

Workshop Workbook

Land Based Investment Strategy (LBIS): Forests for Tomorrow (FFT) Current Reforestation Planning and Delivery Workshop

Sponsored by

***Resource Practices Branch
BC Ministry of Forests, Lands and Natural Resource Operations***

Ministry of **Forests, Lands and
Natural Resource Operations**



Workshop Organizer:

Nigel Fletcher, Resource Practices Branch

Assembled by:

Terje Vold, Contractor, LBIS Project Support

March 27th, 2014

Richmond, British Columbia

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Agenda

Land Based Investment Strategy (LBIS): Forests for Tomorrow (FFT) Planning and Delivery Workshop

Location: Executive Airport Plaza Hotel
7311 Westminster Highway, Richmond, BC

THURSDAY, MARCH 27TH, 2014

Planning and Delivering the FFT Program in 2014/15, and Rolling Out the FFT LEAN project

- | | |
|----------|---|
| 8:15 am | Coffee/tea available – meet and greet |
| 8:30 am | Welcome and Introductions – Nigel Fletcher |
| 9:10 am | Session 1: Improving Planning and Delivery <ul style="list-style-type: none"> • 1a. Action items from Fall Workshop – Dave Cornwell • 1b. LEAN 101 – Ryan Forman, Corporate Initiatives |
| 10:00 am | Coffee break |
| 10:15 am | Session 1 (cont'd): <ul style="list-style-type: none"> • 1c. FFT LEAN action plan, maps, and Qs & As – FFT LEAN Team |
| 11:15 am | Session 2: Planning and Funding <ul style="list-style-type: none"> • 2a. FFT planned treatments and accomplishments – Nigel Fletcher • 2b. FFT budget for 2014/15 and allocation process – Al Powelson and Monty Locke |
| 12:00 pm | Lunch - will be provided |
| 1:00 pm | Session 2 (cont'd): <ul style="list-style-type: none"> • 2c. Using RESULTS for forward planning – Monty Locke and Nigel Fletcher |
| 1:30 pm | Session 3: Delivery Considerations <ul style="list-style-type: none"> • 3a. PwC role – Colin Campbell and Kevin Bromley, PwC • 3b. BCTS expanded role and MOU – Kerri Brownie, BCTS |
| 2:45 pm | Coffee break |
| 3:00 pm | Session 3: (cont'd): <ul style="list-style-type: none"> • 3c. Forest Carbon Partnership Program/FFT MOU – Al Powelson • 3d. Mountain Caribou mitigation – Al Powelson |
| 4:00 pm | Action Items, Closing Remarks and Workshop Evaluation – Nigel Fletcher |
| 4:30 pm | Adjourn |

Thanks to all who participated!

Purpose of this Workbook

The purpose of this Workbook is:

- To provide a guiding framework for the workshop participants to address LBIS Forests for Tomorrow (FFT) program planning and delivery for FY 2014/15, and the rolling out of the FFT LEAN project
- To provide a reference material for those who are interested but could not attend the meeting as well as for meeting participants
- To set the scene for a meeting that is intended to be interactive, informative, practical and insightful.

Notes

Welcome and Introductions

Introductions

Nigel Fletcher, the workshop organizer, will lead this session. Although most people know most of the other participants at the workshop, there are participants who you may not know. It would be worthwhile therefore if participants could briefly introduce themselves in terms of your name and the organizational unit you work for. A list of workshop invitees (and FFT contacts) is provided in Appendix A.

Safety

Nigel will provide logistical information such as safety instructions should we need to leave the building

Quick Review of Agenda

The workshop agenda can be found on page 5 of the Workshop Workbook. The agenda was based on feedback from a FFT provincial call on February 20th and an invite for pre-workshop input sent on February 28th. The three Sessions are:

Session 1: Improving Planning and Delivery, where we will:

- Review action items from the Fall Workshop
- Get an overview of the LEAN process
- Hear about the FFT LEAN action items and maps.

Session 2: Planning and Funding, where we will discuss:

- FFT planned treatments and accomplishments
- FFT budget for 2014/15 and allocation process
- Importance of using RESULTS for forward planning.

Session 3: Delivery Considerations, where we will hear about:

- PriceWaterCooper's role in helping delivery aspects of FFT
- BC Timber Sales' expanded role in FFT and our MOU
- Forest Carbon Partnership Program and FFT MOU
- Mountain Caribou mitigation.

At the end of the Workshop, we will review Action Items stemming from our meeting, and will ask all of you to please complete a short Workshop Evaluation form – as your feedback will help us plan future workshops.

Capturing Workshop Discussions

We will be capturing the discussions at the Workshop in two ways:

- We will use flip charts to capture key discussion points and action items
- We will be using a Livescribe Smart Pen to provide an audio recording solely for the purposes of assisting us in summarizing key Workshop discussions.

A Workshop Synopsis will be prepared and distributed to all meeting participants and also shared with other others who could not attend but may be interested. Workshop presenters

should send powerpoints and any other resource material (that is not already in this Workbook) to Nigel Fletcher at Nigel.Fletcher@gov.bc.ca so that it can either be included in the Synopsis or posted on the LBIS FFT website.

Thanks to Ministry Operations Staff and BCTS

John McClarnon, Resource Practices Branch will express sincere thanks to ministry operations staff and BC Timber Sales for their invaluable role in FFT planning and delivery. The program's many accomplishments could not be realized without their efforts and support.

Stress Evaluation

A short exercise regarding stress evaluation will be explained.

Notes

Session 1: Improving Planning and Delivery

1a. Action Items from Fall Meeting

Dave Cornwell review the following 11 action items that stemmed from last Fall's FFT Workshop:

Action #1: FLNR needs tools to help ensure impacted stands are harvested to reduce impacts on mid-term timber supply.

Action #2: Provide guidance on how we can deliver an enhanced FFT silviculture plan e.g. from Type 4 Silviculture Strategies

Action #3: Kevin Astridge will send subzone variant predictor over time.

Action #4: Monty Locke will circulate first draft of the annual operating plan (AOP) for 2014/15 as well as timelines for submission of Draft 2 of the AOP.

Action #5: Regions/districts to check sowing requests in AOP with SPAR.

Action #6: Jennifer Burleigh will send a one- or two-pager on the black army cutworm with weblink that provides advice.

Action #7: Nola Daintith and/or Kerri Howse will send Dave Cornwell a copy of the Service Agreement with the BC Conservation Foundation so that this can be made available to others.

Action #8: Look into certifying larger areas as FFT eligible for BCTS ITSL, and outside BCTS chart areas.

Action #9: Build what you do in your Regional and District Work Plans, and link this with the FLNR Service Plan (e.g. Performance Measure 7) as the work plans are reviewed by Regional Management Teams (RMTs). This should help improve communication about the FFT program.

Action #10: Contact CTQ regarding RESULTS data quality issues in your district.

Action #11: Contact Tom Jackson if any questions about the Client Interaction Guide.

1b. LEAN 101

Ryan Forman with the ministry's Corporate Initiatives group will provide an overview of the LEAN process

Notes

1c. FFT LEAN Action Plan and Map

The FFT LEAN Team will review the products of the recent FFT LEAN process including action plan (see below), and map (see inserted map and/or Appendix C). There will be ample time to ask questions so that there is a good understanding of the FFT planning and delivery process as we move forward.

