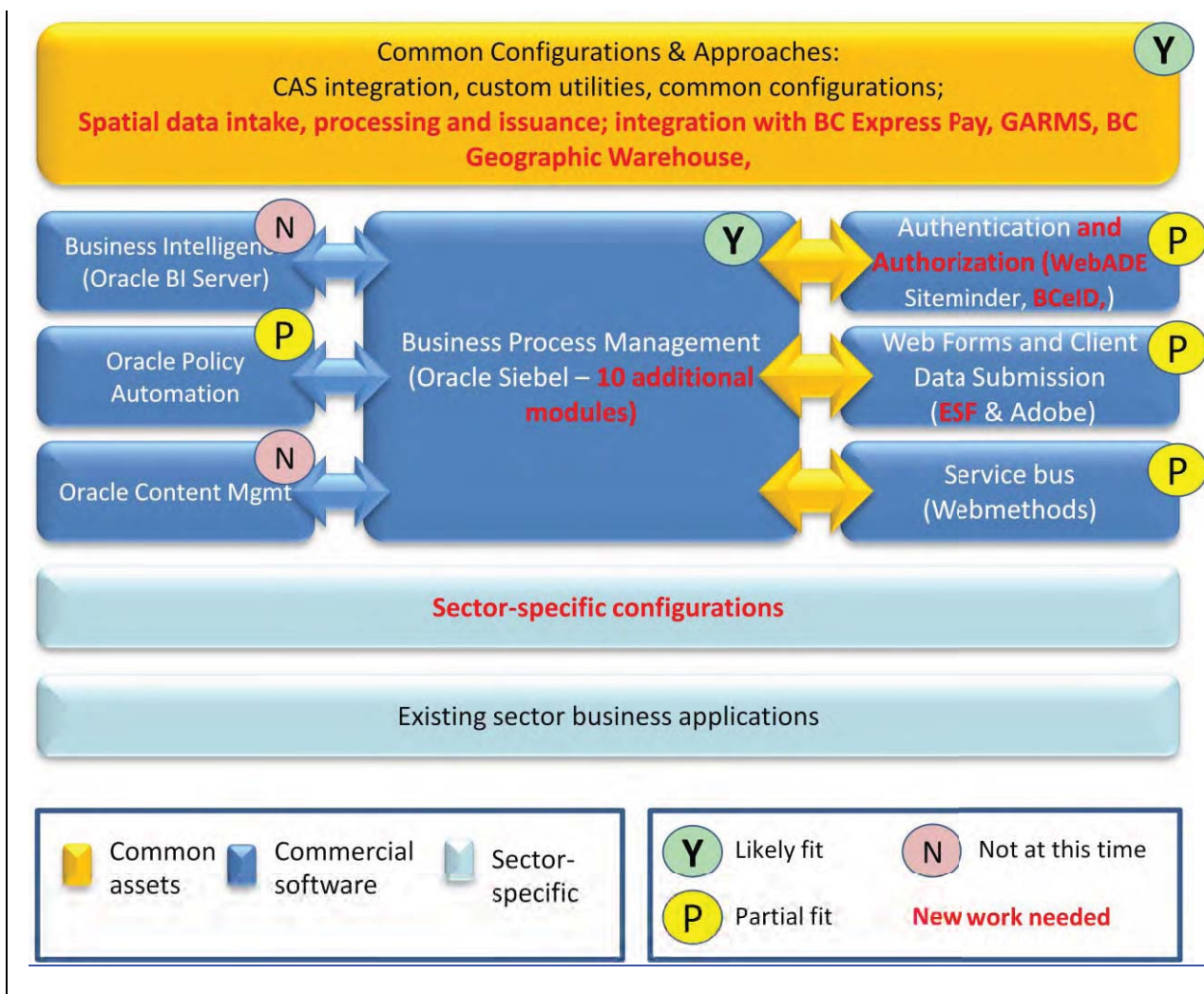
In order to explore the potential of the ICM Framework, a high-level architecture was developed together with the ICM Framework vendors. The proposed architecture focuses on which parts of the existing ICM Framework and associated product suite could be used by the NR Sector. It considered to a lesser degree what net new extensions to the Framework would be required. Technical details concerning the architecture and the analysis it allowed are in an appendix to this document.

Given the complexity of the ICM Framework and the breadth of the NR Sector vision, analysis is not complete. However, enough is known to suggest a preliminary level of fit. Current assessment suggests that Oracle Siebel is a strong candidate for the NR Sector. ‘One Project, One Process’ requires a Client Relations Management / Business Process Management (CRM/BPM) system and the OCIO has specified the use of Siebel to meet such requirements. In addition, the Sector has existing BPM/CRM systems which could be transitioned to Siebel over a period of time.

The fit of other products that are a part of the ICM Framework for supporting NR Sector requirements is not as evident.

The diagram below expresses where clarification is required to determine if other products within the ICM Framework are a fit for supporting NR Sector requirements. Red text describes some of the new work required to make use of the ICM Framework, and “Y”, “P” and “N” indicate the anticipated potential of the ICM Framework in this area. Further analysis will be required to confirm what is described in the Figure below.

Figure 3: ICM Framework fit to One Project One Process (Conceptual)



The Social Sector has done a tremendous amount of valuable work in pioneering the ICM Framework. The NR Sector would similarly make large contributions to the Framework in order to extend it to meet the requirements of 'One Project, One Process'.

3.1.5 Potential beyond 'One Project, One Process'

There is potential to make use of the ICM framework, once implemented, for more than just the 'One Project, One Process' initiative. This potential comes in two forms, and is recognized but has not been thoroughly explored, and merits further assessment.

1. 'One Project, One Process' focuses on the part of the lifecycle of a land-based authorization which begins with pre-submission activities and ends with a decision and with notification to the client (for example, delivery of an approved authorization). The ICM Framework shows potential to assist in later parts of the authorization lifecycle, including ongoing maintenance of the authorization (such as yearly fees), and with compliance and enforcement activities (such as obligations to deactivate roads).

2. Once augmented to support NR Sector requirements, the ICM Framework could be used for lines of business that are outside of the arena of land-based authorizations. Examples of this include
 - a. Government activities related to routine environmental monitoring; internal workflow management; collection or submission of scientific resource data in Habitat, Forestry and Agriculture; and case management for agricultural producers (for whom the NR Sector administers crop insurance and income stabilization programs)
 - b. Case management for administrative tribunals: the NR Sector is responsible for a number of tribunals. These have similar business processes (set by legislation) and could benefit from the ICM Framework for both case management and for client-facing web enablement related to supporting the dispute resolution process. There is also potential alignment with the Justice Sector in alternative/on-line dispute resolution solutions. Thus, the NR Sector will further explore IM/IT synergies with other Sector's across government when defining solutions. NR Sector tribunals which could benefit include:
 - Agricultural Land Commission
 - Farm Industry Review Board
 - Forest Appeals Commission
 - Forest Practices Board
 - Surface Rights Board of BC (Energy and Mines)
 - Mediation and Arbitration Board (Petroleum & Natural Gas)
 - Safety Standards Appeal Board (Housing)
 - Residential Tenancy Branch (though not strictly a tribunal, the RTB adjudicates landlord and tenant disputes).

In order to make use of the ICM Framework for this additional benefit, it would need to scale well in terms of licensing cost, availability of development skills in the vendor community, and for framework change management capabilities to allow multiple simultaneous development efforts.

3.1.6 Gaps & Uncertainties

This document primarily addresses ways in which portions of the ICM framework can be used to support 'One Project, One Process' requirements. In the course of this work a number of areas where utilizing the ICM framework to support NR Sector requirements may not be possible or would require expanding the current ICM Framework were identified. Some of these have been mentioned elsewhere in the document; they are collected here for convenience in supporting decisions and estimating related to use of the framework:

1. Integrating spatial intake with ICM framework. ICM framework currently supports collection of client information using a Commercial Off The Shelf (COTS) framework that has no spatial capability. The 'One Project, One Process' land-based authorizations are fundamentally spatial

in nature – sometimes at a coarse level, sometimes at a detailed level, and sometimes requiring multiple spatial components for a bundled authorization. This is a significant gap which ‘One Project, One Process’ would need to address. It is expected that any work in this area would add value to the ICM Framework as other Sectors. Although other Sectors are not as spatial-centric as the NR Sector, they do have spatial requirements which this can help address (e.g. Jobs, Tourism and Innovation, Transportation).

2. Many NR Sector clients of ‘One Project, One Process’ require direct (system-to-system) data submission rather than submission using online forms completed by humans. In a system that is capable of supporting this requirement, use of Adobe Livecycle might be a redundant component. Whether LiveCycle is used or not, this area will require extension of the ICM Framework.
3. Integrating spatial adjudication, decision package, authorization issuance into Siebel. In managing business processes, Siebel will often be able to indicate that certain back-end systems work with submitted spatial objects, but in other cases it will prove valuable to allow Siebel to directly work with spatial data. This suggests certain architectures for spatial storage (i.e., Oracle Spatial, which the NR Sector already uses), and development/use of techniques within the Siebel framework to handle queries that involve these spatial objects. Work here is also to the benefit of the broader ICM framework-using community.
4. Integration of spatial interactions with legacy systems and existing systems. Spatial objects may have significant size and complexity, and the ‘One Project, One Process’ framework will need to smoothly orchestrate transactions between itself and the web-service-enabled legacy systems.
5. Integration of “on behalf of” client permissions for intake. NR Sector clients require capabilities in the area of systems authorizations that are not provided by the ICM Framework. Instead NR Sector clients use a common security component, tied into SiteMinder/BCeID/IDIR, that is used through Sector systems as a common component. Advances in Identity Management may meet these requirements in time, however for the time being this remains a gap.

3.1.7 Next Steps

Existing work has focused on what parts of the ICM framework overlap with ‘One Project, One Process’ requirements. Work would be required to extend the ICM Framework for NR Sector use, on some areas there is a good fit in others formidable effort would be required, but the effort could be valuable, especially if its use is extended into additional lines of NR Sector business, and into Sectors across government.

Next steps must focus on the feasibility of the using the ICM Framework for NR Sector business transformation. High-level project requirements, careful analysis of gap/fit and an environment scan will allow a strong business case to be made on the cost/benefit of the Framework for ‘One Project, One Process’.

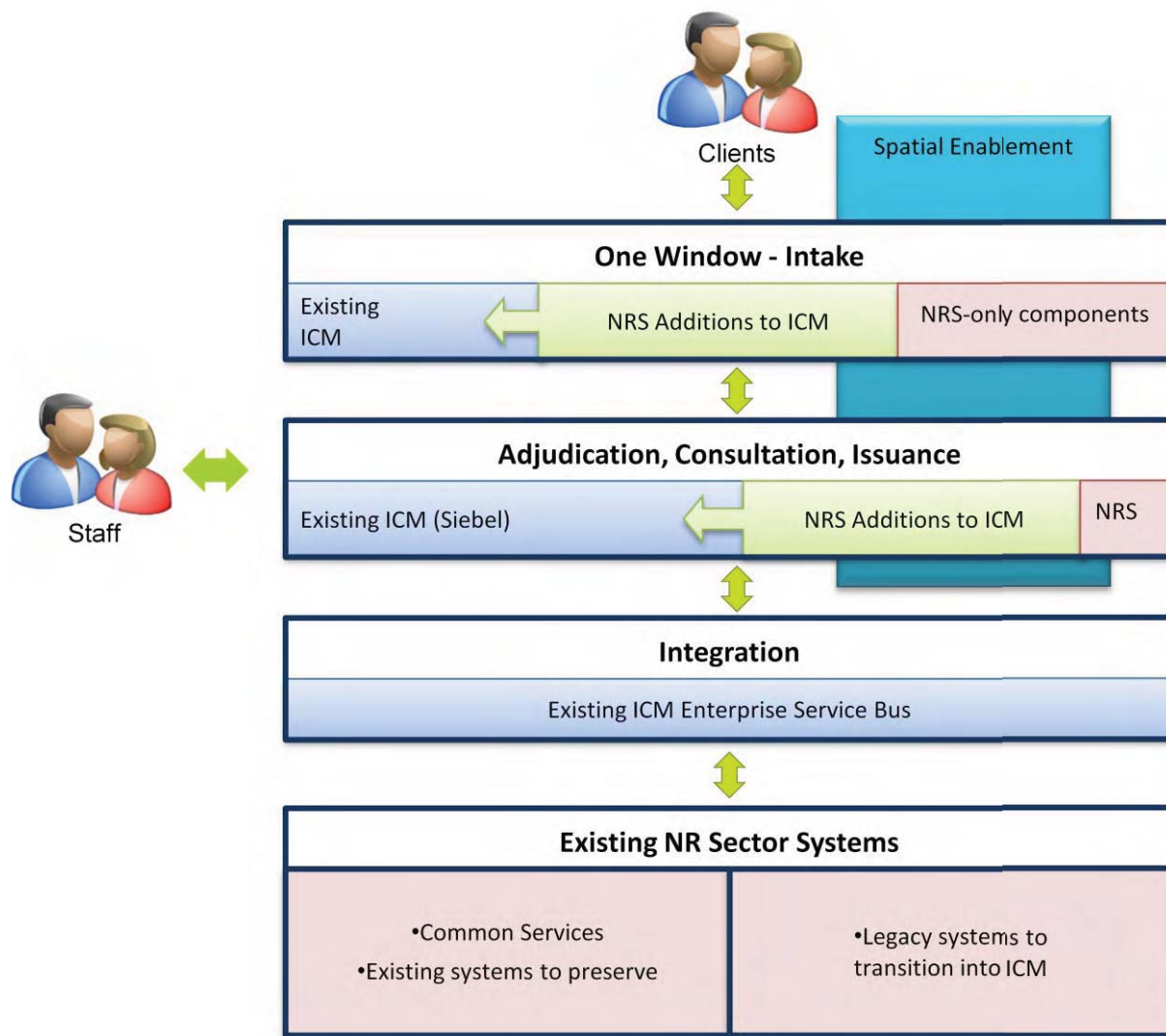
This could be valuably coupled with a cost estimate to conduct a pilot, followed by a limited IM/IT pilot of various components of the ICM Framework. Since assessment remains as to whether the rest of the

ICM Framework products would maximize benefits to government, the pilot may be limited to the use of Oracle Siebel. Scoping and planning of the pilot could be undertaken at the same time as the overall assessment work above, and would contribute to the strength of the eventual business case to transform the NR Sector business priorities using technology.

3.1.8 Technical Appendix

Analysis suggests an overall partial fit of ICM Framework to Sector requirements for 'One Project, One Process'. This is broadly described above. This appendix provides additional details.

Figure 4: High-level architecture for NR Sector use of ICM framework for 'One Project, One Process'



3.1.8.1 ICM Framework component fit

Although subject to further refinement, adequate analysis has taken place to suggest the following levels of fit.

Table 1: ICM Framework Component Fit

Oracle Siebel	This is the core of the ICM Framework and it shows strong potential. Numerous parts of the Siebel portion of the ICM framework are directly relatable to NR Sector business. A number of additional ICM planned components (such as self-service) would be developed by 'One Project, One Process'. A further set of components not slated for ICM use would also be required (such as shopping cart). Spatial processing is recognized as accessible if spatial storage is implemented in compatible technology (e.g. Oracle Spatial) however this has not been scoped.
Oracle Policy Automation	OPA shows good potential for allowing the self-serve functions to intelligently determine required information to collect from clients. It would work closely with the 'One Project, One Process' framework for web-based forms and client submissions.
Oracle Master Data Management	MDM shows potential for supporting the move from fragmented client information to a single view of client. 'One Project, One Process' has not determined whether to use a data conversion or a new-data-only approach. If a new-data-only approach is adopted then this may not be required.
Adobe LiveCycle	LiveCycle is a strong candidate for collection of <i>text</i> information from clients but it is not clear that it can support the client-centred data collection – integrated spatial and non-spatial data – that is core to 'One Project, One Process'. Significant work is required in this area, and it is possible that 'One Project, One Process' would require a different architecture for web-based forms and client data submission.
Webmethods	As an integration broker Webmethods could prove useful, especially as the Sector anticipates web-service enabling its back end applications over time. Challenges may exist in WebMethod's capability to orchestrate the Sector's web services, which leverage RESTful services; it is not clear that the Webmethods product is mature in this area.
Oracle Enterprise Content Management	'One Project, One Process' has not identified this as a requirement at this time.
Oracle BI Server	'One Project, One Process' has not identified this as a requirement at this time.