FFT Action Plan

Item	Deliverable	Lead	Status (On Track, Delayed, Completed)	Target Date	Comments
Process Communication	Book weekly meetings with project teams	Dave	Completed	17-Jan-14	
Process Communication	Book biweekly meetings with project champion and project manager biweekly	Corporate Lean support (Ryan)	Completed	20-Jan-14	Feb 6 Dave will set this up with Ryan and Lorne Bedford Feb 20th - on track. March 6th - scheduled
Process Communication	Create standardized maps in Visio	Ryan	Completed	31-Jan-14	Feb 6 Dave will set this up with Ryan and Lorne Bedford Feb 20th - on track. March 6th - scheduled
2014/15 AOP	Share 2014/15 AOP with DM, RSM, TSM after Deputy Minister feedback.	FFT Lean Team	Completed	28-Feb-14	Lean team to communicate across districts & regions. Feb 20th - still waiting for final budget numbers. March 6 - Part of March 27th roll out. As completed info will be available to be communicated out. March 20th - ongoing part of regular business
Delivery Agent Selection Checklist	Use newly created standardized process to create delivery agent selection checklist.	Kerri	Completed	28-Feb-14	Feb 20th- draft version exists Kerri will send for feedback if requested March 6th - pending map approval March 20th completed
Endorsement of AOP	Create template to share AOP with DDM for endorsement.	AI	Completed	28-Feb-14	Share endorsed AOP with RED. For 2015/16 AOP - Feb 6 will finalise once group endorses - .want district endorsement at Feb 20th FFT call

Financial Management	Draft a note to inform executive, via Jim Sutherland, that issues with allocation of funds need to be addressed, as they can delay deployment of program; present to group at biweekly meeting; add endorsement block from FFT Lean Team. (Final draft)	Monty	Completed	28-Feb-14	Reference need to improve surplus return process; identify opportunities/areas for improvement (to share with CSNR), e.g. managing funding by project and tracking costs against project; reference procurement issues (redundant ADM approvals). Team members to provide feedback to Monty Feb 14th. Feb 20th version for endorsement next call - March 6 - Endorsed
Priority Setting	Develop working group to examine priority setting for groups outside the MPB impacted units.	Craig	On Track	28-Feb-14	Monty will chair - group confirmed (8 participant)s Craig wil invite Bernie Peschke to participate. Focus on the 30% Report out to team after first meeting. Feb 20th Task expected to be presented out at March 27th meeting March 6 - terms of refernce and draft criteria under way. examples being developed - will call this complete at a later meeting
Process Communication	Post newly developed, standardized process maps in all district offices	FFT Lean Team	Completed	28-Feb-14	Need this done through FFT call - needs to be plotted out. Feb 20th Will do when this is finalised. March 6 When maps approved March 20th - maps posted on FFT site and will be distributed in March 27th meeting materials
Process Communication	Post newly developed, standardized process maps on FFT website.	AI (to assign to Nigel)	Completed	28-Feb-14	March 6 - see above

Salvage Opportunities	Develop standard control mechanism to ensure salvage opportunities are assessed before contract is approved.	Lyn	On Track	28-Feb-14	List of choices will be made available before next call Feb 20th - March 6th continuing - Lyn has shared just need endorsement March 20th need a bit more feedback and will endorse at a later meeting - will build consistent with Kerri's product
Stakeholder templates	Create standardized stakeholder templates to share AOP.	AI	On Track	28-Feb-14	Feb 6 Template examples being used Feb 20th ongoing. March 6 - template shared - feed back please Held over to March 27th
Work with BCTS re: MOU & Service Agreement	Draft note informing Dave & Geoff that the items in comments are critical to project completion; present to group at biweekly meetings; add endorsement block from FFT Lean Team. (Final draft)	John & Mike	Completed	28-Feb-14	'Refined & expanded service agreement & MOU; Review non-ITSL component of MOU (Service Agreement). Expand BCTS role; Service agreement must state that FFT selection criteria must be applied prior to a sale (currently an optional requirement); Ensure local & provincial push for expansion outside BCTS operating areas and local pine beetle areas is coordinated; include opportunities other than Mountain Pine Beetle killed stands. Feb - Mike and John will collaborate with AI, Dave and Geoff - March 6 - Partnership agreement moving forward March 20th Significant progress made
Process Communication	Present newly created standardized process maps to FFT group.	FFT Lean Team	Completed	1-Mar-14	Have champion/manager introduce. Introduce on conference call formally and at March 27th meeting. March 6th pending map approval March 20th maps approved
MOU with WMB	Review initial discussions with WMB; bring next steps to broader FFT group.	AI & Monty	On Track	14-Mar-14	AI - reviewing information and will share at next FFT meeting Feb 20th WMN more interested in engaging at district level. Will send AL and Monty JKJ work. March 6th JK work forwarded to Aland Monty - ongoing

Roles & Responsibilities Matrix	Update R&R Matrix; share with FFT Lean Team; share on FFT website.	AI; Craig to review & comment	On Track	14-Mar-14	Some work underway Feb 20th Craig to review. March 6th on track new versions circulated by AI
Work with BCTS re: MOU & Service Agreement	Report back to group at biweekly meetings re: the BCTS MOU letter.	Dave	On Track	14-Mar-14	March 6 - Ties in with line 16 topic - reported biweekly March 20 - significant progress made on drafting BCTS FFT Forest Management Partnership Agreement
Process Communication	Present final presentation from Kaizen at next FFT meeting.	AI	Completed	ASAP (next FFT meeting)	Feb 20th conference call Craig did
Process Communication	Set up Type 4 Presentation to FFT group by Paul Rehler.	AI	Completed	ASAP (next FFT meeting)	Paul will present at March 26th meeting - meeting invite to FFT staff will be adjusted accordingly
Parking Lot Items	Invite project champion to biweekly Lean Team meeting to discuss and make decisions on program development opportunities.	Dave	Completed	28-Mar-14	Ensure communication is consistent re: FFT Lean presentation. Dave to draft communication March 6th Will add context on how process maps were developed and distribute to FFT lists when maps and action plan posted to FFT website. March 20th Action plan, maps and communicate will be sent out to FFT distribution list by March 21st
Change Management Strategy	Weekly agenda item re: ongoing communication with and feedback from broader FFT group.	FFT Lean Team Chair	Completed	Ongoing	

Session 2: Planning and Funding

Although the main purpose of this session is to discuss FFT planning and funding for fiscal year 2014/15, there will also be a look at 2013/14 accomplishments and a look ahead in terms of getting ready for 2015/16 as well as discussion on mountain caribou mitigation.

2a. FFT Planned Treatments and Accomplishments

Nigel Fletcher will review 2013/14 annual operating plan (AOP) planned treatments (goals and \$/unit) versus actual accomplishments including those reported by PwC for TFLs.

Notes

2b. FFT Budget for 2014/15 and Allocation Process

Al Powelson and Monty Locke will lead discussions on this topic that will address:

- Budget allocation process versus prioritization process
- How government' social objectives fit into the planning process
- 2014/15 AOP planned treatments (goals)
- Contract approval process for 2014/15
- Allocation letter and authority to carry out activities
- Link with strategic investment document
- Connection with LEAN process/map
- Expected FFT budget, and getting ready for, FY 2015/16
- Status of extra \$10 million for silviculture in 2015/16

Notes

2c. Using RESULTS for Forward Planning

The focus of this topic in on the ‘need’ for forward planning using RESULTS, not on ‘how to do it’. Monty Locke will discuss the need for FFT Timber Supply Mitigation, while Nigel will note importance for intended activities under the Forest Stand Management Fund.

Notes

Session 3: Delivery Considerations

The main purpose of this session is to discuss BC Timber Sales and PricewaterhouseCoopers' (PwC) role in helping deliver FFT programs, and to address linkages with the Forest Carbon Partnership Program.

3a. PricewaterhouseCoopers' (PwC) role

Colin Campbell and Kevin Bromley, PwC, will overview PricewaterhouseCoopers' role in FFT delivery, and will provide opportunities for questions and answers from participants.

Notes

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3b. BC Timber Sales' role

Kerri Brownie with BCTS will address BCTS' role and Forest Management Partnership Agreement.

Notes

3c. Forest Carbon Partnership Program/FFT Operational Framework

Al Powelson will describe the Forest Carbon Partnership Program and how this relates to FFT as provided in the Operational Framework (see below). Appendix D provides the draft Guide to Activity Based Forest Carbon Projects in BC Forests.

Operational Framework between the Forest Carbon Partnership Program (FCPP) and the Forests For Tomorrow Program (FFT) Regarding Forest Carbon Projects **Version 3.1 – March 19, 2014**

Goals

1. To reforest naturally disturbed provincial forest land.
2. To identify areas suitable for forest carbon funded projects.
3. To provide opportunities for forest carbon projects on provincial forests that generates external investment and emissions offsets.
4. To capture as much private investment as possible thereby increasing the total area restored over what would be restored with only one funding source.

Purpose

This Operational Framework is intended to provide clarity and simplify the forest carbon options available for FLNR staff working with Forests For Tomorrow (FFT) and Forest Carbon Partnership Program (FCPP). The framework together with the *Guide to Activity Based Forest Carbon Projects in BC* will provide direction for consistent implementation of forest carbon projects across regions and districts.

Background

Two FLNR programs target restoration of naturally disturbed provincial forest: the Forest Carbon Partnership Program (FCPP) and the Forests For Tomorrow (FFT) program. The FCPP relies on external investment that restores forests in exchange for the atmospheric benefits and associated carbon offsets.¹ FFT uses provincial funding to re-establish and manage young forests aimed at improving future timber supplies primarily within the timber harvesting land base yet outside of forest industry obligations. The FCPP is focussed on the carbon benefit derived from the project. Projects can occur outside the timber harvesting land base where there is access to the site. The FCPP projects could occur on any land within existing tenures such as TFLs or on TSA land in general.

Growing forests sequester carbon, however, generating validated and verified forest carbon offsets is complex and expensive; the FCPP model achieves this through public-private partnership. Under the FCPP model, forest carbon modelling, validation, verification, project management and implementation are the responsibility of an aggregator. The aggregator,²

¹ Activity based (e.g. reforestation) forest carbon projects may increase the AAC in the associated management unit. The carbon projects are expected to be managed sustainably over time including harvest followed by reforestation. Harvesting can diversify age class distribution and maintain healthy forests.

² The aggregator facilitates multiple forest carbon projects simultaneously, and in doing so, is able to achieve economies of scale to make costly forest carbon validation and verification viable. If projects were attempted on an ad hoc basis by single entities it is unlikely they would be completed due the high costs.

through a contractual agreement with FLNR and/or the FCPP, invests funds in forest restoration and management in return for validated and verified carbon offsets.³

The FCPP generates validated and verified carbon offsets which create defensible and real carbon benefits that must pass an additionality test under the [BC Forest Carbon Offset Protocol](#); carbon sequestered by a project must be additional to what would have been sequestered according to a baseline (e.g. business as usual). Reforestation undertaken through the FFT program results in carbon sequestration, however, the program is not structured to create validated and verified carbon offsets because it is part of the baseline set for the province of BC.

British Columbia is on the threshold of a cycle of new investment in numerous private sector projects, specifically liquefied natural gas pipeline and plant facilities. Carbon sequestration through restoration of BC's naturally disturbed forests (e.g. fire and mountain pine beetle) beyond the capabilities of FFT may allow BC to meet its legislated Greenhouse Gas (GHG) reduction targets and restore forests that may not otherwise be restored to their full productive capacity. Ensuring the FCPP and FFT are coordinated and ready to effectively deliver services to seize this opportunity is paramount for this to be successful

Despite the fact that both programs have undertaken projects where private companies have paid to reforest disturbed areas,⁴ where private businesses are interested in claiming the offsets created by reforestation on Crown land they will need to set up the project under an aggregator with an agreement under the FCPP.

Overlap of Interests

This collaboration between the FCPP and FFT results in compelling benefits that will enhance the public interest, maximize the area FFT is able to reforest, and provide opportunities for the FCPP to maximize private investment in exchange for the carbon benefits created by the project. The FCPP and FFT have substantial overlap of interests.

1. Restoring naturally disturbed Crown forests through reforestation and subsequent management.
2. Growing forests to generate atmospheric benefits that may or may not become validated and verified carbon offsets or otherwise quantified.
3. Utilizing funding from private sector investors.

³ Currently, FLNR is working with Prince George based aggregator, the Carbon Offset Aggregation Cooperative.

⁴ Pacific Western Brewery and Sleep Country Canada have provided funding directly to Forests For Tomorrow to plant trees as part of an advertising campaign. In partnership with the Carbon Offset Aggregation Cooperative, the Forest Carbon Partnership Program has undertaken a variety of projects that will generate validated and verified carbon offsets.

Determining Opportunities for Reforestation under the two programs

The following table shows the opportunities for FCPP and FFT projects (opportunities identified with H,M,L orX indicate high, medium, low and no priority). Where opportunities are present for both programs, the principles laid out in the following section provide guidance in determining which program will most effectively deliver a particular project.

Opportunity	FFT	FCPP
Mountain Pine Beetle and other insect killed areas (site index > 15) within heavily impacted MPB management units	H	H
Mountain Pine Beetle and other insect killed areas (site index > 15) outside the THLB	L	H
Fire killed areas not affected by TS impacts (site index >15)	L	H
Fire killed areas affected by TS impacts	H	H
Small scale salvage of beetle or wildfire killed timber without reforestation obligation	H	L? due to probable size of opportunity
Caribou Areas outside of GAR areas where licensees relieved of obligation	H	X
Caribou Areas inside of GAR areas where licensees relieved of obligation	X	X
Backlog reforestation	L	X-L
Fertilization	H	H
FFT ITSL's (site index>15)	L	L

Principles

1. Neither the FCPP nor FFT tries to attain the best or worst sites for their program, however, there may be some benefit to providing higher productivity sites to the FCPP program in order to encourage investment in a particular area (such as a heavily impacted management unit).
2. More areas are ready for work (in comparison to seedlings) to take advantage of short-term increases in carbon funded investment (i.e. surplus areas are available to take advantage of additional carbon funding).
3. The FCPP is seen as the preferred option when validated and verified forest carbon offsets are required.
4. If the aim is a strict focus on reforestation (i.e. tree planting) and not validated and verified forest carbon offsets, then FFT, through the resource districts, will provide the opportunity (i.e. planting site and associated seedlings).
5. The FCPP will work with the appropriate resource district stewardship staff early in the project in order to determine opportunities for investment that align with district priorities and the opportunity matrix table.
6. The FCPP will target non-economic stands⁵ with no obligation or commitment to reforestation, affected by wildfire and mountain pine beetle.⁶
7. FFT is under no obligation to provide any unit or part of any unit already scheduled for FFT operations.
8. The District Manager has final authority regarding areas treated and standards, and has veto power at the project development stage. Once the project has been developed and approved, principle 10 is in effect.
9. The FCPP is responsible for all planning required prior to reforestation including, but not limited to, surveys, site preparation, seedling procurement, and planting contract management.
10. Once a resource district has given the FCPP proponent approval to proceed with the project, the FCPP is responsible for silvicultural treatments necessary to maintain the health and vigour of the trees until free growing. The proponent may carry out monitoring and maintenance post free growing as necessary and desired.
11. The FCPP's failure to proceed in a timely manner may result in termination of the Master Licence of Occupation.⁷
12. The FCPP and FFT are responsible to meet all applicable forest management legislation, policy and guidance required under legislation or contractually.