3.1.8.2 Components that 'One Project, One Process' can leverage from existing ICM Framework:

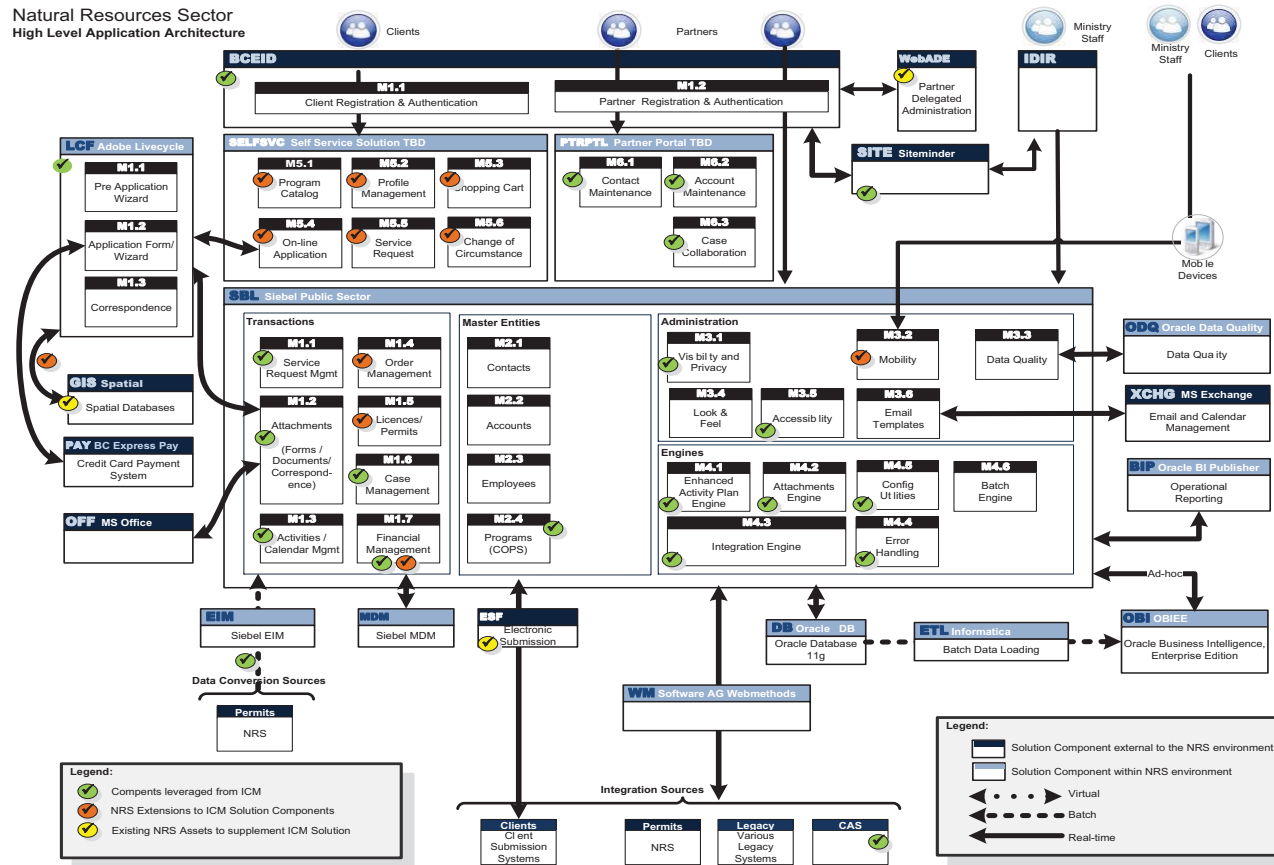
- 15 existing Siebel components :
 - Service Request Management
 - Forms/Documents/
 - Correspondence
 - Case Management
 - Programs (COPS)
 - Visibility and Privacy
 - Accessibility
- Integrations with:
 - BCeID and Siteminder
 - CAS
 - LiveCycle (to be determined)
- Siebel EIM

3.1.8.3 Components 'One Project, One Process' would initiate/develop to enrich the ICM Framework:

- 10 Siebel components including:
 - Self Service (6 Siebel modules)
 - Email Management
 - Financial Management
 - Licensing Permits
 - Mobile
- Oracle Master Data Management (product)
- Spatial submission, based around an adaptation or integration with NR Sector's spatial submission framework ESF.
- Spatial transaction processing and authorization issuance
- Integrations to broad service components:
- Client-delegated administration (WebADE is a multi-ministry user-authorization framework which extends the capabilities of SiteMinder/BCeID/IDIR to support complex authorizations and delegated administration)
- Integrations with CITZ spatial services: reporting framework(s), BCGW warehouse, possibly Batch Processing Framework and Geomark service
- Integrations for Electronic Payments (BC Express Pay and GARMS)

The diagram below approximates this.

Figure 5: ICM Architecture for use in 'One Project, One Process' (speculative)



3.2 Deliverable #2 - Internet Strategy Alignment with 'One Project, One Process'

NR Sector Specific Deliverable #2: In Alignment with the Sector's Vision of 'One Project, One Process':

Inventory the Ministry's web presence and management framework, and provide a strategy to rationalize their web properties and render its web presence more citizen-centric and service focused. Refer to the Internet Strategy section of the general instructions for the template and details of the information required.

The Internet is the backbone for NR Sector service delivery. The 'One Project, One Process' initiative delivers a significant shift from mixed internet and over-the-counter service to web-enabled, client self-service, supplemented by telephone, kiosk and over-the-counter support. The NR Sector Plan for the corporate Internet Strategy, which has been submitted as a separate document delivers a complete accounting of the Sector web properties and management framework as well as the vision for the NR Sector client Internet user experience. The plan describes how the Sector will transform web management and governance to enable citizen-centric service delivery.

'One Project, One Process' and the 'One Window' approach will contribute the following components to the overall Internet Strategy:

- Common forms and data submission framework to provide a uniform look and feel and to support an "ask-once" approach to client information collection;
- Common spatial submission and transaction management to support uniform spatial information management and user experience;
- Common workflow and services orchestration framework as the basis for delivering existing services online, as client self-serve and supported by telephone and in-person service;
- Common-client management capabilities, allowing clients to get a 360° view of their NR Sector business;
- Systems integration approaches leveraging up-to-date web services standards, to support both conventional systems integration as well as lightweight aggregation of sector services into client-specific mashups.

In addition, 'One Project, One Process' will leverage the following components from the Internet Strategy:

- Common sector look and feel for conventional and mobile devices
- A common web content management framework to allow information update and authoring throughout the organization
- Web-enabled Public Engagement framework

The Internet as a service delivery backbone presents an opportunity to achieve efficient, consistent and scalable approaches to service delivery. Through the 'One Project, One Process' framework, the Sector has the opportunity to implement the foundation of the Internet Strategy that will then be leveraged by other NR Sector on-line services.

To fully understand the 'One Window' concept of 'One Project, One Process', refer to the vision section of this document, specifically 2.1.1. As well, additional detailed analysis of the 'One Window' concept of 'One Project, One Process' is described in the Transformational Business Case Alignment section of this document, specifically 3.4.2.

3.3 Deliverable #3 - Legacy System Alignment with 'One Project, One Process'

NR Sector Specific Deliverable #3: In Alignment with the Sector's Vision of 'One Project, One Process':

Provide an inventory and analysis of the existing 622 legacy systems, as captured in the IM/IT Investments section of your plan.

While performing the IM/IT Application Health Check, the NR Sector completed an inventory and analysis of which systems support the issuance of Authorizations and where they fit within 'One Project, One Process'. The process activity groups of 'One Project, One Process' as outlined in Figure 6 were used to provide granularity and help identify where an application supports a stage in the authorization lifecycle:

- Pre-Application;
- Initial Submission
- Final Submission Review;
- Review and Comment (Engagement);
- Decision Package;
- Decision; and
- Implementation/Monitoring

Each Ministry and Agency within the NR Sector that is supported by a system which touches 'One Project, One Process' was identified. A mapping of systems and tools to the appropriate categories was produced (a tool helps inform the authorization process, providing information to support decision making).

The analysis of which systems support 'One Project, One Process':

- Identifies what application a Ministry/Agency uses in support of a specific process for managing authorizations;
- Assists the Sector in drafting a Sector-wide "as-is" and potential "to-be" systems architecture;
- Informs what systems could be replaced and which integrated in a common systems such as the Social Sector's Integrated Case Management (ICM) Framework;
- Informs what systems should integrate with a potential ICM implementation;
- Identifies where a system is used extensively in 'One Project, One Process';
- Identifies where an application is used marginally, or not at all, in support of 'One Project, One Process'; and
- Identifies where there is an opportunity for consolidation of systems and tools across the Sector.

Of the 622 systems identified in the initial NR Sector inventory, the IM/IT Application Health Check considered only 377:

- Systems having 5 or fewer users were removed;
- Duplication resulting from overlapping inventory systems in Sector ministries was reconciled;
- Systems that were transitioned Citizen Services were removed;
- Subsystems and data-only systems were removed (such as data load processes to the warehouse); and

- Some systems that are better considered as a member of a suite were not considered as separate systems ((e.g. the RatEdit application is best considered as a portion of the Tantalus application suite).

Of the remaining 377 systems considered, 71 are Line of Business operational systems that directly support NR Sector authorizations. The analysis also identified authorization-supporting tools managed both within the NR sector and by external agencies. The 71 systems represent both internal to government and public facing systems. These systems were then mapped onto the 'One Project, One Process' stages and were grouped by stage as follows:

- Pre-Application: 18 systems;
- Initial Submission: 18 systems;
- Final Submission Review: 21 systems;
- Review and Comment (Engagement): 28 systems;
- Decision Package: 18 systems;
- Decision: 15 systems; and
- Implementation/Monitoring (including Compliance and Enforcement): 25 systems.

Some systems support multiple stages of 'One Project, One Process'.

With inventory and initial analysis complete, the NR Sector will conduct further analysis and identify each business function provided by these 71 systems and propose consolidation of functions where it makes sense, identify which of these systems should be kept, which could be linked to a possible ICM implementation and which should be replaced outright or retired. The detailed analysis of the 71 systems supporting 'One Project, One Process' is approximately 30% complete. The analysis is planned to be completed in fiscal 2011/12 to provide input into the NR Sector's Transformational Business Case Alignment with 'One Project, One Process', as described in section 4 of this document.

In addition, a detailed analysis of all other systems in the NR Sector that do not directly support 'One Project, One Process' will help determine the business criticality and future plans of those systems.

3.4 Deliverable #4 - Transformational Business Case Alignment with 'One Project, One Process'

NR Sector Specific Deliverable #4: In Alignment with the Sector's Vision of 'One Project, One Process':

Describe the vision that will lead to a detailed business case to support a major transformational capital request for the 'One Project, One Process' initiative in fiscal year 12/13, intended for implementation in fiscal year 13/14.

3.4.1 Overview

As part of the NR Sector specific instructions in the T&T Plan, the Sector is to describe the vision, i.e. the plan that will lead to a detailed business case to support a major transformational capital request for 'One Project, One Process' in fiscal year 12/13, intended for implementation in fiscal year 13/14.

The plan outlined below is based on the vision that is described in Section 2 of this document, with emphasis on section 2.1.1., which describes the NR Sector's vision of 'One Project, One Process'. This plan is also supported by each of the sections in this document that describe the work occurring in the NR Sector to align the Sector with the vision, specifically 3.1, 3.2, 3.3 and 3.5. As part of the T&T deliverables submitted on September 15th, 2011 a document was produced that outlined how the Sector will utilize BC Government corporate enablers, specifically Identity Management to support the implementation of the Sector's vision. This Identity Management document is also a foundational piece to the plan outlined below and is provided below in Appendix 1 for reference.

The plan describes how IM/IT needs to align to the Sector's vision to deliver NR authorizations efficiently. The plan also describes how the NR Sector is preparing itself to utilize technology to create the foundation to transform its' business. Preparation for this transformation includes significant stakeholder engagement, detailed analysis of the Sector's current technology and establishing strategies and leveraging opportunities to help make the transformation as efficient and cost effective as possible.

The plan also describes how the Sector is re-focusing capital budget allocation to support the 'One Project, One Process' initiative, including describing the outcomes and deliverables of the re-focused capital budget. The plan outlines the immediate next steps, which include: initiating key projects to establish the foundation to transform business and inform the detailed business case to support a major transformational capital request in fiscal year 12/13, intended for implementation in fiscal year 13/14.

3.4.2 Analysis of 'One Project, One Process' Authorizations

The business activities within the 'One Project, One Process' initiative fall into 4 broad activity groups in the lifecycle of a land-based activity:

Group 1: Up front work by client and/or government (including professional reliance and statutory requirements) to explore opportunities, determine if a project is feasible, prepare a viable application and submit it;

Group 2: Government activities to receive the submission, collect fees, analyse the submission, make decisions and issue authorizations;

Group 3: Management of the authorization or project through its life to termination of agreement, including:

- renewals, replacements and extensions
- notifications, progress reporting and
- assessments
- compliance and enforcement activities
- termination / end of agreement
- common records management

Group 4: Activities that live beyond the life of the authorization or project, including:

- obligations (e.g. silviculture)
- remediation (e.g. mines, road deactivations)
- mitigation (e.g. contaminated sites)

The objectives of the IM/IT alignment strategy are to build a framework that includes appropriate process and tools to address the full 'One Project, One Process' initiative. However, due to the resource pressures on the NR Sector, the current backlog of authorizations and the need to provide streamlined automated solutions, the near term objectives are to develop the tools within the framework to address the first 2 activity groups listed above.

The first 2 groups are largely addressed by what is currently termed 'One Window' and 'One Process'.

'One Window' includes all aspects of clients' interaction:

1. Phone/fax (call centre – currently operating);
2. Walk in (FrontCounter BC, Service BC – multiple offices across the province); and
3. On-line.

All 3 of these client intake methods require a strong foundation of tools and services supplied by IM/IT. As well, there are multiple scenarios in which client intake may occur. These intake scenarios are described in Table 1.