⁵ Non-economic stands must be demonstrated to be uneconomic at the time of assessment and are expected to remain un-economic into the foreseeable future. The criteria for the economic threshold will need to be developed locally and based on recent timber sales, economic analysis and/or other relevant information to inform the decision maker. Recent timber sales on the applicable unit or similar units may be used to determine the economic viability of a timber sale with reforestation obligations being feasible on the area.

⁶ The FCPP is not limited to wildfire or mountain pine beetle. Other stands impacted by forest health agents may be suitable.

⁷ Mandatory requirements are described in the Master Licence of Occupation - Schedule B Annex Areas and Schedule C Permitted Activities, Prohibited Activities, Reporting All Specified Areas.

3d. Mountain Caribou Mitigation

Al Powelson will address mountain caribou mitigation and the need to build this into FFT plans for 2015/16 as well as the related material below.

COMPENSABLE

Vavenby	\$	969,392.00
PG	\$	130,402.00
Kootenay	\$	116,434.00



Total Compensable to Canfor	\$	1,216,228.00
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MITIGATION THROUGH RELIEF OF EXISTING SILVICULTURE OBLIGATIONS

1. Within Caribou GAR

a.) Within Mtn Caribou (UWR # U-3-004, U-3-005, U-4-013, U-4-014, U-7-003)		without planting and post herb flights	
Kootenay – DRM	\$	88,883.80	\$ 88,883.80
Kootenay Lake (Vavenby+Kootenay) - DKL	\$	29,972.41	\$ 29,972.41
Prince George - DPG	\$	35,919.30	\$ 17,937.30
Houston - DND	\$	3,959.30	\$ 3,959.30
Vavenby - DHW	\$	36,195.18	\$ 25,499.45
Outstanding silviculture obligations within Mountain Caribou GAR	\$	194,929.99	\$ 166,252.26

b) Within other caribou GAR (UWR # U-7-007, U-7-012, U-7-015, U-9-002, U-9-004, U-9-010)			
Vanderhoof - DVA	\$	279,818.75	\$ 62,158.35
Mackenzie - DMK	\$	159,599.31	\$ 143,435.60
Prince George - DPG	\$	30,292.20	\$ 8,260.20
Fort Nelson - DFN	\$	159,599.31	\$ 143,435.60
Ft. St. John - DPC	\$	29,512.50	\$ 29,512.50
Chetwynd - DPC	\$	39,732.14	\$ 17,332.94
Outstanding silviculture obligations within Northern and Boreal Caribou GAR	\$	418,735.46	\$ 341,976.84

TOTAL Outstanding silviculture obligations within Caribou GAR	\$	613,665.45	\$ 508,229.10
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Compensable Dollars Remaining for Relief of Silviculture Obligations outside of Caribou GAR	\$	602,562.55	\$ 707,998.90
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2. Outside of Caribou GAR, Free Growing survey only remaining activity

a.) Kootenay Lake - DKL	\$	60,000.00
Vavenby - DHW	\$	77,000.00
Prince George - DPG	\$	80,000.00
Fort Nelson - DFN	\$	400,000.00
Kootenay - DRM	\$	57,998.90
Sunshine Coast - DSC	\$	10,000.00
Squamish - DSQ	\$	10,000.00
North Island Central Coast - DNI	\$	3,000.00
Chilliwack - DCK	\$	10,000.00

Total silviculture obligations outside of GAR, FG survey only	\$	707,998.90
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Compensable Dollars Remaining	\$	-
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Action Items, Closing Remarks and Workshop Evaluation

Action Items

The action items stemming from the Workshop will be summarized by Terje Vold. Are there any action items inadvertently overlooked that should be added? Some of the larger actions or ‘parking lot’ items may need follow-up with respect to who or what working group will tackle the action.

Closing Remarks

Sincere thanks to all for your participation at this Workshop. As noted at the start of the Workshop, a Workshop Synopsis that captures the highlights and action items stemming from the Workshop will be prepared and shared with all participants. Workshop presenters should send powerpoints and any other resource material (that is not already in this Workbook) to Nigel Fletcher at Nigel.Fletcher@gov.bc.ca so that it can either be included in the Synopsis or posted on the LBIS FFT website.

Workshop Evaluation

A short one-page form will be distributed (see Appendix B) where we ask that you provide us feedback on how well each Session met your expectations, as well as any other comments you wish to share about the workshop and how it was managed.

Thanks to all Workshop Participants!

Notes

[illegible]

Appendix A: List of Workshop Invitees (FFT contacts)

Those shaded accepted invite or noted they might attend.

Name	Organization
Delee Anderson	Vanderhoof District
Betty Baker	BCTS – Peace-Liard
Frank Barber	Resource Practices Branch
Paul Barolet	North Island – Central Coast District
Lorne Bedford	Resource Practices Branch
Aaron Benterud	Coast Mountains District
Romona Blackwell	Campbell River District
Ian Brown	Omineca Region
Kerri Brownie	BC Timber Sales Branch
Kevin Bromley	PriceWaterhouseCooper
Glen Buhr	Skeena Stikine District
Scott Byron	BCTS Stuart-Nechako
Colin Campbell	PriceWaterhouseCooper
Lauri Como	Quesnel District
Dave Cornwell	Resource Practices Branch
Nola Daintith	Cariboo Region
Mike D’Aloia	Fort Nelson District
Sam Davis	Mackenzie District
John DeGagne	Vanderhoof District
Larry Duke	Haida Gwaii District
Larry Fielding	BCTS Prince George
Nigel Fletcher	Resource Practices Branch
Ryan Forman	Corporate Initiatives
Richard Garner	BCTS Okanagan-Columbia
Christine Gelowitz	Corporate Initiatives Division
Cindy Gibson	Cariboo-Chilcotin District
Jeremy Greenfield	BCTS Prince George
Kevin Gustafson	Okanagan Shuswap
Mark Hamm	Cariboo-Chilcotin District
Jevan Hanchard	Skeena Stikine District
Larry Hanlon	Kootenay/Boundary Region
Caitlin Harrison	BCTS Stuart-Nechako
Kristin Hendry	BCTS Prince George
Scott Hicks	Kalum District
Steve Hind	Kalum District
John Hopper	BCTS Kamloops
Kerri Howse	Cariboo-Chilcotin
Elizabeth Hunt	Peace District
John Illes	Nadina District
Paul Kennedy	BCTS Cariboo-Chilcotin
Ljiljana Knezevic	Omineca Region
Lyn Konowalyk	Rocky Mountain District
Katherine Ladyman	Okanagan Shuswap District
Monty Locke	Resource Practices Branch
Phil MacDonald	BCTS Kootenay
Mike Madill	Thompson/Okanagan Region
Frank McAllister	BCTS Peace-Liard