Table 2: On-line Client Intake Scenarios

Client Intake Scenario	Current State	Future State
1. Experienced	· Knows the intake model, automated or manual, processes and contacts to initiate authorization(s) to access natural resources · Uses established automatic online intake tools through disparate access points	· Directed to One Window and a consistent, coordinated set of Online Self Service tools to make application for authorization

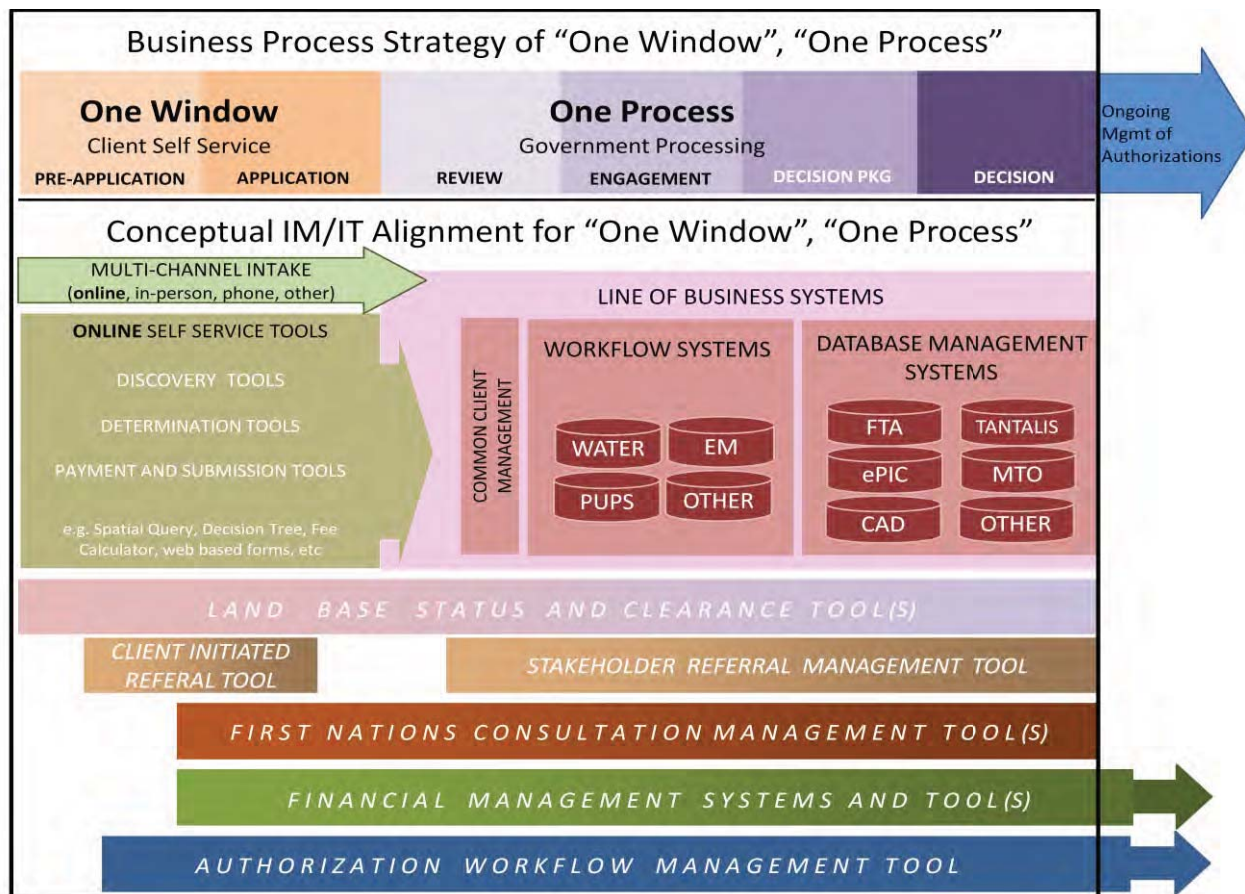
2. Informed/ Technically able	- Has some knowledge of the business, application processes and intake methods, automated or manual, but looking for confirmation and ensuring they are up to date - Applicant self-initiates the exploration process to discover how to apply and what the requirements are - Must navigate disparate information websites and presentation styles of the information	- Online search engines direct client to 'One Window' access to information and the Online Self Service tools - One Window provides ability to discover what is needed, determine how to initiate the application and the ability to do so - Provides information on how to get additional support if required
3. Requires or Desires Personal Assistance	- Does not have the knowledge or is not technically able due to skill or geography to utilize online information and tools on how to apply for the authorization to access natural resources - Has the experience, knowledge and technical ability to access the information and tools online but chooses to use other means to initiate applications for authorization	- One Window design provides easier access to information that is clear, understandable and supports self-service - Provides information on how to get additional support if required where client training is promoted to steer them towards use of the Online Self Service tools in the future

'One Process' focuses on government's internal processes and workflows related to land-based authorizations and seeks to rationalize numerous single agency processes for issuing NR Sector authorizations into 'One Process'. This rationalizing will eliminate overlap and duplication while maintaining or enhancing current environmental standards. 'One Process' covers all natural resource authorizations that authorize a physical use or occupation of Crown Land, except for competitive processes or self-serve authorizations such as fishing licences. Consequently, various operational plans, administrative decisions and works or services contracts would not fall within the definition of an authorization; however these types of documents will be available through 'One Window'.

Based on the combination of business priorities, business readiness and corporate direction, the Sector developed an IM/IT alignment strategy to support 'One Project, One Process' with initial emphasis on 'One Window' and 'One Process', as described above and illustrated below in Figure 6.

The figure below is a conceptual overview of the different IM/IT tools and systems that are required to support the 'One Project, One Process' vision, with emphasis on 'One Window' and 'One Process'.

Figure 6: Conceptual Overview of ‘One Project, One Process’



3.4.3 Stakeholder Engagement

The NR Sector has engaged a number of agencies in its planning to refocus IM/IT capital to support ‘One Project, One Process’ and determine the dependencies and resulting plans for current systems. This engagement has included confirming business priorities, identifying existing processes, systems and tools that could be leveraged to support ‘One Project, One Process’ and to align with the corporate strategies of a) open data, b) open information and c) internet strategy. The NR Sector has engaged these agencies:

Table 3: Stakeholder Engagement Summary

Agency Engaged	Purpose of Engagement	Outcome of Engagement
Integrated Case Management (ICM) project team (Internal, central government and vendors)	- Identify opportunities to leverage processes, licences and system solutions in use or developed by the ICM initiative	- ICM Background material provided to NR Sector - Multiple demos and whiteboard session with ICM project team - Proposed proof of concept for 'One Project, One Process' - Document being produced by ICM Vendor consortium providing a summary of all options and estimated cost
Office of the Chief Information Officer (OCIO)	- Understand new ID Management - Discuss NR Sector alignment to corporate shifts and initiatives	- NR Sector document aligning our Corporate Strategy for ID Mgmt with OCIO
Shared Services BC (SSBC)	- Understand new ID Management - Discuss options under ICM initiative NR Sector could leverage	- Infrastructure requirements identified to support ID Mgmt and ICM implementation for the NR Sector
Business and Workforce Transformation Division	- Discuss requirements for corporate spatial tools for both NR Sector and ICM - Review existing Spatial tools and datasets across the NR Sector. - Discuss NR Sector alignment to corporate shifts and initiatives	- Identification of corporate data management and spatial tools to support 'One Project, One Process' - Concept to move towards common tools and datasets; consolidation of "one off" systems to corporate standard platform - Document outlining opportunities to streamline the Authorization process
NR Sector program area(s)	- Gather business requirements and functional needs of program areas to support 'One Project, One Process'.	- Business Requirements Documents - Workflows - Systems alignment to 'One Project, One Process'
NR Sector Corporate Services	- Financial requirements - IM/IT requirements	- Document the sector's requirements for fee payments and Corporate Finance requirements - Document outlining a conceptual IM/IT alignment architecture to support 'One Project, One Process'

3.4.4 Preparing for a Transformation with Technology

Based on the information and results from engagement with the variety of agencies, the NR Sector is now performing the following tasks to prepare for the work involved in developing the 'One Project, One Process' framework and aligning to the corporate strategies of a) open data, b) open information and c) internet strategy:

1. Analysing the NR Sector's 622 current applications, including the results of the IM/IT Systems Health Check;
2. Identifying the systems that support the 'One Project, One Process' initiative; including confirming the functions the identified systems provide to support 'One Project, One Process' initiative;
3. Identifying Sector IM/IT work currently underway intended to support the 'One Project, One Process' initiative and developing a matrix to assess priorities and sequencing of IM/IT activities, based on the 'One Project, One Process' goals;
4. Developing transitions strategies for current systems to support 'One Project, One Process' based on:
 - analysis and health of current systems;
 - identification of systems currently utilized to support the 'One Project, One Process' initiative; and
 - IM/IT work that should be invested in or deferred.
5. Assessing the opportunities to address the 'One Project, One Process' business priorities by:
 - leveraging the common solutions and expertise developed through the ICM initiative;
 - leveraging the Identity Management initiative; and
 - working with central government, ICM and NR Sector stakeholders to develop corporate spatial tools that can be utilized by all Government Sectors.

3.4.5 NR Sector's Plan to Re-focus Capital Allocation

Not Responsive

3.4.6 Outcomes

Not Responsive

Not Responsive

3.4.7 Deliverables

Not Responsive

h

Table 4: Key Projects to Initiate ‘One Project, One Process’

Project Deliverables	Project Description	Estimated Completion Date
	Not Responsive	

Project Deliverables	Project Description	Estimated Completion Date
	Not Responsive	

3.4.8 Next Steps for Major Transformational Business Case

Not Responsive

3.5 Deliverable #5 - On-Line Services Alignment with 'One Project, One Process'

NR Sector Specific Deliverable #5: In Alignment with the Sector's Vision of 'One Project, One Process':

In concert with deliverable #2, provide an analysis of the services currently provided by the sector that can also or alternatively be delivered online. For these services, provide a preliminary indication of any challenges that may be associated with moving this service online (i.e. cost, complexity, reliance on yet-to-be-finalized enablers, etc.).

3.5.1 NR Sector and Online Service Delivery

For many years the NR Sector has worked vigorously to transform its business to a web-enabled, citizen-centric model, which strongly aligns to BC Government's 2.0 strategic concepts of open data and the internet strategy. Examples include the broad public availability of the Sector's data through custom tools and a publicly accessible warehouse (what has become the cross-government spatial data warehouse); online access for residents to recreational licenses, electronic submissions for forest tenures and permitting; preliminary online land status; mineral and petroleum tenures available online; and the use of the FrontCounter BC, which provides multi-channel support into these services (over-the counter, telephone, online and kiosk).

s.15

3.5.2 NR Sector Major Online Initiative 'One Project, One Process'

The NR Sector goal in this space is to allow clients to easily access everything they need in order to use the land or its resources; and client access is well-supported whether online, face to face or by telephone. This 'One Window' approach, as captured in Figure 6 above, would include consolidated submissions, notifications, license management and payments (one time or recurring). This is reflected in the Sector's 'One Project, One Process' initiative which focuses on common client linkages across Sector applications, allowing clients to submit and manage their NR authorizations and licenses online through 'One Window'. This transformation is enabled by current business process alignment activities, and the introduction of standard interoperability techniques to support forthcoming technology integrations.

The goal for the NR Sector is to be regarded by clients as approachable and efficient as provision of services offered online are quick, straightforward and easy to navigate. It means government's online services will be modernized and are shaped by clients' needs rather than by the structure of government. It is a future that reduces costs as a result of becoming more efficient in its operations and where investment opportunities increase through our business transformations, enhancements in technology and the way the NR Sector engages and interacts with its clients.

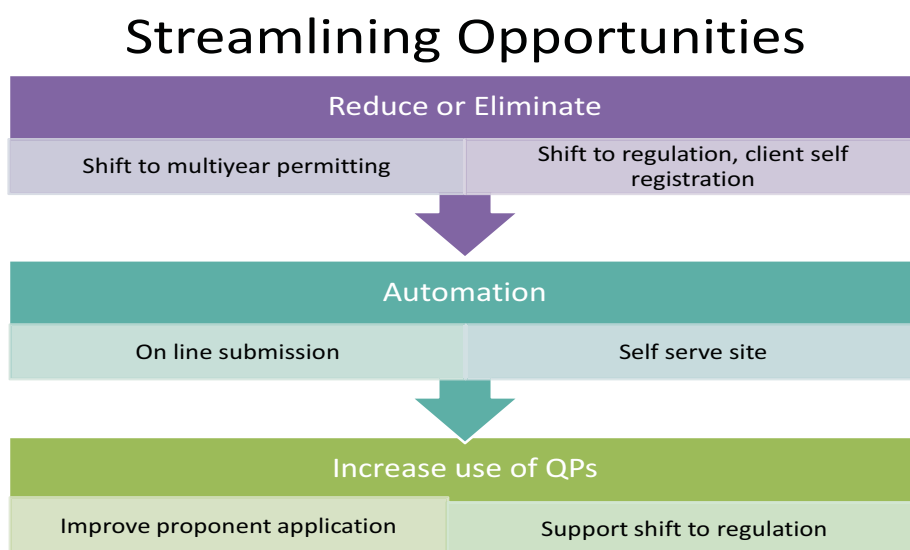
Part of the NR Sector’s vision of ‘One Project, One Process’ is to streamline the Sector’s land-based authorizations, including utilizing the approach of ‘One Window’ as described above.

3.5.3 Potential for Online Services in ‘One Project, One Process’

The NR Sector continues to streamline, integrate and consolidate their authorization application forms and processes to meet the objectives of ‘One Project, One Process’. The goal is to move as many land-based authorizations online as possible, including moving as many as possible into a client self-service model. The analysis of the authorizations indicates there are approximately 250 authorizations in total and potentially 80 of those authorizations could be rationalized and moved online, including some transitioning to self service.

As part of moving these authorizations online, and increasing the self service opportunities, there are a number of opportunities to streamline, including the following:

Figure 7: Streamlining Opportunities



❖ QP refers to Qualified Professional

As described above, it is envisioned that this shift to online and where possible, self service will be through the ‘One Project, One Process’ concept of ‘One Window’.

As part of the ‘One Window’ concept, it is anticipated that an application framework could prove useful in service integration, security alignment and cost management by providing common functions; freeing applications from having to independently implement authorization management, searches, workflow, printing, reporting, data exports, and screen layouts. Such a framework could allow the basis for a common client repository as well.

3.5.4 Approach and Challenges for Online Services

As described above, the NR Sector has been focussing on authorization services as the priority to move online. The Sector will use authorization services as the candidate to develop a generic framework that will support moving these types of services online. A challenge to moving these services online will be the complexity in creating a framework that accommodates the broad ranging business of the NR Sector.

The proposed framework will address the following:

1. Provide clients with a consistent look and feel for on-line authorization application forms across the NR Sector.
2. Faster application form completion for repeat clients as format and workflow is consistent.
3. Provide clients with real-time application completeness feedback. If application is missing required information, client will not be able to submit for processing until missing information is addressed. This is also intended to reduce the backlog of applications waiting to be reviewed.
4. Provide clients with ability to monitor application progress; reducing the need for clients to call staff for updates on application status.
5. Reduce staff effort to check application packages for completeness thereby creating processing efficiencies.
6. Provide a template approach that allows business lines to easily and quickly modify or change their application forms as needed without having to use vendor resources.
7. Ability for clients to pay applicable fees on-line.
8. Automatic data entry into Line of Business operational systems on the backend; reduces staff data entry resulting in improved staff productivity.
9. Improve version control on application forms; clients have access to the most current form at all times.

Developing a framework for land-based authorizations that satisfies the needs of the Sector to move all authorizations (or like services) online is complex and the cost to do so is unknown. To determine the cost, the NR Sector will focus on authorizations that specifically support the 'One Project, One Process' vision and further refine this work to focus on a program area to conduct a pilot. Once the pilot is complete, the Sector can extrapolate the cost to bring other NR Sector services online.

Challenges related to providing services through 'One Window' extend far beyond IM/IT. The change begins and ends with business transformation and a key business challenge will be rationalization of an array of current business authorization application forms that exist in many different formats and designs across the NR Sector. This rationalization will require multiple business areas working collaboratively and coming to agreement on a generic form layout, with consistent look and feel and agreement on a definition of common data elements that make up the form. It is recognized that every business area will have a certain amount of business specific information that needs to be accounted for in the generic framework described above.

It should be noted that, as the Sector develops this framework and focuses on 'One Project, One Process', business process improvement is occurring both in the areas of land-based authorizations, as

well as business areas throughout the sector. As business areas complete their business process improvement, the Sector will move the related services online over time.

3.5.5 Additional Opportunities for Online Service

Although the primary focus at this time on the NR Sector's increased online service delivery is tied to 'One Project, One Process', the Sector recognizes a number of additional opportunities, both in the area of enabling online client interaction as well as making Sector information more available and accessible.

Opportunities for increased online service delivery include:

- Financial services for agricultural producers – the Sector administers income stabilization and crop insurance services, which could be increasingly offered online. Some work in this area has taken place but much remains.
- Animal Safety (veterinary laboratory reporting/notifications)
- Administrative Tribunals: a number of tribunals in the Sector have the potential to include an online portion in their service delivery, whether in preparatory/discovery phases or in resolution itself. These are governed by the Administrative Tribunals Act and thus would have similar business processes. This work would take place in collaboration with Attorney General, which is developing online services related to Small Claims. NR Sector tribunals which could benefit include:
 - Agricultural Land Commission
 - Farm Industry Review Board
 - Forest Appeals Commission
 - Forest Practices Board
 - Surface Rights Board of BC (Energy and Mines)
 - Mediation and Arbitration Board (Petroleum & Natural Gas)
 - Residential Tenancy Branch (though not strictly a tribunal, the RTB adjudicates landlord and tenant disputes)
 - Safety Standards Appeal Board (Housing)
- Crowd-sourced parks atlas: collection and upkeep of information about trails and natural features in BC Parks could potentially be crowd-sourced using public wiki-like technologies. Challenges in this area relate to spatial management and providing enough critical mass of information initially to promote public buy-in.
- Bringing location-based service to Sector information. Using the location features in smart phones and other mobile devices, the Sector can provide focused delivery of its information based on a person's location. Examples include:
 - Air Quality Advisories: similar to a weather forecast, these indicate the current or anticipated air quality for a particular location.
 - Burn Bans and campfire bans: a person in a park or elsewhere could answer the question, "may I have a fire".
 - Hunting and fishing regulations: a recreational user could find applicable hunting or fishing regulations based on their current location.