David McArthur	100 Mile House District
John McClarnon	Resource Practices Branch
Leith McKenzie	Thompson/Okanagan Region
Ted McRae	Okanagan Shuswap District
Bruce Middleton	BCTS Stuart-Nechako
Anna Monetta	Omineca Region
Guy Newsome	BCTS Cariboo-Chilcotin
Bill Olsen	100 Mile House District
Brent Olsen	Thompson Rivers District
Mark Palmer	South Island District
Bernie Peschke	Thompson/Okanagan Region
Jennifer Plummer	Skeena Stikine District
Allan Powelson	Resource Practices Branch
Jennifer Plummer	Skeena Stikine District
Jennifer Reid	BCTS Kamloops
Paul Rehsler	Resource Practices Branch
Michelle Roland	Client Services Branch
Katherine Rogers	BCTS Babine
Tanya Scadding	Client Services Branch
Katrina Sigloch	Thompson Rivers District
Stephanie Smith	BCTS Peace-Liard
Andrew Snetsinger	Cascades District
Carolyn Stevens	Nadina District
Nicole Strand	Quesnel District
Len Stratton	BCTS Prince George
Jack Sweeten	Chilliwack District
Andrew Tait	Fort St James District
Kevin Telfer	Coast Region
Geoff Tindale	BC Timber Sales Branch
Miodrag Tkalec	Mackenzie District
Robert van der Zalm	Sunshine Coast District
Mary Viszlai-Beale	Fort Nelson District
Terje Vold	LBIS project consulting support
Barb Wadey	Selkirk District
Chris Walder	Cascades District
Mike Watson	BCTS Babine
Rick Weisgerber	BCTS Prince George
Andrew Wheatley	Fort St James District
Craig Wickland	Coast Region
George Williamson	100 Mile House

Appendix B: Workshop Evaluation Form

How well did each Session topic meet your expectations? Were you satisfied with Workshop logistics? Please put an **X** in the column that best reflects your views.

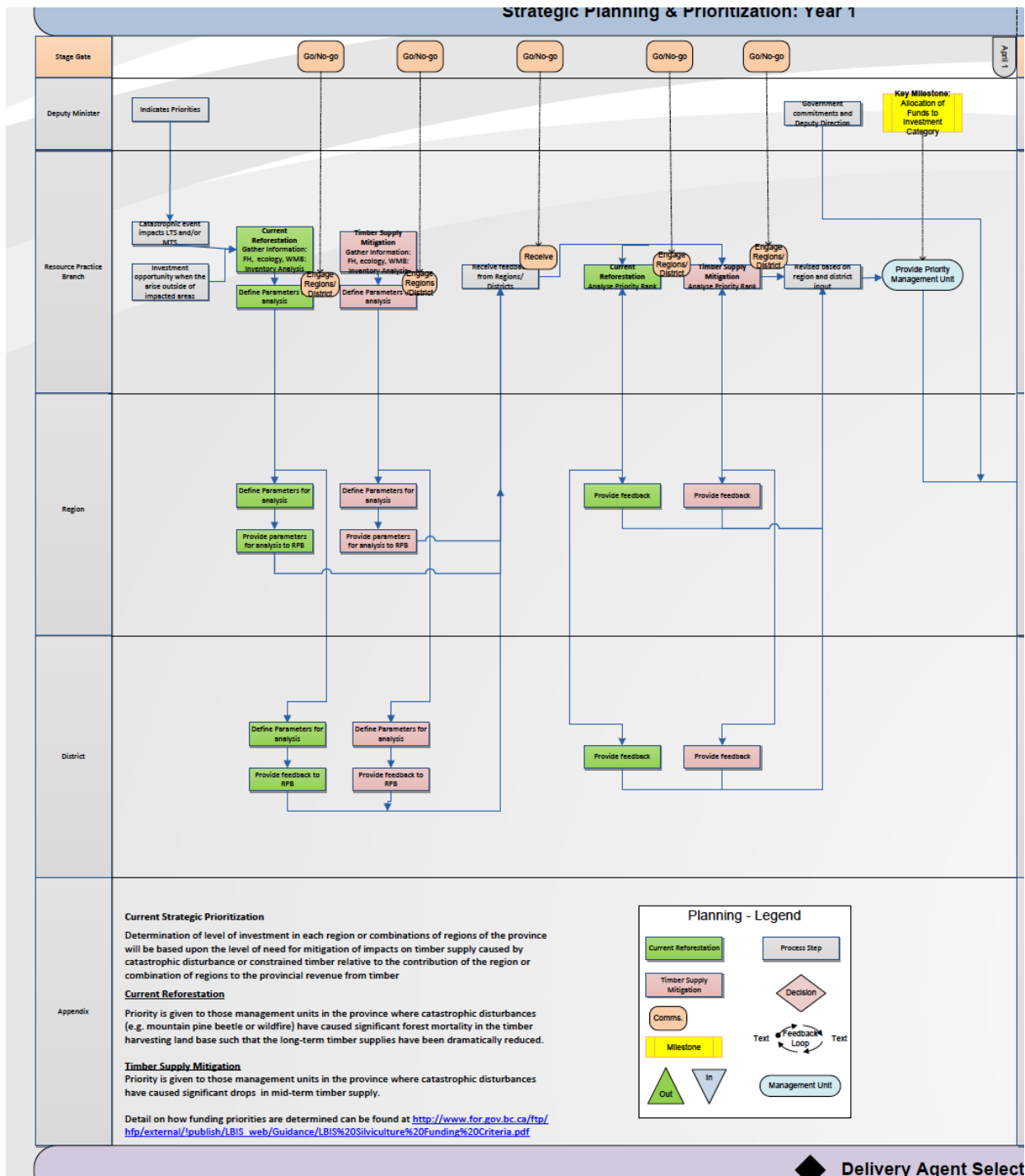
Workshop Sessions/Topics	Not met	Partially Met	Met	Exceeded
1a. Action items from Fall Workshop				
1b. LEAN 101				
1c. FFT LEAN action plan and maps				
2a. FFT planned treatments and accomplishments				
2b. FFT budget for 2014/15 and allocation process				
2c. Using RESULTS for forward planning				
3a. PwC role				
3b. BCTS expanded role and MOU				
3c. Forest Carbon Partnership Program/FFT MOU				
3d. Mountain Caribou mitigation				
Any Comments on Particular Session Topic? (please identify with Session/Topic #1a, 2b, etc.)				