- Flood forecasting & flood warnings: seasonal flood forecasts could be delivered to mobile device subscribers based on pre-selected or current locations.
- Environment 360: for the current location, a mobile user would be told the full suite of environment-based information in their area – karst potential, terrain type, ungulate capability, BEC, agricultural potential, soil type, mineral inventory, etc.
- Land Status 360: tells a mobile user the land-based tenures, rights and interests at their current location
- Bearing & Direction to nearest water license/well: certain agricultural and industrial uses are required to make special allowance near water sources. This mobile application would allow a client to determine how close they are to a known water source.

3.5.6 Corporate Enablers for Increased Online Services

Below is a summary of the NR Sector current use and reliance on corporate and/or yet to be finalized enablers.

3.5.6.1 Information Sharing and Privacy

The NR Sector has a specific interest in information sharing/privacy legislation or policy. Through its 'One Project, One Process' initiative, the NR Sector is heavily engaged in enhancements to online service delivery. In no small part, current work involves aggregation of existing online services into unified client-centric views supporting broad client self-service. Privacy issues and privacy planning are significant aspects of this work: in the NR Sector, a "client" may as easily be a group of individuals as a single individual, or even individuals acting on behalf of others. The potential subtlety and complexity of these relationships give the Sector a significant interest in any changes to the governing frameworks in this area.

3.5.6.2 Identity Management

The NR Sector relies on sound identity management provided through BCeID for its online service delivery, and anticipates using Identity Management and BC Services Card advances as they become available. The Sector has separately detailed its strategy in this area; however current phases of online enablement activities are not reliant on these advances. As part of the T&T deliverables submitted on September 15th, 2011 a document was produced that outlined how the Sector will utilize BC Government corporate enablers, specifically Identity Management to support the implementation of the Sector's vision. This Identity Management document is also a foundational piece to the plan outlined below and is provided below in Appendix 1 for reference.

3.5.6.3 Network

More than in any other sector, the clients and staff in the NR Sector often operate far from conventional network and cellular access. This presents special challenges to the sector's long-term vision of Web and Gov2.0 accessibility. However, rural and remote connectivity are not deliverables within the Network portion of IT Enablers. As such, the Sector is focusing currently on land-based authorizations (which may reasonably be expected to occur in network-accessible locations). Work the sector undertakes for remote connectivity (for example, low-bandwidth satellite connections for dispatch and staff safety check-ins) would be undertaken in cooperation with SSBC.

3.5.6.4 Web 2.0 / Gov 2.0

The Sector has shown success in the use of the Internet to support Public Consultation (e.g. Living Water Smart) and Public Engagement (e.g. Apps for Climate Action), and continues to work on its Public Engagement Framework. This work is tightly tied to OCIO, SSBC Government Communications and Public Engagement and Business and Workforce Transformation direction on Citizen participation. The Sector anticipates working with these agencies in the continuing refinement and rollout of these services.

The Internet has evolved as a primary service delivery channel for government operations. The Internet Strategy – NR Sector Plan, as an enabler positions the Sector to take advantage of this by defining an efficient approach to architecting our service delivery. Utilizing the internet backbone to service current and emerging channels, it allows the sector to embrace citizen expectations with their use of mobile devices, incorporation of social media and recognizes the need to have overarching governance across all electronic service delivery channels. The details of how the Sector will transform and manage governance, as well as implement online service that will lead to efficiencies are described in the Internet Strategy – NR Sector Plan, which has been submitted as a separate document.

3.5.6.5 Standards and Guidelines

The Sector has long-standing experience using Open Source software, as well as contributing enhancements back into the Open Source community. The Sector considers Open Source a strategic direction in maintaining its accountability to the public interest through managing cost, maintaining flexibility and leveraging common solutions. As such, the Sector has a strong interest in standards and guidelines relating to procurement and use of Open Source (and similarly public-licensed) software.

4 SUMMARY

The NR Sector is a major force and contributor towards building a strong economy and vibrant communities that support families while ensuring future generations can enjoy British Columbia's natural resources.

The NR Sector T&T deliverables are focused on the vision of One Land Base, One Land Manager and the realization of that vision through the major transformational initiative 'One Project, One Process'. 'One Project, One Process' supports the strategic shifts toward business innovation and self service and has further synergies with each of the 4 corporate initiatives: Internet Strategy, Open Data, Open Information and Leading Workplace Strategies.

The NR Sector is demonstrating fiscal responsibility through the development of the plan to refocus a portion of the current year IM/IT capital allocation to elements of the transformation project 'One Project, One Process'. The business case, resulting analysis, and move of additional services on-line may demonstrate additional capital requirements in future years. Furthermore, as the Sector continues to demonstrate leadership in IMIT collaboration across the sector and government, additional strategic transformative opportunities may be revealed, requiring capital investment.

5 GLOSSARY OF ACRONYMS

BCeID: BC Electronic ID. User identification credential system used for parties transacting business with the BC Government.

BCGW: The BC Geographic Warehouse, a spatial data warehouse created in the NR Sector and now under the care of Enterprise Data Services group of CITZ.

BPM: Business Process Management, a type of software used to manage an organization's workflows. Frequently one system will have both BMP and CRM (see) capabilities.

CAS: Corporate Accounting System, under Ministry of Finance.

CITZ: Ministry of Labour, Citizens Services and Open Government

CRM: Client Relations Management, a type of software used to manage clients, contacts and interactions. Frequently overlaps functionality with BPM (see).

GARMS: Government Agent Revenue Management System same ministry above (specifically part of Service BC)

ICM: Integrated Case Management. The ICM Project undertaken by the social sector has resulted in an ICM Framework which shows potential for use by other sectors of government.

IDIM: Identity Management.

IDM: Integrated Decision Making, the overall concept of focusing Sector efforts toward 'One Project, One Process'.

IMB: Information Management Branch of the NR Sector.

NR: Natural Resources

OCIO: Office of the Chief Information Officer.

QP: Qualified Professional.

SSBC: Shared Services BC.

NATURAL RESOURCE SECTOR

TRANSFORMATION AND TECHNOLOGY

IDENTITY MANGEMENT PLAN

September 15, 2011

1. Planning Context: Natural Resource Sector and the Identity Management Initiative:

As part of the Natural Resources (NR) Sector specific instructions in the Technology and Transformation (T&T) Plan, the NR Sector is to provide a strategy to rationalize its web properties and render its web presence more citizen-centric and service focused by adding new services and improving access and ease-of-use for clients. As part of this planning, the NR Sector is to identify how it can leverage the government's identity management (IDM) service and BC service card.

As the strategy to rationalize NR Sector web properties and the analysis of the Sector's opportunities for increased online service delivery are not due for submission until a later date, only the plan for the NR Sector leveraging the government identity management service and BC service card for online services is described below. Once the strategy to rationalize NR Sector web properties and the analysis of the Sector's opportunities for increased online service delivery are submitted, the NR Sector T&T Plan will build from and refer to this plan. The plan described below will also factor into the NR Sector's 'One Project, One Process' vision.

2. NR Sector Identity Management Vision

For many years the NR Sector has worked vigorously to transform its business to a web-enabled, citizen-centric model, which strongly aligns to BC Government's 2.0 strategic concepts of open data and the internet strategy. Examples include the broad public availability of the Sector's data through custom tools and a publicly accessible warehouse (what has become the cross-government spatial data warehouse); online access for residents to recreational licenses, electronic submissions for forest tenures and permitting; preliminary online land status; mineral and petroleum tenures available online; and the use of the FrontCounter BC, which provides multi-channel support into these services (over-the counter, telephone, online and kiosk).

Although there is a great deal of citizen access, much of it is currently through disparate systems built in isolation to meet the needs of specific business areas. Enabled by changes in organization structure and building on its momentum and experience in web-enablement, the Sector is now increasing its citizen-centric approach by integrating its services. The NR Sector goal in this space is allow clients to easily access everything they need in order to use the land or its resources; and client access is well-supported whether online, face to face or by telephone. This 'One Window' approach would include consolidated submissions, notifications, license management and payments (one time or recurring). This is reflected in the Sector's 'One Project, One Process' initiative which focuses on Common Client linkages across Sector applications, allowing online to submit and manage their NR authorizations and licenses through 'One window'. This transformation is enabled by current business process alignment activities, and the introduction of standard interoperability techniques to support forthcoming technology integrations.

Continuing business transformation in this area is also supported by anticipated changes in Identity Management and the BC Services card. The BC Services Card is anticipated to allow residents to identify themselves for over-the-counter or online transactions, and can also form the basis for proof of authorizations and certifications. The Sector goal in this direction is to reach a point at which any

resident anywhere in the province can use their BC Services Card as the basis for accessing their entire NR business relationship with the province, online, over the phone, or in person. (Corporate clients would not have BC Services Cards, and for them BCeIDs would provide single identifiers into their business relationship with the Sector.) Service Card examples include:

- Attachment of government licenses and certifications to the card, such as: Free Use Permit (BC Forests), Free Miners Certificate (Mines), Pesticide Applicators Certificate (Environment), hunting and fishing licenses (Environment), Licensed Trappers (Environment);
- Use of the Services Card as the basis for proof of a third-party status held by an individual, such as: professional status as a forester or biologist; public safety/park certification; completion of a conservation & recreation course; or BC residency status.

Beyond that, the Sector imagines a time when indirect (on-behalf-of) claims-based role authorizations can allow residents to use their BC Services Card in its relationships with the province where the resident acts on behalf of another organization. For example, a forestry worker could use his Services Card as the key to proving they are acting on behalf of a forest licensee in the in a particular role, such as tree faller, in an area where the licensee is authorized to harvest. Development and promotion of strong privacy controls for BC Service Card users is likely to be a key success factor in the resident-uptake of these advanced BC Services Card functions.

Significant technology advances are required to fully realize these possibilities, especially in the areas of (a) Claims-based identity management (which is within the plans and directions of the government's IDM initiative), (b) enforcement of interoperability standards through NR Sector applications, and (c) rural/remote electronic connectivity (which remains a persistent challenge in British Columbia, but which is being incrementally addressed through private sector telecommunication advances). In the mean time, the NR Sector plans to conduct business preparedness and process rationalization; and to build a foundation framework for integrated citizen-centred service, through the 'One Project, One Process' and 'One Window' initiatives.

3. NR Sector Plan (Short Term)

To assure technical readiness and accelerate transformation, the NR Sector will perform a Security Alignment project. This project will increase the Sector's application alignment with planned and emerging Identity Management standards and directions from the OCIO; and with Sector-standard security components. Taken together, these changes will improve the Sector's preparedness for increased citizen-centred integration. It will also address current security concerns related to non-standard applications and will decrease application maintenance and administration effort through application consolidation/integration and information sharing.

It is anticipated that an application framework could prove useful in service integration, security alignment and cost management by providing common functions; freeing applications from having to independently implement authorization management, searches, workflow, printing, reporting, data exports, and screen layouts. Such a framework could allow the basis for a common client repository as well, and the Sector authorization framework, Web Application Development Environment (WebADE), can contribute significantly to the strength of such a framework. The Integrated Case Management

(ICM) initiative is recognized as a significant strategic direction for government, and Siebel and other products being utilized by the ICM project are being reviewed in this context.

The Security Alignment Plan is detailed in an appendix to this document.

4. NR Sector Plan (Longer Term)

Over the longer term, the NR Sector will focus new development to support its vision, leveraging the common framework and OCIO identity management. In existing applications, the Sector will address specific Web-based applications to take advantage of OCIO's identity management, based on an assessment of which Web-based applications will benefit the most from enhancements to BCeID and from the BC Services Card. The application review will identify:

- Integrations and opportunities to advance the Sector's citizen-centric vision described above, enabling direct client access through a single window;
- Enhancements to WebADE to take advantage of the extended attribution to be provided in BCeID and the addition of BCeID roles;
- Enhancements to specific Web-based applications to use BCeID roles rather than WebADE roles where the shift will provide significant benefits to the business area(s) or government as a whole;
- Enhancements to specific Web-based applications to use advanced features of the OCIO's identity management where the enhancement will provide significant benefits (i.e. useful functionality) to the business area(s) or government as a whole.

Business area collaboration and sharing combined with deep process alignment based on legislative and Core Policy requirements are key to realizing the OCIO and Sector vision related to application integration and online availability for the relevant existing applications within the Sector.

5. Appendices

a. NR Sector's understanding of BCeID Enhancements and the BC Services Card

The BCeID credential repository (based upon Microsoft Active Directory technology) contains attribution for businesses and individuals used in the identity management process. SSBC is actively at work to enhance identity management services that utilize the BCeID credential repository. These enhancements to the BCeID service fall well in line with the NR Sector's long-standing approach to authentication and authorization, and remain a key enabler for the NR Sector's service transformation to online services which it pursued for many years.

At the technical level, the list of changes and enhancements can be briefly summarized, the scope is significant and the additional functionality to be provided is of considerable benefit. Proposed changes and enhancements to BCeID services include:

- Storing additional subscriber attributes including birth-date, place of birth, and location;
- Addition of role-based authorizations to BCeID, similar to those currently managed in WebADE;

- Provision of claims-based identity management for BCeID registrants;
- Deprecation of direct connects to BCeID via Lightweight Directory Access Protocol (LDAP).

The Services BC card can provide a universal means of providing verified identity information in face to face transactions, online and over the phone. Its association with BCeID identities is a key aspect of integrating its use into the Sector's business processes, and is also expected to support broader adoption of BCeID in NR Sector applications that do not yet use BCeID. BCeID can be used in addition to, or instead of, the Services Card if citizen acceptance of the card for the full range of government services is low; and for non-residents.

b. NR Sector's Current Situation with Identity Management

The NR Sector has provided external access to Web-based applications and data for well over a decade. Individuals and businesses who access most Sector applications containing personal or business related data identify themselves using credentials held in the BCeID credential repository. Identification of individuals or businesses is required where legal, policy, or contractual obligations require that access to data be restricted. Restrictions on data access may also be imposed in order to meet requirements of the Freedom of Information and Protection of Privacy Act (FOIPPA).

In cases where there are no restrictions on access to data, an application may be configured to allow anonymous access to the data. Thus, where there are no restrictions on access to data, there is no requirement for identity management as a means of controlling access to data.

c. NR Sector's Web Application Development Environment (WebADE)

The Web Application Development Environment (WebADE) is the standard authorization mechanism specified for Web-based applications within the NR Sector, providing both direct and indirect (on-behalf-of) authorization management, and delegated administration. It has been in use for nearly a decade in the Ministry of Environment and the Ministry of Forests, Lands and Natural Resource Operations; and has been in use for nearly five years in the Ministry of Agriculture. WebADE is a mature application framework that provides a flexible and robust authorization environment. WebADE relies upon authentication services provided by SSBC managed identity management infrastructure, called SiteMinder using credentials stored in the IDIR and BCeID credential repositories. In the past, where SSBC has enhanced its identity management infrastructure, the NR Sector has updated WebADE to take advantage of improvements to the identity management services maintained by SSBC.

d. NR Sector's Security Alignment Plan

The purpose of the NR Sector Security Alignment will be to increase the Sector's application alignment with planned and emerging Identity Management standards and directions from the Office of the Chief Information Officer (OCIO); and with Sector-standard security components. This prepares applications for increased citizen-centred integration, addresses outstanding security concerns, decreases application maintenance and administration.

The NR Sector will perform a review of all Web-based applications to assess the security concerns listed below. Information obtained from the review will be used to help determine the scope of remedial actions that might be required to more fully enhance the security of applications:

s.15

The finding compiled from the security review will be employed to plan short-term efforts to better align with emerging OCIO Identity Management standards and directions. Short-term remedial actions will likely include:

s.15

Pages 61 through 102 redacted for the following reasons:

Not Responsive

NATURAL RESOURCE SECTOR

Technology and Transformation Plan 2012/13

Internet Strategy Natural Resource Sector Plan

November 4, 2011

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1 Executive Summary

Building on Citizens @ the Centre: B.C. Government 2.0 the Natural Resource (NR) Sector Transformation and Technology (T&T) Planning instructions provide specific direction to ministries in support of the three strategic shifts: citizen participation, self-service and business innovation.