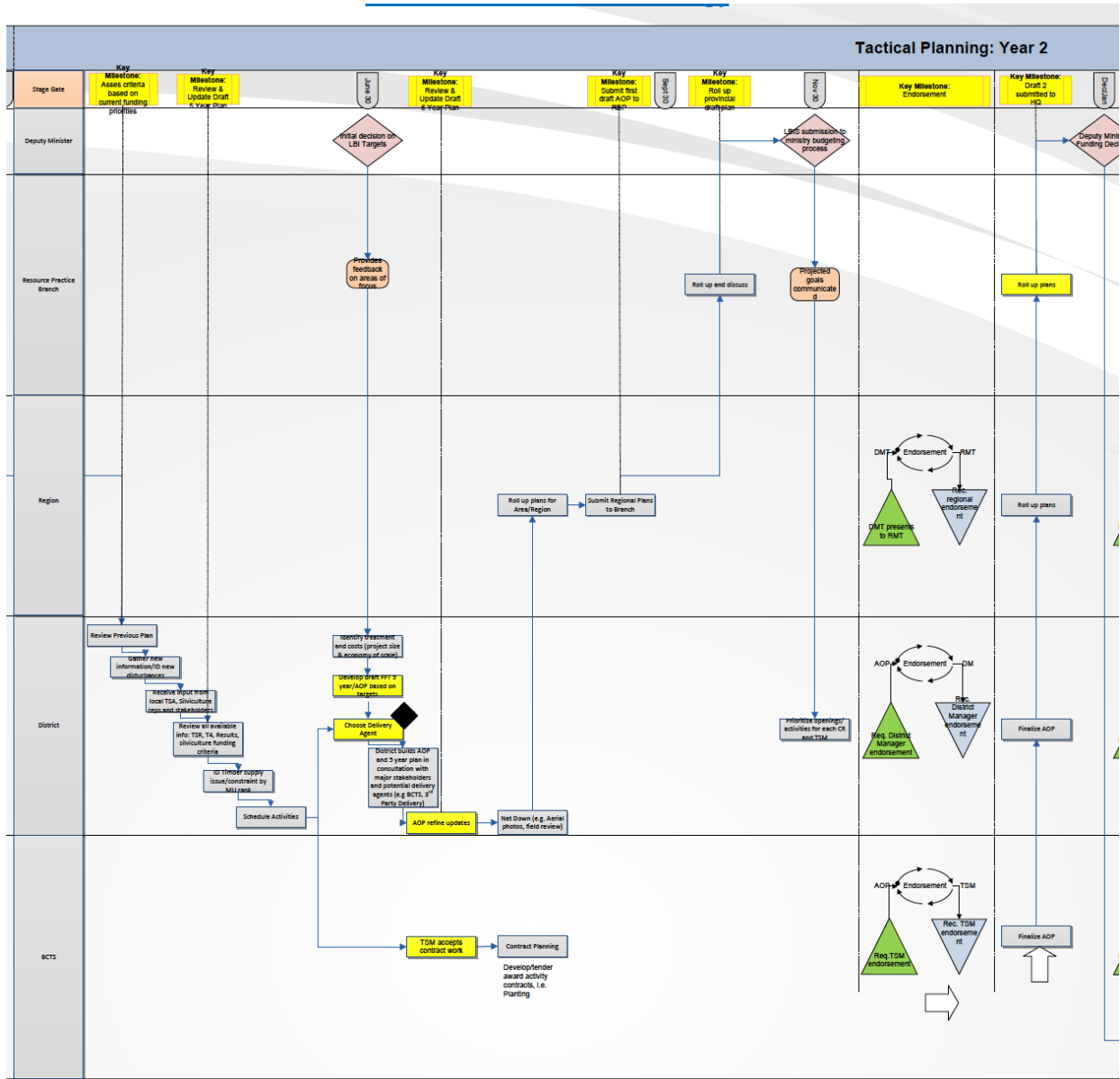
Workshop Logistics If not satisfied, your comments to improve most appreciated	Satisfied	Not Satisfied	Comment
Workshop organization			
Workshop venue (meeting room, refreshments/lunch)			
Workshop agenda			
Other (please specify)			

Appendix C: FFT Planning Process Map

<http://lbis.forestpracticesbranch.com/LBIS/node/103>

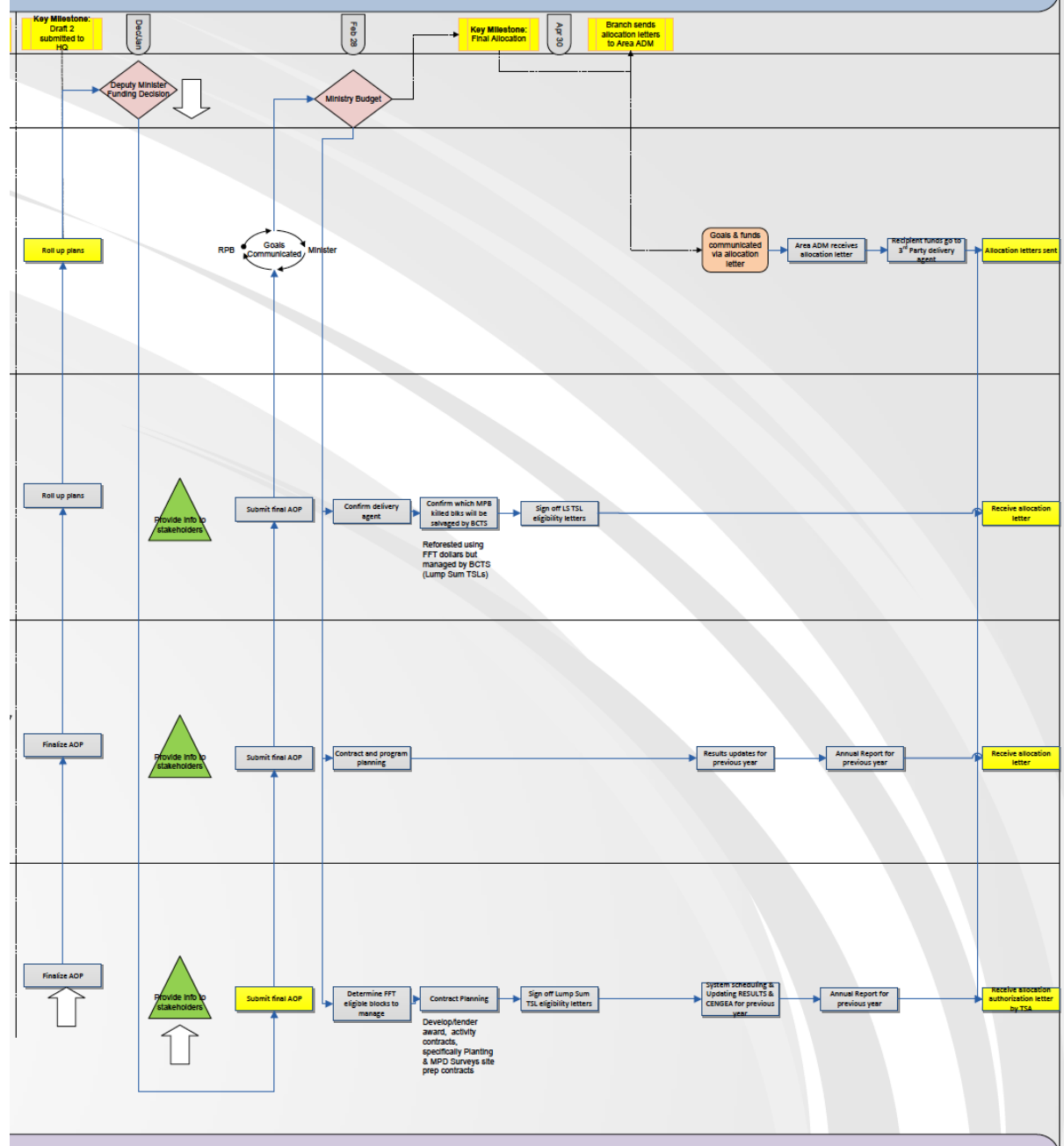
Note: A folded insert map should be in the Workbook that is more legible to use.