For many years the NR Sector has worked vigorously to transform its business to a web-enabled, citizen-centric model, which strongly aligns to BC Government's 2.0 strategic concepts of open data and the internet strategy. Examples include the broad public availability of the Sector's data through custom tools and a publicly accessible warehouse (what has become the cross-government spatial data warehouse); online access for residents to recreational licenses, electronic submissions for forest tenures and permitting; preliminary online land status; mineral and petroleum tenures available online; and the use of the FrontCounter BC, which provides multi-channel support into these services (over-the counter, telephone, online and kiosk). With the expectation of ongoing budget pressures and a shrinking workforce, providing more services online will reduce the need for front-line resources.

Although there is a great deal of citizen access, much of it is currently through disparate systems built in isolation to meet the needs of specific business areas. In addition the sector has challenges with currency in its informational web presence from a variety of factors including resourcing and reorganization. The inventory of its web presence reveals over 200 distinct sites, and this fragmentation and volume of information avenues clearly demonstrates the need for review and reduction in order to ensure correct and accurate messaging across the sector in order to provide an efficient user experience.

Harmonization at both business and technical levels is fundamental to ensure an integrated streamlined user experience is achieved. The NR Sector goal in this space is to allow clients to easily access everything they need in order to use the land or its resources; and client access is well-supported whether online, face to face or by telephone. This 'One Window' approach would include consolidated submissions, notifications, license management and payments (one time or recurring).

This is reflected in the Sector's 'One Project, One Process' initiative which focuses on Common Client linkages across Sector applications, allowing citizens online access to submit and manage their NR authorizations and licenses through 'One window'. This transformation is enabled by current business process alignment activities and the introduction of standard interoperability techniques to support forthcoming technology integrations. The strategy for this harmonization encompasses governance, technical architectures, and business alignment frameworks.

The Internet has evolved as a primary service delivery channel for government operations. The Internet Strategy – NR Sector Plan positions the sector to take advantage of this by defining an efficient approach to architecting our service delivery. Utilizing the internet backbone to service current and emerging channels, it allows the sector to embrace citizen expectations with their use of mobile devices, incorporation of social media and recognizes the need to have overarching governance across all electronic service delivery channels.

By incorporating the internet as the service delivery backbone, it provides a platform for citizen service that ensures appropriate security, records management and robustness of service are accommodated. It anticipates the eventual layering of social media into the client experience and recognizes that a citizen is entitled to know the full breadth of their interaction with government. This means going beyond removing organizational references and opens the door to a citizen centric user experience where the citizen is at the helm; defining the user experience they wish.

The current state of Internet Management across the NR Sector presents a mixture of approaches and it is evident that a sector-wide governance model will be fundamental to achieving the goal of harmonized sector service delivery and all objectives of T&T. In conjunction with strong governance the sector must overcome long standing resource challenges with maintaining the web presence by shifting away from the myriad methods for update and maintenance and moving to a single content management model and set of tools.

This Internet Strategy – NR Sector Plan (The Plan) was developed as a framework and guide to transition the NR Sector, over the next 12-months and beyond, to a more citizen-centric and service-focused web presence. The Plan is linked to other T&T deliverables, including Open Data, Open Information, Leading Workplace Strategies, and Integrated Case Management. It is reliant on sector related initiatives, One Project - One Process, to ensure effective integration. Guided by these business transformation initiatives The Plan promotes and continues support of an integrated sector approach to governance and management.

As stated, the sector has been making significant progress towards the objectives of a citizen focused model. The Plan supports this continued progress through a major transformation of management and governance of the web into the service delivery model envisioned.

The Plan will be divided into three phases and will include appropriate levels of communication throughout each phase, by developing a detailed Communications Plan that will identify stakeholders' (external and internal) interests and concerns and will help inform them.

The three phases of project implementation will include:

Defining a Citizen-Centric Web Presence - Clearly understand the audience and audience needs of the NR Sector through a consistent approach to user research and stakeholder analysis

Developing and Implementing an NR Sector Web Governance Model - Develop a web governance structure to outline roles and responsibilities, and effective web policies

Transition to an enhanced, citizen-centric web presence – Ensuring web content is current, relevant and easily accessible; and adoption of a Content Management System incorporating strong governance, workflows and security

The following actions will be addressed over the following 12 months to ensure the NR Sector is successful in achieving a citizen-centric web presence, with an approach and outcomes aligned across the Sector:

1.1 Actions:

1.1.1 Phase 1

- Adopt toolkits as provided by the Ministry of Labour and Citizen Services (LCTZ)
- Conduct user research using tools provided by LCTZ
- Work with LCTZ to develop and deliver on the "Centre of User Design Leadership"
- Apply resources to advance the corporate design leadership objectives above
- Develop and sustain a NR Sector based working group/initiative to perform required analysis

1.1.2 Phase 2

- Formalize a NRS Web Working Group to ensure collaboration and regular dialogue
- Assign an Executive sponsor for The Plan
- Create formal linkage to LCTZ Internet Strategy group
- Commitment and endorsement of Content Management System from NR Sector Executive and Program leads
- Development of a Communications and Training plan
- Develop a web governance framework in consultation with all NR Sector participants, and guidance from LCTZ on best practices

1.1.3 Phase 3

- Develop and execute a Transition Plan that specifically identifies archiving of *existing* content
- Discuss opportunities with CIO and with LCTZ, and seek an estimate of cost for CMS
- Develop processes to ensure evaluation of existing content when *new* development undertaken
- Implement new Government Standards for design
- Clear instruction to Ministries on the available tools, access to the resources.
- Build cross-Sector awareness and a commitment to using the principles
- Have sustained web analytics to support decision-making and continuous improvement
- Create an inventory of existing platform and program delivery already in place
- Through alignment with "One Project, One Process" provide an onramp for cohesive online service delivery
- Linkage to planned NRS Open Information Governance Council to provide strategic direction and oversight to both Open Data and Open Information.

2 Phase 1: November 2011 – March 2012

2.1 Defining a Citizen-Centric Web Presence

In this phase the NR Sector will identify its audience and stakeholders to ensure a clear understanding of their needs, in order to improve user experience. Through alignment and collaboration the NR Sector will build a working group for sustained commitment to citizen centric design and service delivery.

2.2 Outcomes in this phase:

Clearly understand the audience and audience needs of the NR Sector through a consistent approach to user research and stakeholder analysis.

Table 1: Outcomes of Internet Strategy – NR Sector Plan, Phase 1 Implementation

Components	Strategy	Action
Undertaking citizen-centred research to identify audience and understand audience needs	Adopt a sector based approach to identifying audiences and ensuring citizen-centred alignment, which will include: • Stakeholder analysis • User research • Focus group guidelines	1.1. Adopt toolkits as provided by the Ministry of Labour and Citizen Services (LCTZ) 1.2. Conduct user research using tools provided by LCTZ 1.3. Work with LCTZ to develop and deliver on the "Centre of User Design Leadership" 1.4. Apply resources to advance the corporate design leadership objectives above 1.5. Develop and sustain a NR Sector-based working group/initiative to perform required analysis

3 Phase 2: November 2011 – January 2012

3.1 Implementing and Managing a NR Sector Web Governance Model

Web Governance is the foundation on which the sector can overcome resource challenges, maintain the currency of content, and ensure accountability in its web holdings. The sector will develop a single consistent web governance model that provides an all-inclusive view of web service delivery embracing a cradle to grave approach to content management. Central to the web management challenge is the adoption of modern web authoring tools designed to distribute content development and remove technological barriers. Adoption of a content management system will provide a consistent sustainable approach to update content and reduce specialized resource requirements for maintenance.

3.2 Outcomes in this phase:

- Development and Implementation of a NR Sector web governance model that outlines roles and responsibilities, and cross-sector collaboration through development of a Sector Web Working Group.
- Selection of a Content Management System for the sector that meets each Ministry's needs while providing a common tool and means of enabling governance.

Table 2: Outcomes of Internet Strategy – NR Sector Plan, Phase 2 Implementation

Components	Strategy	Action
Identifying opportunities with other ministries and agencies for effective web governance	One Project - One Process	2.1 Formalize a NRS Web Working Group to ensure collaboration and regular dialogue
	Facilitate open channels of Communication across sector and government	
	Incorporate principles of The Plan into all sector based boards/committees/ initiatives	2.2 Assign an Executive sponsor for The Plan (Online Services Executive) 2.3 Create formal linkage to LCTZ Internet Strategy group
Ensuring effective management and governance of their web properties	Adopt a Content Management System (CMS) for web delivery across the Sector	3.1. Commitment and endorsement of CMS from NR Sector Executive and Program leads 3.2 Development of a Communications and Training plan
	Adopt a Sector web governance framework. Components include: • Workflow processes • Accountability (roles and responsibilities) • Archiving Policy • Web analytics	3.3 - Develop a web governance framework in consultation with all sector participants, and guidance from LCTZ on best practices

4 Phase 3: March 2012 – November 2012

4.1 Transition to an enhanced, Citizen-Centric Web Presence

Managing the transition to the new gov.bc.ca model will require a commitment by the NR Sector to adopt and follow-through of the sector web governance, as well as commitment of resources to ensure timelines are met.

Analysis of web inventories identify challenges with finding content ownership, in some cases showing branding challenges going back more than 3 government reorganizations. Overcoming this challenge will again require commitment of resources to take ownership of outdated material and accept evaluation and decision making with respect to its value.

Implicit in the Government and Sector's internet strategy is the recognition that government web presence is primarily a vehicle for service delivery. The Plan for the sector focuses the creation of new service delivery within the context of One Project – One Process to ensure a rational and supported model that prevents the proliferation of multiple approaches. With the expectation of ongoing budget pressures and a shrinking workforce, providing more services online will reduce the need for front-line resources, therefore the Internet is seen as the backbone for NR Sector service delivery. The One Project – One Process initiative delivers the fundamental components that allow the realization of this vision:

- Common web-based forms and data submission framework to provide a uniform look and feel and to support an “ask-once” approach to client information collection;
- Common spatial submission and transaction management to support uniform spatial information management and user experience;
- Common workflow and services orchestration framework as the basis for delivering existing services online, as client self-serve and supported by telephone and in-person service;
- Common-client management capabilities, allowing clients to get a 360° view of their NR Sector business;
- Systems integration approaches leveraging up-to-date web services standards, to support both conventional systems integration as well as lightweight aggregation of sector services into client-specific mashups.

4.2 Outcomes in this phase:

- Transition plan for existing web content executed to completion.
- Adoption of a Content Management System ensuring design compliance and distribution of effective content development into programs.
- Development and implementation of content evaluation processes for new and existing content.
- Implementation of sustained and accessible web analytics to allow for proactive evaluation of content based on actual user behaviours.

- Staff trained and supported in the adoption and use of associated tools, policies and guidelines.
- Defined evaluation processes for guiding programs into successful web service delivery within the context of One Project – One Process.

Table 3: Outcomes of Internet Strategy – NR Sector Plan, Phase 3 Implementation

Components	Strategy	Action
Ensuring out-of-date and unnecessary sites and content are retired	Implement Content Review and Archiving Procedures/Policy	4.1 Develop and execute a Transition Plan that specifically identifies archiving of <i>existing</i> content
Aligning new web development with gov.bc.ca and the ministry/sector's existing web properties	Adopt a Content Management System (CMS) for web delivery if applicable or as appropriate Compliance with Corporate or Sector Design Principles and promotion of best practices	5.1 Discuss opportunities with CIO and with LCTZ, and seek an estimate of cost for CMS 5.2 Develop processes to ensure evaluation of existing content when <i>new</i> development undertaken 5.3 Implement new Government Standards for design
Improved accessibility and findability	Compliance with Corporate and Sector Design Principles and promotion of best practices, standards and continuous improvement to ensure the web meets evolving users needs	6.1 Clear instruction to Ministries on the available tools, access to the resources. 6.2 Build cross-sector awareness and a commitment to using the principles 6.3 Have sustained web analytics to support decision-making and continuous improvement

Components	Strategy	Action
Moving high-value services online where evidence suggests that this will better meet citizens needs	Streamline online transactions through One Project - One Process principles	7.1 Create an inventory of existing platform and program delivery already in place 7.2 Through alignment with “One Project, One Process” provide an onramp for cohesive online service delivery 7.3 Linkage to planned NRS Open Information Governance Council to provide strategic direction and oversight to both Open Data and Open Information.

5 Internet Strategy – NR Sector Plan In Summary

The Plan makes a clear commitment to adopting corporate initiatives with respect to the user design experience, alignment for improved support of IT enablers and participating at a sustained and active level in the corporate Center of User Design Leadership. It is envisioned through this close alignment and participation that the NR Sector will overcome past challenges with individual ministry approaches and leverage corporate resources in enabling effective web governance and service delivery. It is recognized that this alignment brings dependencies on LCTZ initiatives and establishes corporate IT enablers as fundamental components in the sectors successful web service delivery model.

The Plan recognizes the need for a sustained commitment of resources for development of effective governance, communications, and training program areas in incorporation of the Internet Strategy into their operations, as well as educating the NR Sector in formal approaches for content management and the evaluation of old and new content. It implies continued and sustained transformation of business operations to deliver a citizen focused service model. It requires the establishment of sector wide working level collaboration to overcome cultural challenges and promote unified operations. Overarching this is the need for clear and visible support through the implementation of Deputy Minister level championship of The Plan.

The Internet as a service delivery backbone presents an opportunity to achieve efficient, consistent and scalable approaches to service delivery recognizing that this encompasses outreach / education / engagement. Through the One Project – One Process lens, the sector has the means to achieve this opportunity.

Adoption of modern tools will overcome technological challenges and barriers to resourcing this fundamental service delivery channel, and coupled with governance forms the underpinning through which adoption can be rapidly deployed. With strong governance at the core of The Plan, we have the framework for an extensible and powerful tool to guide our decision making and investment.

Pages 113 through 117 redacted for the following reasons:

Not Responsive

NATURAL RESOURCE SECTOR

Technology and Transformation Plan

2012/13

Open Data Plan

Draft

November 4, 2011

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1 Executive Summary

The Transformation and Technology (T&T) instructions for the fiscal year 2012 - 2013 planning cycle require the Natural Resource (NR) Sector to continue to focus on the three strategic shifts, citizen's participation, self-service and business innovation, outlined in Citizens @ the Centre: BC Government 2.0.

Open Data is a concept based on the recognition of the value of data and that the innovation that will result from sharing this resource will benefit citizens, business and government. Improving and expanding the Open Data concept across government is one initiative that aligns with the three strategic shifts. Open Data, or making data available to the public, supports the vision of an open government and is one part of the transformation towards a more citizen-centric approach, increased citizen engagement with government and increased involvement with public policy.

This plan outlines steps the NR Sector will take to identify staff members responsible for our data holdings (Data Custodians), then to assist them in understanding their roles and taking the action necessary to move forward on the Open Data initiative.

Associated with this plan is the Sector's inventory of more than 200 data collections (covering the existing 640 Data BC catalogue entries) categorized either as already openly available (open data), as a candidate for open data, or as data that does not meet the characteristics required of open data ("not open").

2 Background

Government wishes to make transformative change in the way it does business. To do so, it described three strategic shifts in the Citizens @ the Centre: BC Government 2.0 and offered foundation blocks in the updated IM/IT Enablers Strategy v1.5 published in July, 2011. The approach this year is to focus on specific actions including opening up access to data, proactively making information available, focusing on online services and web presence, and aligning the work environment with work patterns and operational needs. This led to four key initiatives that now form part of the open government agenda:

Open Data, Open Information, Internet Strategy and Leading Workplace Strategies

Sectors are asked to respond with plans and actions to align with and contribute to these four corporate initiatives. This Open Data Plan and associated inventory documents the NR Sector's current inventory of Open Data and outlines our strategies and priorities for moving forward.

3 Open Data

By sharing data openly with citizens, the Province hopes to:

1. Encourage public dialogue and participation by giving citizens better access to data about their communities and the operations of their government;

2. Rethink the role of government as a provider of a platform for sharing information that can be leveraged by public servants, non-profits, businesses and citizens to find efficiencies, enhance services or research evidence-based policies; and,
3. Strengthen the economy by promoting a data-based economy that enables local companies to find efficiencies, create new services and encourage innovation.