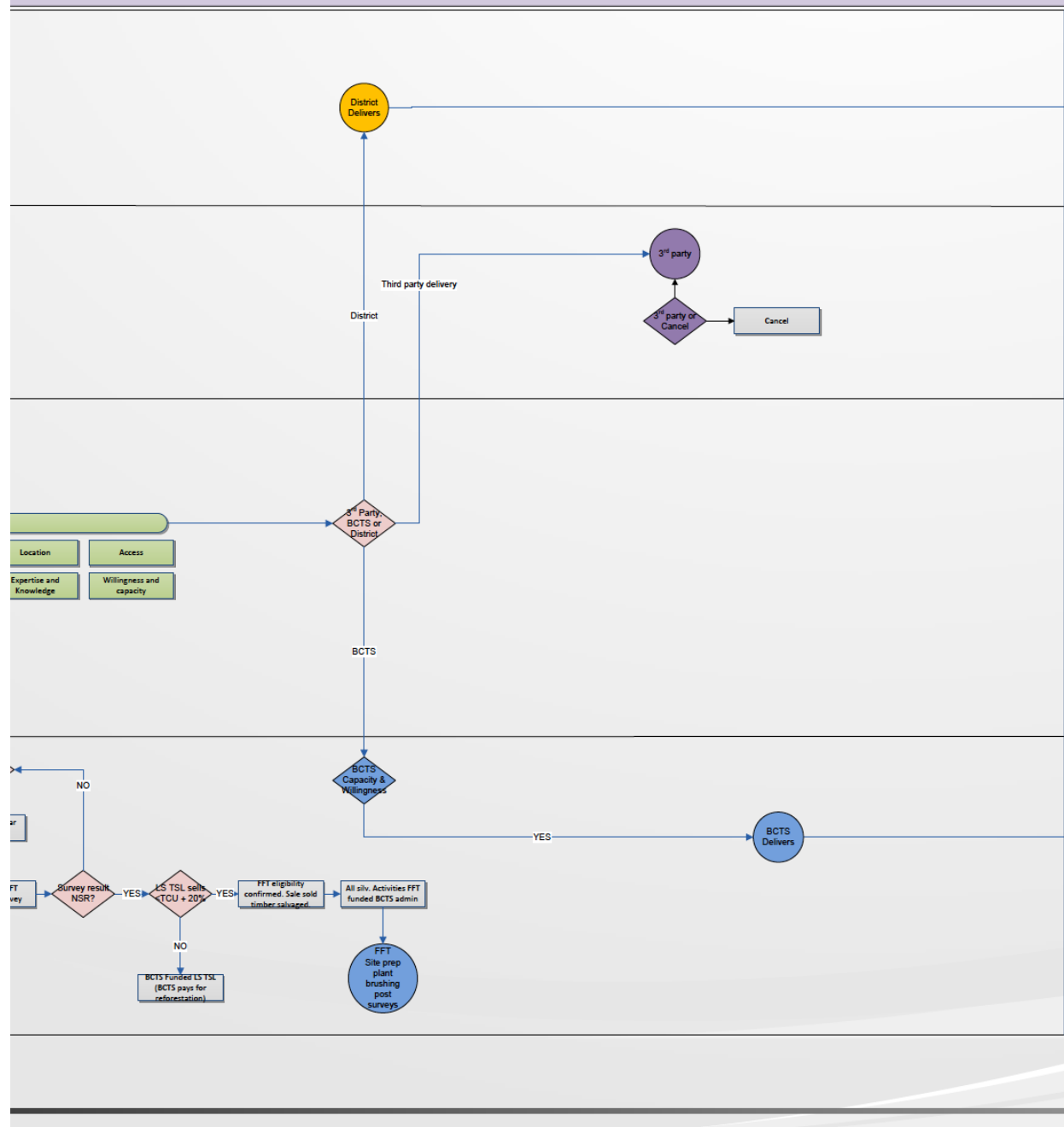
: Year 2

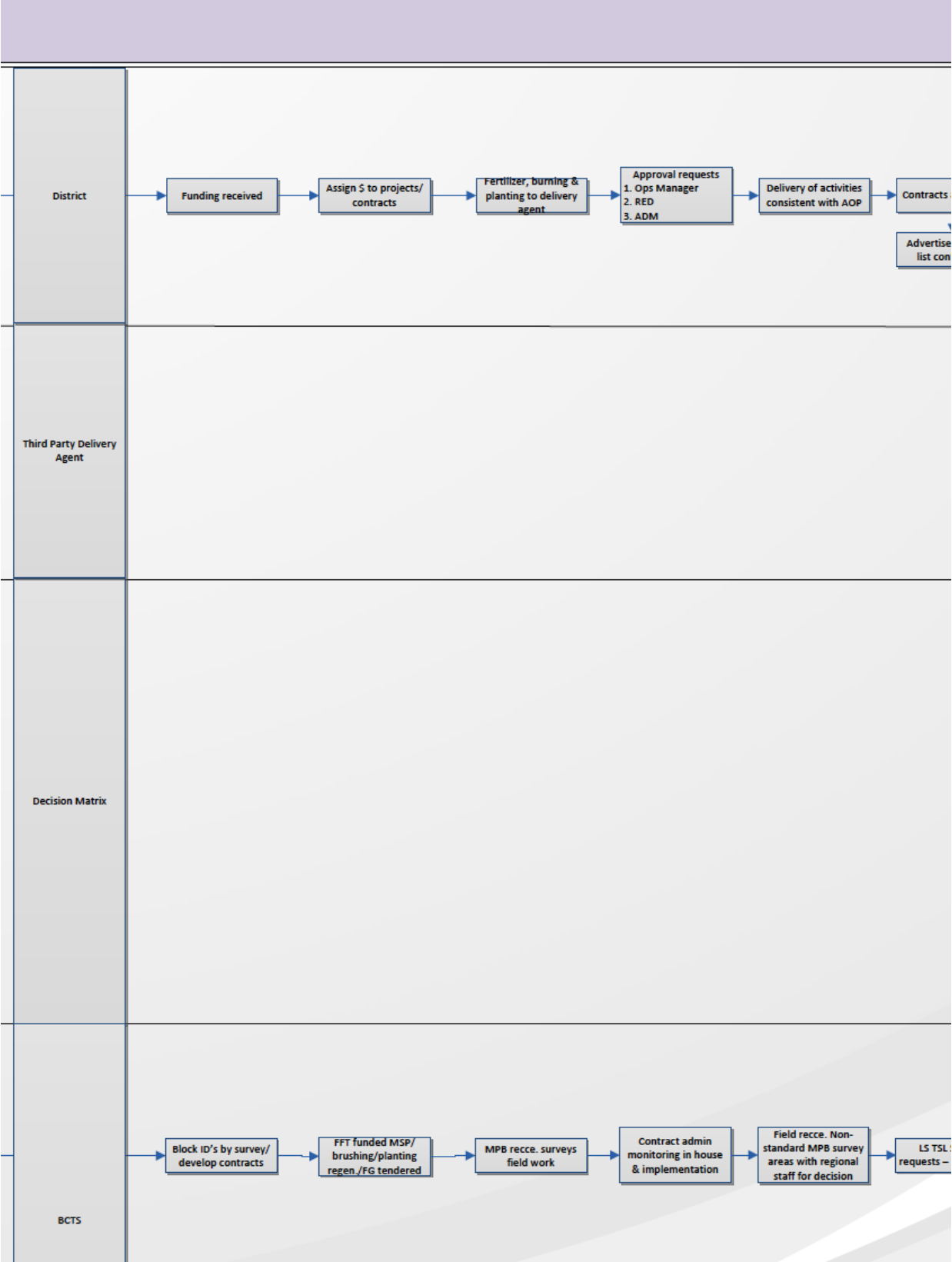
Operational Planning: Year 3

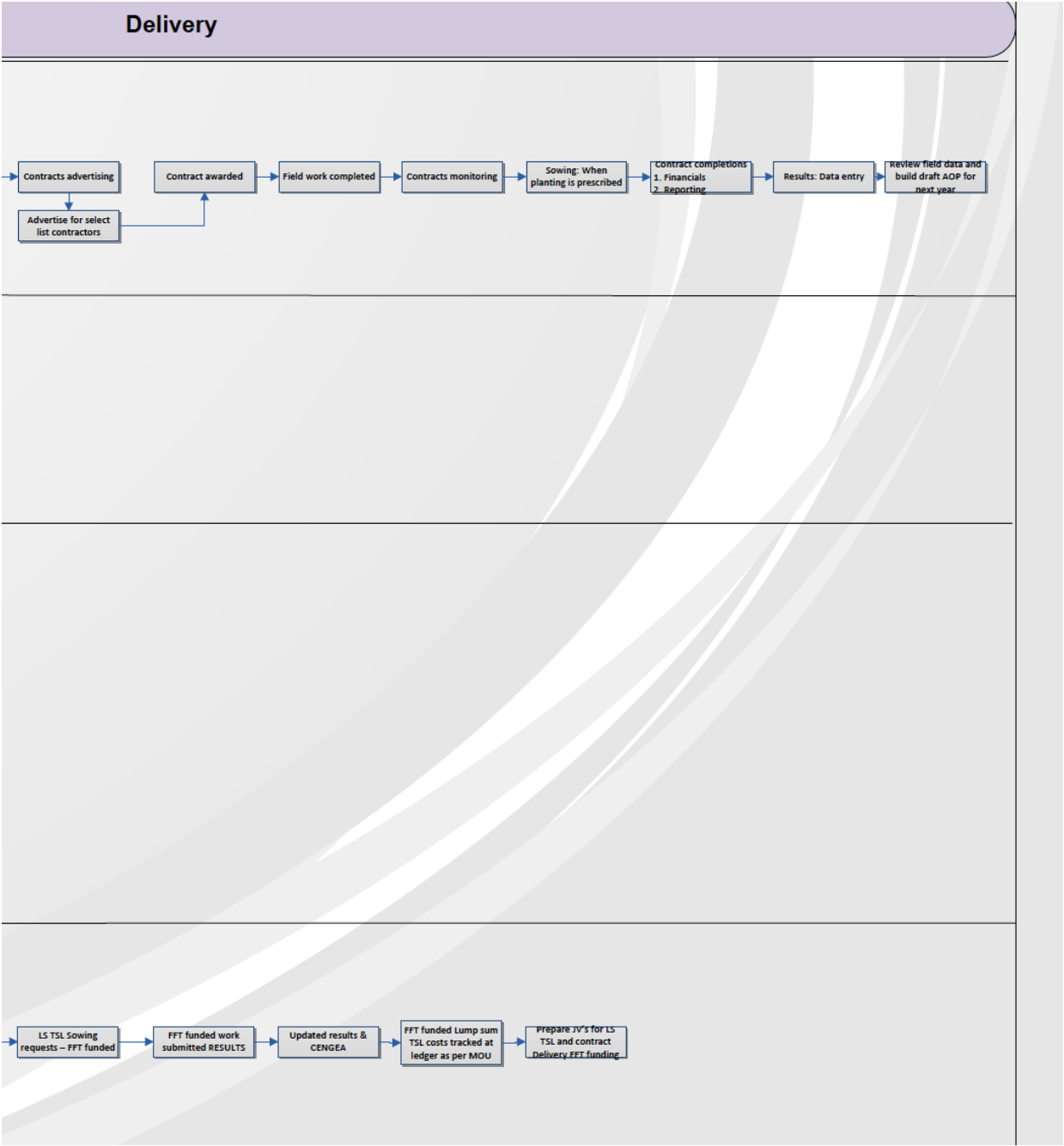




► Delivery Agent Selection (using current reforestation example)







Appendix D: Draft Guide to Activity Based Forest Carbon Projects in BC Forests



Ministry of
Forests, Lands and
Natural Resource Operations

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1. Purpose
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 - 7.2 Standards
 - 7.3 Tree Seed Legislation and Standards
 - 7.4 Stocking Standards
 - 7.5 Road Access Standards
 - 7.6 Specific Circumstance Standards
 - 7.7 Additional Standards
8. First Nations
9. Climate Change Adaptation

1. Purpose

This guide provides information about how activity based forest carbon projects (described in the scope) take place on BC forest land. It is primarily intended for two audiences:

- regional Ministry of Forests, Lands and Natural Resource Operations (MFLNRO) employees; and,
- potential forest carbon project proponents.

The guide may also help consultants, the public and other interested parties understand the general context, operational considerations and requirements associated with activity-based forest carbon projects in BC. Through the provision of both general and specific information on forest carbon projects, this guide helps ensure forest carbon projects are carried out to high environmental standards and that government standards and expectations are met.

The various legal requirements and standards this guide refers to are subject to change. In the event of any discrepancy between the content of this guide and applicable Acts and regulations (including but not limited to the applicable sections of the *Forest and Range Practices Act*, the *Forest Act*, the *Foresters Act* or the *Greenhouse Gas Reduction Targets Act*), the Acts and regulations prevail. This guide does not vary the requirements of the *Emission Offsets Regulation* or the *Protocol for the Creation of Forest Carbon Offsets in British Columbia (FCOP)*. Please refer to the Ministry of Environment's website for these documents.