DataBC was developed to be the source for B.C. Government's public data. It is a central place to share raw data and datasets that the Province collects as part of our work. It is a core element in the Provinces' commitment to be an open, transparent and connected government.

In support of government's Open Government commitments, and in recognition of the inherent value of data, the goal of DataBC is twofold. The first is to see government's data managed as a key public asset rather than a simple (and often low-value) by-product of the work we do. The second is to make the data universally accessible, available and usable through an intuitive and comprehensive corporate catalogue and website, and supported by practical open data licensing and format standards.

Open Data is data that has undergone an open data assessment, meets the requirements included in the Open Information and Open Data Policy, and is listed in the Open Data Catalogue. Such open data is in a standard format and is available to the public for copying, publishing, distribution, transmission and adaptation under the terms of the Open Government License.

The **Open Data Catalogue** is available through the DataBC website.

4 The Assignment

To support government's commitment to open data:

1. Ministries are required to fill in the Open Data template posted to the T&T site. The template requires ministries/sectors to provide an inventory of their data. If this is not possible within this year's planning window, ministries will need to define a plan to inventory their data, including milestone dates and key responsibilities.

GOAL: Provide an initial inventory of the existing data within the Natural Resource (NR) Sector.

2. Sectors must provide a plan to rationalize and prioritize data holdings. Please provide detail on the sectors' data management plans, such as, does the sector need to continue managing all of its current holdings? Identify how the sector will define a new data management strategy to manage revised holdings.

GOAL: Provide direction for NR Sector business areas to rationalize and prioritize their data holdings, beginning with improving information governance across the sector by identifying Data Custodians and ensuring they understand their responsibilities.

3. Sectors must provide a plan to open up and make available their data and timelines for publishing to the DataBC catalogue.

GOAL: Provide opportunities for NR Sector business areas to identify their priorities for publishing more data to the DataBC catalogue, along with planned timelines.

5 The Existing Advantage

For many years the NR Sector has been publishing significant amounts of data to the BC Geographic Warehouse and to business specific websites. The sector has a solid foundation from which to continue providing data to the public. The DataBC catalogue will make NR Sector data more accessible and will encourage Data Custodians to publish more data.

The sector's initial inventory includes data already published and identifies open data candidates that could easily be published to the DataBC catalogue.

Note Figures 1 & 2, the NR Sector Open Data compared to other sectors. The NR Sector already publishes the greatest number of distinct sets of data well designed for public query, summary, and analysis.

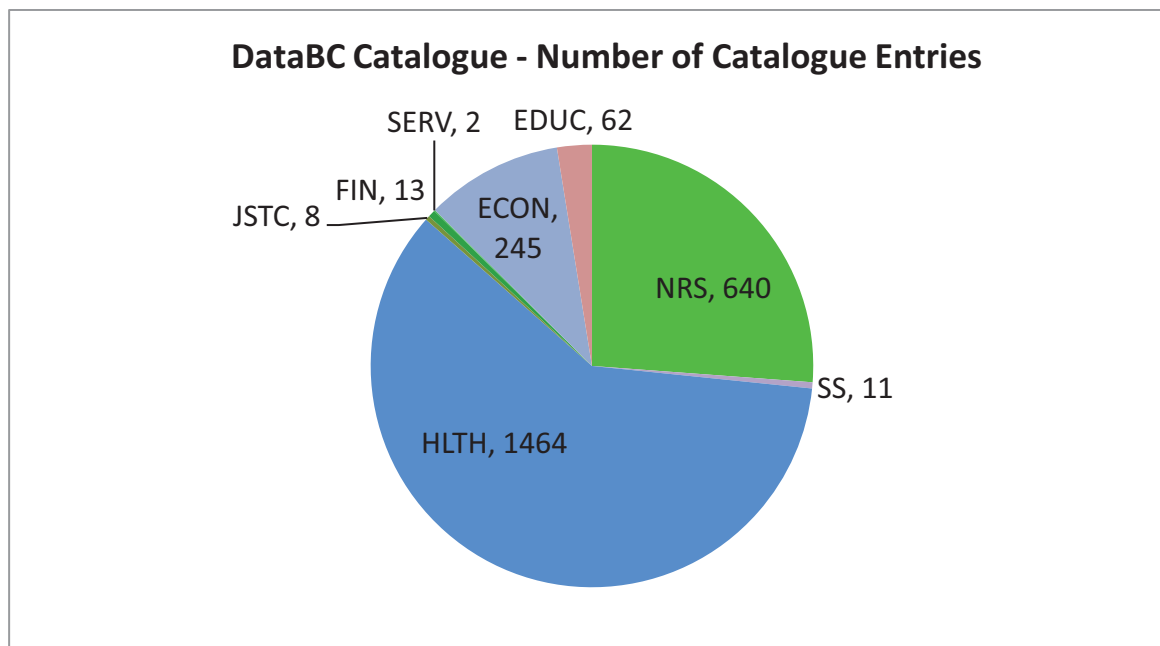


Figure 1: DataBC Catalogue – Number of Catalogue Entries: entries include high numbers of Excel spreadsheets or reports of temporal or geographically specific data often only for a single-purpose view.

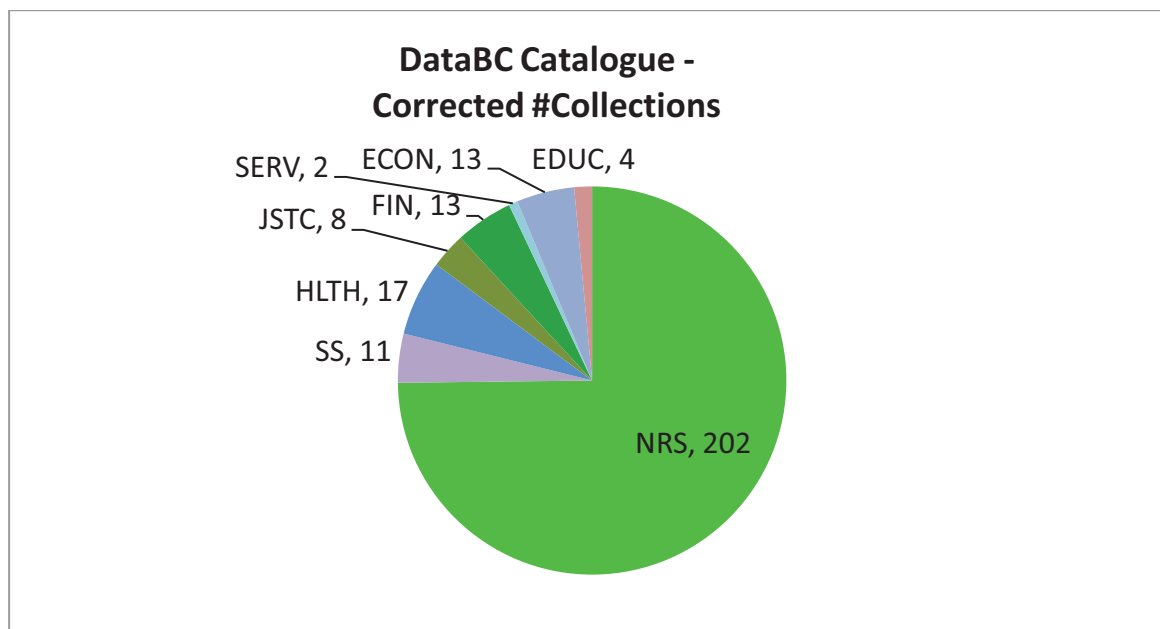


Figure 2: DataBC Catalogue – viewed as number of data collections: catalogue entries regrouped to represent single sets of data.

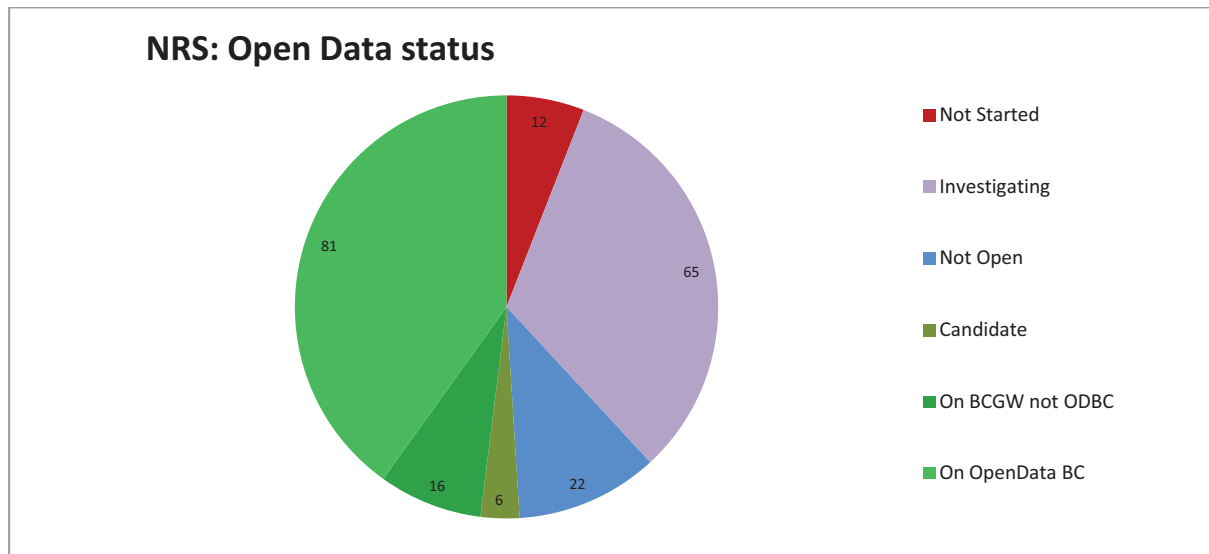
6 GOAL 1: The Inventory

The NR Sector Open Data Inventory is available in spreadsheet format as a companion to this plan.

See [Open Data Inventory-NR SECTOR.xlsx](#)

The NR Sector inventory tracks data collections. These are one or multiple datasets or data sources that provide up to provincial coverage on the same information theme and are a grouping of data parts that coalesce to form significant subject matter. The number of data collections will therefore be far smaller than the count of the number of catalogue entries in DataBC. For example the Climate Action Secretariat has 228 catalogue entries in DataBC that cover the same business information for different parts of the province. Together these entries make up the entire provincial coverage for the same business information, thus our inventory count is one (1) data collection.

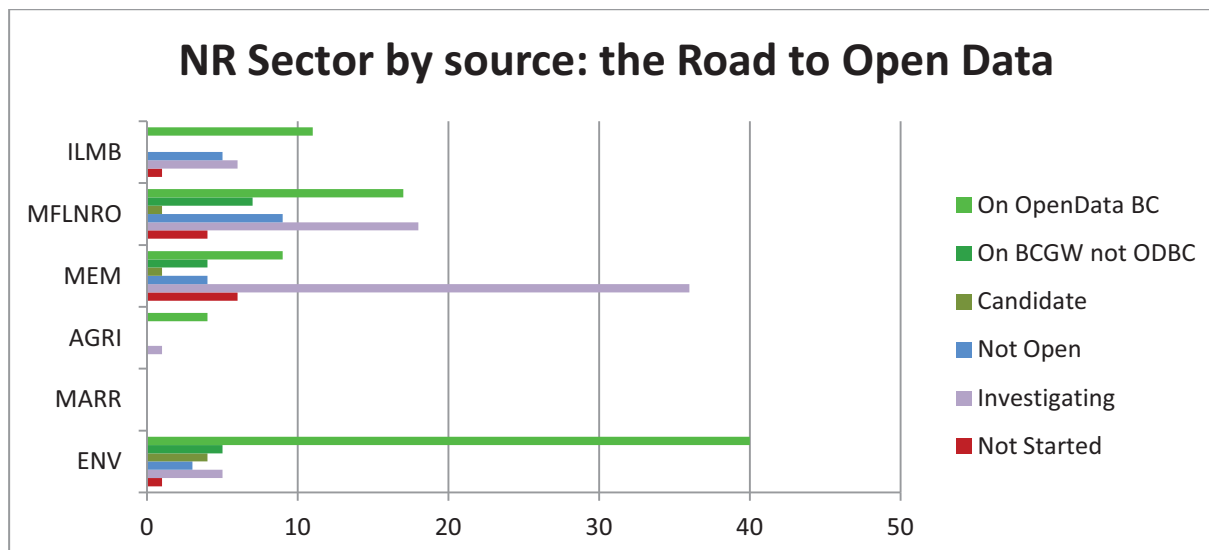
Figure 3a - Summary Results: NR Sector Inventory



Figures 3a and 3b:

- On OpenData BC – entry exists in DataBC Catalogue
- On BCGW not ODBC – data published to the BC Geographic Warehouse, excluding the same data also identified in DataBC
- Candidate – data identified by Data Custodian as publicly viewable and downloadable, but not yet published to the DataBC Catalogue
- Not Open – data restricted by Data Custodian: does not meet the required characteristics of open data, e.g., data that is sensitive
- Investigating – data collection contents and status being analysed
- Not Started – data collection identified, no analysis done to date

Figure 3b – Summary Results: By Source



7 GOAL 2: Information Governance

While the sector already has significant open data holdings, they can certainly be improved upon. Multiple reorganizations within the sector between 2008 through 2010 and key retirements in management positions introduced some confusion as to which branch was “now” responsible for which sets of data, sector-wide. This must be corrected, with Data Custodianship roles and responsibilities being understood and accepted across the sector, before a thorough, coordinated, sector-wide, significant increase to the sector’s Open Data can be successful. The Custodianship identification and education will begin in November 2011 to rebuild the sector’s excellent information management foundation.

Once initial steps are taken to implement a common information governance model across the sector, it will leverage the data management success achieved by the previous Forests and Environment ministries. The aim is to bring the rest of the sector into that previous model and up to the same state (e.g., implemented information governance leadership, data governance roles, data management plans, strategic data architecture). Part of this model includes the foundation of an NRS Open Information Governance Council, providing coordinated direction to both Open Data and Open Information.

Data Custodians will then be asked their business priorities for new open data, and to investigate if any of their data requires consolidation or rationalization, or increased focus on data quality. The process of identifying and authorizing business data for public publishing cannot happen without full understanding about who the single accountable decision-making party is on behalf of government (i.e., the Data Custodian).

The NR Sector will continue to operate with the on-going philosophy of encouraging identification and publication of data holdings to an open data platform, focusing on the DataBC catalogue as the primary conduit. The NR Sector pioneered open data by originally building the Land and Resource Data Warehouse (now called BC Geographic Warehouse), and fully supports further improvement for the future through DataBC.

8 GOAL 3: The Continuing Plan

- Continue analysis of data identified for investigation in the NR Sector Open Data Inventory.
- Determine if the Apps section of DataBC can be used to list existing NR Sector data publishing applications with public facing capability such as the Harvest Billing System.
- Determine if existing NR Sector data publishing apps with public facing capability, such as HBS, can publish their underlying data through DataBC.
- Begin November 2011: Identify all Data Custodians in NR Sector (director level); provide education and information to ensure each understands their responsibilities in that role.
- Begin January 2012: Data Custodian staff identify priorities for new Open Data collections, based on their client groups’ needs.
- Begin January 2012: Data Custodian staff analyse and identify where data holdings could be rationalized and streamlined.

- Formation of a coordinated NRS Open Information Governance Council to provide strategic direction and oversight to both Open Data and Open Information.
- Continuing: Update the NR Sector data inventory and encourage Open Data thinking, along with increasing focus on continually improving data quality.

Data proposed as Open Data must be assessed in accordance with the [Open Information and Open Data Policy](#) and must be maintained or reviewed on a regular or periodic basis.

NATURAL RESOURCE SECTOR

Technology and Transformation Plan 2012/13

Open Information Plan

November 4, 2011

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1 Executive Summary

As part of the general instructions in the Transformation and Technology (T&T) Plan, the Natural Resource (NR) Sector must develop strategies for each of the four key initiatives that form part of the open government agenda. In so doing, the NR Sector will define its contribution towards the Open Data, Open Information, Internet Strategy - NR Sector Plan and Leading Workplace Strategies initiatives. The Open Information deliverable requires the Sector to develop a plan for proactively disclosing information in the future. A plan approved by the NR Sector Board must be submitted by November 4, 2011.

The plan is one component of the Open Information deliverable and is supported by the identification and analysis of inventories of information that is:

- currently routinely released,
- that is requested through the *Freedom of Information and Protection of Privacy Act*, (RSBC 1996) (FOIPPA),
- has identified as having no risk or harm were the information to be routinely released.

This plan provides background to the NR Sector's current approach to releasing information routinely and in response to access requests. The plan describes the current state of readiness to expand its approach and become more proactive in releasing information to the public. Preparations for new business practices that encourage releasing information as part of our normal business are proposed.

2 Drivers of Open Information

The corporate vision for the future continues to move towards transformation and is guided by the three strategic shifts: Citizen Participation, Self-Service, and Business Innovation, as outlined in *Citizens @ the Centre: BC Government 2.0*. Concepts of proactively sharing more information with citizens and doing so through moving to a more user-centric and online model are priorities for government and consistent with these shifts. Increased access to information will create an environment where citizens are more engaged with government, their communities and public policy.

2.1 Legislative Committee Recommendation:

On May 31st, 2010, the [Report of the Special Committee to Review the Freedom of information and Protection of Privacy Act](#) identified that many other jurisdictions in Canada and internationally routinely proactively disclosing government information. The Committee recommended public bodies "adopt schemes" for routine proactive disclosure of electronic records"¹.

¹ Part 2 – Freedom of Information, Routine Proactive Disclosure, Pg 12

2.2 Policy Directive:

On August 5th, 2010, the Freedom of Information & Protection of Privacy Commissioner of BC (OIPC) report “It’s About Time” recommended government “properly and actively commit to a proactive disclosure strategy where information is routinely disclosed to the public on a regular basis without the need for access request”².

In July, 2011 the OCIO released the Open Information and Open Data Policy that directs, encourages and guides ministries through making information open and available to a wide range of users.

The NR Sector wishes to participate in this environment of making information, related to its business and produced through the course of business, available to its clients, stakeholders and the citizens of the Province.

3 Alignment to NR Sector Vision and Alignment to Strategic Shifts

The Natural Resource Sector Vision³ developed for the 2011/12 T&T Planning identified that that in order for the sector to become more responsive to client needs, it would be necessary to invest in other opportunities to engage and interact with its clients. This will be achieved by shifting from face-to-face interactions to more online services. In order for this transition to be effective, it will be critical for the sector to identify its clients, define the relationship(s) the clients have, and prioritize information that will be most valuable to support these clients’ needs. This will be achieved through identification of stakeholders within the Internet Strategy - NR Sector Plan, and the prioritization of information to be routinely released that will result from implementation of both the Open Data and Open Information plans.

The NR Sector has identified priority activities that will align with the strategic shifts of Business Innovation, Citizen Participation, and Self Service including: the One Project One Process framework, Open Data and Stakeholder engagement. The Open Information Plan will be implemented concurrently with the Open Data strategy, and together they will result in increasing the volume of information available to citizens to review as part of public consultation processes. As well, the Internet Strategy - NR Sector Plan stakeholder analysis will provide the Sector with a better understanding of clients and the issues they are interested in to proactively prepare for upcoming consultation. Active engagement with stakeholders, clients and citizens will enable the NR Sector to prioritize the information holdings of interest and identify those to focus on for disclosure. Ongoing engagement will ensure that changes in information needs for citizens, clients, and stakeholders will be identified by the NR Sector and enable routine release of valued information.

4 Current State of the NR Sector on Proactive Disclosure of Information

The NR Sector is a collective of five ministries, each with a unique set of business requirements. The extent to which they currently routinely release information varies as much as do their individual business requirements.

² It’s About Time – Report Card on the Timeliness of Government’s Access to Information Responses April 1, 2009 to March 31, 2010. Elizabeth Denham, information and Privacy Commissioner for British Columbia. August 5, 2010.

³ Natural Resources Sector Transformation and Technology Plan, v. 4.3, January 14, 2011.

Some organizations have a high level of stakeholder interaction and are mandated to be very transparent in the way they document and conduct their business. These organizations proactively disclose a significant portion of their information to support these requirements.

Other organizations do not have the same operational or business requirements to disclose a large portion of their information. Historically, information has been created to support internal business decisions and document internal processes. Previously information was not drafted with the consideration that, other than through the *FOIPPA* request process, the information would be disclosed to the public. These organizations may discover that there is a significant volume of information that would be considered of value to the public and, without causing harm to an individual, government, or another of our clients or stakeholders, could be routinely disclosed to the public at large.

Currently, documentation is drafted using a restrictive lens that does not contemplate the majority of information be disclosed. This mindset is part of what will need to change in order for the NR Sector to become proactive in disclosing information.

The NR Sector end goal is twofold. First, the sector will provide clients and the public easy access to everything they need in order to use the land or its resources. Second, the NR Sector will internally support, and modify the culture of the organization to one of openness where information is created with the intent of disclosure, unless pre-existing restrictions prohibit that disclosure.

5 NR Sector Open Information Plan

To achieve the NR Sector goal to be more open and proactively disclose information, the sector will implement a two-step approach: Identification and routine release of information and an internal culture shift to support ongoing systematic disclosure of routinely releasable information.

5.1 Identification of Categories of “Harmless” Information to Routinely Release

As part of the Open Information deliverable, the sector has identified categories of information that would be “harmless” if routinely released. These categories have been identified through the initial review of information created and used by business areas within the sector to identify information that could be routinely released but currently aren’t. These categories are listed in the Routine Disclosure – future inventory deliverables. Complete analysis of categories of information to routinely release in the future has been very challenging. As a sector, it is critical to understand our client and stakeholders, what information is of value to them, and then identify and release that information. The NR Sector Open Information and Open Data plans will be implemented under the governance of a sector Information Governance Council that will drive the implementation of the stakeholder analysis that is in Phase 1 of the Internet Strategy. There is concern that, as a sector, many of the stakeholders and clients are common and it would be counterproductive to initiate three separate processes to engage the same stakeholders, define their business needs and identify categories of information of value to them. It will be critical to ensure client/stakeholder/citizen engagement is coordinated by and for these three plans. It will also be critical for a coordinated approach to analyzing business area needs and analysis of information to identify and prioritize categories of information that will be able to be routinely released.

Analysis of the NR Sector FOI requests over the past two years (April 1, 2009 through March 31, 2011) shows the majority of information has been requested from the ministries of Forests, Lands and Natural Resource Operations (FLNRO) and Environment. Of the five organizations within the sector, the majority receive requests for documentation -specifically reports, license and permits, and files. Ministry of Aboriginal Relations and Reconciliation primary received requests for Outlook calendars for executive members, and briefing notes. A high percentage of requests include communication between the NRS and the public, significantly lower than the percentage of internal government communication. Outlook calendars for executive members are frequently requested, but are a lower percentage of requests for Env and FLRNO than the other members of the sector. The least number of requests overall cover contracts. Direct award contracts sector wide are the most frequently requested, although tender documentation is highly requested in FLNRO, and Service Agreements and Service Contracts are the most requested in Energy and Mines. There are almost no requests for contract information (direct award, service agreements, and service contracts, tender) within Environment. A summary of the types of information partially or fully disclosed through FOI requests for the sector is summarized in Table 1.

Table 1: Summary of Information Fully and Partially Disclosed through FOI Requests for NR Sector from April 1, 2009 through March 31, 2011

Categories and Sub-Categories of Information	ARR	AGR	EG & M, Housing	Env & EAO	FLNRO	Total ⁴
Documentation	4	17	29	128	169	347
File	0	1	0	11	19	31
Briefing Note	2	1	1	3	4	11
Plans	0	0	1	4	4	9
Reports	1	7	12	71	68	159
Assessments	0	0	1	5	4	10
Complaints	0	0	0	8	8	16
Licenses	0	6	0	10	24	40
Permits	0	0	3	17	18	38
Applications	0	3	3	9	6	21
Agreements	0	2	1	2	3	8
Letters	0	1	5	40	10	20
Tenures	0	2	1	1	5	9
Contracts	3	9	3	2	14	25
Direct Award	3	3	0	0	3	9
Service Agreements	0	0	2	1	3	6
Service Contracts	0	0	2	1	3	6
Tender	0	0	0	0	6	6

⁴ Total: six requests of Correspondence could not be categorized in to a specific category. These six are not included in the totals.

Categories and Sub-Categories of Information	ARR	AGR	EG & M, Housing	Env & EAO	FLNRO	Total ⁴
Correspondence	2	9	14	21	36	82
Internal to Gov't	0	0	3	2	1	6
Between Gov't & Public	2	9	9	18	34	72
Executive Information	9	9	7	10	18	53
Travel	1	0	1	0	1	3
Outlook Calendar	8	9	6	10	17	50

From the analysis above, the NR Sector will begin working with business areas to inventory reports and plans that can immediately be released or published. In conjunction with business areas, identify methodology to routinely release permit and license documents, and applications for these documents. As these categories of information comprise a significant volume of information within the sector, routinely releasing this information will be a priority in the early part of this plan.

Categories of information that have one or two sections of the *Act* applied to withhold information will undergo further analysis with the goal of identifying a methodology disclose the majority of that information without causing harm to government (s 12 through 17, 20) third parties (s21), the environment (s 18), or individuals (s 19, 22).

5.2 NR Sector Information Identification and Release: Proposed Steps

In order to routinely release additional categories of information, the NR Sector will, over the next three years, work to identify more and more categories of information that will be disclosed. This will be accomplished by engaging NR Sector clients, stakeholders, and citizens to identify and prioritize the information of value for them, and the business areas of the Sector to identify categories of information they have prioritized and recommended for routine release. This process must be coordinated, or the level of engagement will diminish over time as multiple requests to participate in analysis of information occurs as part of the separate plans. Stakeholder engagement will have to take many forms including: stakeholder identification analysis to identify specific stakeholder groups and clients to develop an inventory of stakeholders, face to face facilitated sessions with stakeholders (similar to Conversation on Health), surveys of clients and stakeholders, survey of the general public, and meetings with highly engaged stakeholders for more in-depth investigation and analysis of information needs.

To identify categories of information and prioritize for routine release, the plan will need to include:

1. Additional in-depth analysis of the categories of information identified through the FOI Request analysis and Routine Release Current inventories, to confirm "Quick Win" categories that can immediately be categorized and routinely released. The specific categories within each ministry will need to be catalogued, and processes for disclosure will need to be defined and implemented as quickly as possible.
 - a. Outcome: within a short period of time, additional categories of information will be identified for full disclosure and will consistently and systematically be released

- b. Outcome: additional categories of information will be identified as having value (frequently requested through FOI), but will require some review to partially disclose. Processes will be defined to ensure systematic and consistent review of categories occurs prior to routinely releasing information.
- 2. In conjunction with the Internet Strategy stakeholder analysis (Phase 1 of that plan) and the Open Data Plan, NR Sector will identify and engage clients, stakeholders and citizens to identify and disclose their priority categories of information they desire to be routinely released.
 - a. Outcome: NR Sector identification of stakeholders and clients
 - b. Outcome: Confirmation of sector wide categories of information of value and desired for routine release
 - c. Outcome: coordinated analysis of sector information by business areas to address any issues that may prevent full disclosure of these valued categories of information.

5.3 Changing the Culture of Information Management within the NR Sector

The NR Sector must undergo a cultural shift similar to the shift experienced within government when the *Freedom of information and Protection of Privacy Act* was enacted to making the potential release or disclosure of government information more likely. At that time, it was necessary to consider how documents were drafted. The *FOIPPA* scope included the majority of documentation created by staff, leading to an increased awareness that the content written could be fully disclosed. This awareness encouraged staff to improve upon their writing skills, and resulted in a better quality of documentation and internal correspondence produced. For this new cultural shift to be successful, implementation must be carefully planned, challenges identified, risks mitigated, and staff engaged and supported throughout the transition.

The plan will develop and mature over the next few years. Every year, staff will acquire a better understanding of expectations for managing information. Sector wide processes will be developed to ensure consistency in disclosure while ensuring individual ministry criteria can be applied to prevent inappropriate disclosure. These processes will need to be reviewed to ensure ongoing reviews of information consistently assess for the inclusion of additional categories of information for proactive disclosure. Information will be viewed as a resource that we share with our partners and clients, promoting public engagement wherever possible while managing our resources. All information will be assessed for its value ensuring that we manage the natural resources of the province as open and transparent manner as possible.

5.4 Expected Outcomes

The NR Sector will demonstrate how, as a sector, it is possible to create and manage a significant culture shift that results in a more open public sector, while enhancing transparent and open engagement with our clients, advocates, and proponents.

Figure 1: The NRS Open Information Plan over the next three years

Phase 1 - Fall 2011 to Fall 2012

•**Outcome:**

- creation of NRS Open Information Governance Council
- development of NRS Open Information Plan (NOIP) project including scope, schedule, implementation plan
- development and implementation of initial "Open Information" training
- identification of governance requirements to implement the "NOIP" including recommendations of tools, standards, policy and procedure
- stakeholder engagement and analysis of their priority information categories
- "quick win" categories of information identified and released via the appropriate medium (10 to 15% increase in routinely releasable information sector wide from current inventory) to start reducing FOI requests

•**Measure:**

- NR Sector will have created a sector team, with representation from all ministries that will facilitate the implementation of the culture shift
- Some level of training will be in place to support the change in mindset

Phase 2 - Fall 2012 to Fall 2013

•**Outcome:**

- review of progress to date, reassess and update implementation plan as required
- development and implementation of NOIP tools, standards, policy, procedures, in-depth education plan to identify and prepare additional categories of information for disclosure
- assess NRS awareness of Open Information to gain understanding of extent of cultural shift
- Additional categories of information identified and disclosed via the appropriate medium (additional 10 to 20% increase in routinely releasable information sector wide above 11/12 volume).

•**Measure:**

- staff may not quite be comfortable with the concept of proactively disclosing information, but they will have access to the tools and training they need to support the shift
- The culture shift will be underway, but not fully implemented
- Resources will be made available for staff to support their "disclose or not" decision making, document creation, and to respond to ongoing queries from staff.

Phase 3 - Fall 2013 ongoing

•**Outcome:**

- review of progress to date, reassesses and update implementation plan as required
- review existing governance framework (policies, tools, procedures, education), update as required to ensure ongoing assessment of information to proactively disclose
- develop ongoing NRS Open Information Management methodology to ensure availability of NOIP governance tools to support maintenance of the NOIP
- additional categories of information identified and disclosed via the appropriate medium (additional 10% increase in routinely releasable information sector wide above 12/13 volume)

•**Measure:**

- The NR Sector will be populated with staff who are completely comfortable with proactively disclosing information
- They will have tools to support their level of harm decision making prior to disclosing the information.
- They will have completed training that provides them with skills to create information with the understanding that it will likely be disclosed.
- Proactive disclosure of information will consistently and appropriately occur on a regular basis.

5.5 Dependencies and Linkages

The significance of the change will ripple out to impact a variety of stakeholders, clients, other government agencies and organization, as well as a number of other government initiatives. Success of this plan will be dependent on ensuring these linkages and dependencies are identified, addressed and supported or mitigated – depending on what the linkage is.

Table 2: Open Information Plan Linkages and Dependencies

Linkage/ Dependency	Nature of link	Expected Outcome
Government Communications & Public Engagement (GCPE)	Interactions to ensure information that will be identified for proactive disclose will not be politically sensitive or harm the government's image	- Requirement for frequent, open communication between GCPE and the NRS - Routine release of information will not include any politically sensitive or harmful information
Information Access Operations (IAO)	To ensure compliance with the <i>FOIPPA</i>	representation of the IAO will ensure tools and training for staff on disclosing information will not result in privacy or information breaches
Intellectual properties, LCS	Intellectual properties Section, LCS, provides policy advice to government organizations, interpreting copyright	Ongoing contact with intellectual properties group will ensure copyright is not violated when disclosing information
Legal representation	Liaison with legal counsel when analysing categories of information that may have legal implications, should it be disclosed	prevention of legal liability to government resulting from inappropriate disclosure of information
Individual ministry stakeholder groups/clients/ citizens	- nature of relationships between the sector and it's broad spectrum of stakeholder groups must be supported to continue to build strong relationships - engagement of stakeholders, clients, and citizens (will support the sector's Open Information Plan, Open Data Plan, and Internet Strategy, ensuring the sector identifies and prioritize categories of value for routine release.	- Interaction with stakeholders and clients will be critical to ensure they understand the change in information management practices within the sector, and understand how their information will be disclosed in the future - Ongoing engagement with all groups (stakeholders, clients, citizens) to analyze and prioritize their information needs to ensure the sector continues to be proactively disclosing information of value to citizens

Linkage/ Dependency	Nature of link	Expected Outcome
Open Data Strategy	Open Data and Open Information plans align with government strategic shifts of open government, citizen focussed, and will endeavour to make available to citizens additional information – regardless of format	- Alignment will ensure consistent approaches in disclosing common categories of information - Governance of Open Data and Open Information plans will be combined under one council to identify, prioritize and disclose increasing categories of information over the next three years
Internet Strategy - NR Sector Plan	Open Information and Internet strategies align with government strategic shifts of open government, citizen focussed, and will endeavour to make available to citizens additional information	- The Internet Strategy - NR Sector Plan content management system and adoption of a Sector web governance framework (Goal #3) will support the disclosure of additional information by business areas and the ongoing management and maintenance of information disclosed on the web - Stakeholder engagement activities undertaken in Phase 1 of the Internet Strategy – NRS Plan will be critical to ensuring stakeholder engagement, identification, and needs assessment will occur for all NRS stakeholders in an organized fashion
One Project One Process Initiative	enhance citizens access to information in support of engagement opportunities available through the OPOP framework	The NRS “One Project One Process” framework and the Open Information Plan will support the engagement of citizens by providing them access to additional information required for engagement with the NRS and the framework within which to actually interact

As the culture shift begins, it will be critical for ongoing monitoring of linkages to ensure disclosure does not create risk or harm, and that all business areas and external stakeholders groups are provided with consistent communication and information regarding new Open Information practices within the NR Sector

5.6 Challenges

Implementing a significant cultural shift will not occur overnight and not without challenges. Throughout the sector, the type and complexity of challenges will vary, however the sector as a whole must support, encourage and enable this shift.

Table 3: Identification of Challenges to Increasing Volume of Routinely Releasable Information

Anticipated Challenge	Suggested Mitigation
1. Existing practices for disclosing information throughout the sector are inconsistent	• implementation of sector wide guidelines, and procedures for disclosure
2. Inconsistent understanding of routine release guidelines within each organization and throughout the sector	• Consistent communication, education, awareness training
3. Lack of understanding of complex sector wide business requirements that dictate when it is appropriate to disclose some information that has time and process sensitive timelines. Disclosing prematurely may be harmful while full release at the appropriate time is not.	• identification of the many different business processes including determining when it is appropriate to release or disclose the information. • Agreement on common terminology to be used within the NR Sector.
4. Understanding that routinely releasing information may result in additional workload for staff as the frequency of interactions will increase	• ongoing monitoring of workload related to routine release activities by management including: performance review to assess the impact of implementation, and identification of changes in staff work resulting from increased engagement of the public
5. Resources to support the increased effort for ongoing disclosure of an increased volume of information, as well as ongoing monitoring of content	• the Internet Strategy - NR Sector Plan implementation of a sector wide content management system and web governance framework will mitigate this challenge Ongoing linkages to the Internet Strategy - NR Sector Plan will ensure these issues are identified and addressed
6. Lack of understanding by staff of the intent of the shift and new direction, or why they “have to make the change”	• Implementation of education, training, communication, tools to support
7. Achieving the culture and mindset change for all NRS staff within three years will be challenging	• Initiate the plan as quickly as possible • It will take time and patience supporting staff as they transition from a “hold on” mindset to a “give out” mindset Acknowledge this and accept it won’t happen overnight
8. Adhoc engagement of stakeholders, clients, citizens by the three Sector wide plans independent of each other	• Ensure the stakeholder engagement, analysis of their business needs, and prioritization of information value for the Open Data and Open Information Plans and the Internet Strategy is coordinated

5.7 Open Information Deliverables

Implementation of a sector wide strategy resulting in significant culture change will only be successful if the necessary framework is in place.

Table 4: Open Information Plan – Framework and Deliverables by Phase

Deliverable	Mandate or Function	Activity By Phase		
		Phase 1 (Fall 2011 – fall 2012)	Phase 2 (Fall 2012 – Fall 2013)	Phase 3 (Fall 2013 ongoing)
NRS Open Information Governance Council ⁵	To coordinate and facilitate the implementation of Open Data and Open Information Plans	Define scope of plan	Ongoing monitoring and revising plan	Ongoing monitoring of plan
	Accountable for ensuring governance is maintained	Define performance measures	Monitor performance measures	Ongoing monitoring
Governance	Training	- Training needs assessed - Initial education on Open Information delivered	- Training development and delivered for: - Document writing - Use of risk tools - Understanding Open Information	Ongoing education needs reassessed, updated, delivered
	Tools	- Identification of tools required to support Proactive Disclosure - Quick win tools developed and implemented	Complex tools developed and implemented	Ongoing monitoring of tool effectiveness, updating as required
	Processes/ protocols (include risk analysis approach)	- Initial development to support new tools, guidelines - implementation	identification, development and implementation of more complex processes/ protocols	ongoing monitoring of existing processes/ protocols, updating as required
	Guidelines – clear, consistency in application, inclusion of “ground rules”	Develop Guidelines	Implement guidelines	Assessment of usability and content

⁵ Information Governance Council will govern both the NR Sector Open Data and Open Information Plans

Deliverable	Mandate or Function	Activity By Phase		
		Phase 1 (Fall 2011 – fall 2012)	Phase 2 (Fall 2012 – Fall 2013)	Phase 3 (Fall 2013 ongoing)
Implementation Plan	Develop implementation plan	Identify “quick wins” - especially business areas that are seen to encourage the proactive disclosure of information as part of normal business.	- Additional identification of categories to routinely release. - Monitor implementation to date	Assess implementation against performance measures
Risk Assessment Strategy	Ongoing process for analyzing, identifying, quantifying and mitigating risk of proactively disclosing information on a business area by business area basis	- Analyze - quantify	mitigate	reassess

6 Summary

Successful implementation will be dependent on the development and deployment of the appropriate tools and framework to support the change. Creation of the governance structure (training, tools, processes, protocols, guidelines) and the overarching NRS Open Information Governance Council will be instrumental to the success of this plan. Success will be measured by the increased percentages of information that will be routinely released each successive year.

The expectation of what the NR Sector will achieve assumes a very high success rate. The reality of implementing any plan of this magnitude and significant change is that there are many challenges and hurdles that have not yet been identified. The NR Sector acknowledges that success will come slowly but surely. However, success will come. We will grow and change as a sector, supporting each other, learning from each other, sharing successes and challenges.

NATURAL RESOURCE SECTOR

TRANSFORMATION AND TECHNOLOGY

IDENTITY MANGEMENT PLAN

September 15, 2011

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1. Planning Context: Natural Resource Sector and the Identity Management Initiative:

As part of the Natural Resources (NR) Sector specific instructions in the Technology and Transformation (T&T) Plan, the NR Sector is to provide a strategy to rationalize its web properties and render its web presence more citizen-centric and service focused by adding new services and improving access and ease-of-use for clients. As part of this planning, the NR Sector is to identify how it can leverage the government's identity management (IDM) service and BC service card.

As the strategy to rationalize NR Sector web properties and the analysis of the Sector's opportunities for increased online service delivery are not due for submission until a later date, only the plan for the NR Sector leveraging the government identity management service and BC service card for online services is described below. Once the strategy to rationalize NR Sector web properties and the analysis of the Sector's opportunities for increased online service delivery are submitted, the NR Sector T&T Plan will build from and refer to this plan. The plan described below will also factor into the NR Sector's 'One Project, One Process' vision.

2. NR Sector Identity Management Vision

For many years the NR Sector has worked vigorously to transform its business to a web-enabled, citizen-centric model, which strongly aligns to BC Government's 2.0 strategic concepts of open data and the internet strategy. Examples include the broad public availability of the Sector's data through custom tools and a publicly accessible warehouse (what has become the cross-government spatial data warehouse); online access for residents to recreational licenses, electronic submissions for forest tenures and permitting; preliminary online land status; mineral and petroleum tenures available online; and the use of the FrontCounter BC, which provides multi-channel support into these services (over-the counter, telephone, online and kiosk).

Although there is a great deal of citizen access, much of it is currently through disparate systems built in isolation to meet the needs of specific business areas. Enabled by changes in organization structure and building on its momentum and experience in web-enablement, the Sector is now increasing its citizen-centric approach by integrating its services. The NR Sector goal in this space is allow clients to easily access everything they need in order to use the land or its resources; and client access is well-supported whether online, face to face or by telephone. This 'One Window' approach would include consolidated submissions, notifications, license management and payments (one time or recurring). This is reflected in the Sector's 'One Project, One Process' initiative which focuses on Common Client linkages across Sector applications, allowing online to submit and manage their NR authorizations and licenses through 'One window'. This transformation is enabled by current business process alignment activities, and the introduction of standard interoperability techniques to support forthcoming technology integrations.

Continuing business transformation in this area is also supported by anticipated changes in Identity Management and the BC Services card. The BC Services Card is anticipated to allow residents to identify themselves for over-the-counter or online transactions, and can also form the basis for proof of authorizations and certifications. The Sector goal in this direction is to reach a point at which any resident anywhere in the province can use their BC Services Card as the basis for accessing their entire

NR business relationship with the province, online, over the phone, or in person. (Corporate clients would not have BC Services Cards, and for them BCeIDs would provide single identifiers into their business relationship with the Sector.) Service Card examples include:

- Attachment of government licenses and certifications to the card, such as: Free Use Permit (BC Forests), Free Miners Certificate (Mines), Pesticide Applicators Certificate (Environment), hunting and fishing licenses (Environment), Licensed Trappers (Environment);
- Use of the Services Card as the basis for proof of a third-party status held by an individual, such as: professional status as a forester or biologist; public safety/park certification; completion of a conservation & recreation course; or BC residency status.

Beyond that, the Sector imagines a time when indirect (on-behalf-of) claims-based role authorizations can allow residents to use their BC Services Card in its relationships with the province where the resident acts on behalf of another organization. For example, a forestry worker could use his Services Card as the key to proving they are acting on behalf of a forest licensee in the in a particular role, such as tree faller, in an area where the licensee is authorized to harvest. Development and promotion of strong privacy controls for BC Service Card users is likely to be a key success factor in the resident-uptake of these advanced BC Services Card functions.

Significant technology advances are required to fully realize these possibilities, especially in the areas of (a) Claims-based identity management (which is within the plans and directions of the government's IDM initiative), (b) enforcement of interoperability standards through NR Sector applications, and (c) rural/remote electronic connectivity (which remains a persistent challenge in British Columbia, but which is being incrementally addressed through private sector telecommunication advances). In the mean time, the NR Sector plans to conduct business preparedness and process rationalization; and to build a foundation framework for integrated citizen-centred service, through the 'One Project, One Process' and 'One Window' initiatives.

3. NR Sector Plan (Short Term)

To assure technical readiness and accelerate transformation, the NR Sector will perform a Security Alignment project. This project will increase the Sector's application alignment with planned and emerging Identity Management standards and directions from the OCIO; and with Sector-standard security components. Taken together, these changes will improve the Sector's preparedness for increased citizen-centred integration. It will also address current security concerns related to non-standard applications and will decrease application maintenance and administration effort through application consolidation/integration and information sharing.

It is anticipated that an application framework could prove useful in service integration, security alignment and cost management by providing common functions; freeing applications from having to independently implement authorization management, searches, workflow, printing, reporting, data exports, and screen layouts. Such a framework could allow the basis for a common client repository as well, and the Sector authorization framework, Web Application Development Environment (WebADE), can contribute significantly to the strength of such a framework. The Integrated Case Management (ICM) initiative is recognized as a significant strategic direction for government, and Siebel and other products being utilized by the ICM project are being reviewed in this context.

The Security Alignment Plan is detailed in an appendix to this document.

4. NR Sector Plan (Longer Term)

Over the longer term, the NR Sector will focus new development to support its vision, leveraging the common framework and OCIO identity management. In existing applications, the Sector will address specific Web-based applications to take advantage of OCIO's identity management, based on an assessment of which Web-based applications will benefit the most from enhancements to BCeID and from the BC Services Card. The application review will identify:

- Integrations and opportunities to advance the Sector's citizen-centric vision described above, enabling direct client access through a single window;
- Enhancements to WebADE to take advantage of the extended attribution to be provided in BCeID and the addition of BCeID roles;
- Enhancements to specific Web-based applications to use BCeID roles rather than WebADE roles where the shift will provide significant benefits to the business area(s) or government as a whole;
- Enhancements to specific Web-based applications to use advanced features of the OCIO's identity management where the enhancement will provide significant benefits (i.e. useful functionality) to the business area(s) or government as a whole.

Business area collaboration and sharing combined with deep process alignment based on legislative and Core Policy requirements are key to realizing the OCIO and Sector vision related to application integration and online availability for the relevant existing applications within the Sector.

5. Appendices

a. NR Sector's understanding of BCeID Enhancements and the BC Services Card

The BCeID credential repository (based upon Microsoft Active Directory technology) contains attribution for businesses and individuals used in the identity management process. SSBC is actively at work to enhance identity management services that utilize the BCeID credential repository. These enhancements to the BCeID service fall well in line with the NR Sector's long-standing approach to authentication and authorization, and remain a key enabler for the NR Sector's service transformation to online services which it pursued for many years.

At the technical level, the list of changes and enhancements can be briefly summarized, the scope is significant and the additional functionality to be provided is of considerable benefit. Proposed changes and enhancements to BCeID services include:

- Storing additional subscriber attributes including birth-date, place of birth, and location;
- Addition of role-based authorizations to BCeID, similar to those currently managed in WebADE;
- Provision of claims-based identity management for BCeID registrants;
- Deprecation of direct connects to BCeID via Lightweight Directory Access Protocol (LDAP).

The Services BC card can provide a universal means of providing verified identity information in face to face transactions, online and over the phone. Its association with BCeID identities is a key aspect of integrating its use into the Sector's business processes, and is also expected to support broader

adoption of BCeID in NR Sector applications that do not yet use BCeID. BCeID can be used in addition to, or instead of, the Services Card if citizen acceptance of the card for the full range of government services is low; and for non-residents.

b. NR Sector's Current Situation with Identity Management

The NR Sector has provided external access to Web-based applications and data for well over a decade. Individuals and businesses who access most Sector applications containing personal or business related data identify themselves using credentials held in the BCeID credential repository. Identification of individuals or businesses is required where legal, policy, or contractual obligations require that access to data be restricted. Restrictions on data access may also be imposed in order to meet requirements of the Freedom of Information and Protection of Privacy Act (FOIPPA).

In cases where there are no restrictions on access to data, an application may be configured to allow anonymous access to the data. Thus, where there are no restrictions on access to data, there is no requirement for identity management as a means of controlling access to data.

c. NR Sector's Web Application Development Environment (WebADE)

The Web Application Development Environment (WebADE) is the standard authorization mechanism specified for Web-based applications within the NR Sector, providing both direct and indirect (on-behalf-of) authorization management, and delegated administration. It has been in use for nearly a decade in the Ministry of Environment and the Ministry of Forests, Lands and Natural Resource Operations; and has been in use for nearly five years in the Ministry of Agriculture. WebADE is a mature application framework that provides a flexible and robust authorization environment. WebADE relies upon authentication services provided by SSBC managed identity management infrastructure, called SiteMinder using credentials stored in the IDIR and BCeID credential repositories. In the past, where SSBC has enhanced its identity management infrastructure, the NR Sector has updated WebADE to take advantage of improvements to the identity management services maintained by SSBC.

d. NR Sector's Security Alignment Plan

The purpose of the NR Sector Security Alignment will be to increase the Sector's application alignment with planned and emerging Identity Management standards and directions from the Office of the Chief Information Officer (OCIO); and with Sector-standard security components. This prepares applications for increased citizen-centred integration, addresses outstanding security concerns, decreases application maintenance and administration.

The NR Sector will perform a review of all Web-based applications to assess the security concerns listed below. Information obtained from the review will be used to help determine the scope of remedial actions that might be required to more fully enhance the security of applications:

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The finding compiled from the security review will be employed to plan short-term efforts to better align with emerging OCIO Identity Management standards and directions. Short-term remedial actions will likely include:

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