The *Emission Offsets Regulation* is found at
http://www.env.gov.bc.ca/cas/mitigation/ggrta/offsets_reg.html.

The *Protocol for the Creation of Forest Carbon Offsets* is found at
<http://www.env.gov.bc.ca/cas/mitigation/fcop.html>.

The MFLNRO may review and improve this guide based on experience gained in applying this document, feedback received, and new information as it becomes available.

Comments, questions or suggestions for improvement of this guide should be sent to:

BC Ministry of Forests, Lands and Natural Resource Operations
PO Box 9513 Stn Prov Govt
Victoria, BC V8W 9C2
Email: Forests.CompetitivenessBranch@gov.bc.ca

2. Scope

Forest carbon projects help mitigate climate change by changing forest management practices within forest ecosystems to store more carbon or to avoid emissions. The atmospheric benefit resultant from the project must be additional to what would have occurred without the project to be considered an offset. Activity based forest carbon projects require substantive investment and improvement to the forest resource in order to create additional carbon sequestration (e.g. restoration projects where planting occurs on land impacted by fire or mountain pine beetle). The scope of this guide is activity based forest carbon projects.

Non-activity based projects do not require the same degree of investment and improvement to the forest resource (if any) in order to generate carbon (e.g. conservation projects, reduced harvest projects). Non-activity based projects require a different process than activity-based projects and, therefore, are not covered by this guide.

3. Background

This new program leverages private sector investments to restore damaged public forest land in exchange for the carbon offsets the planted trees are able to generate. The goals of this program include reforestation of naturally disturbed (i.e. insect and wildfire damaged) crown forest that would not be reforested without the program as well as the overall addition of carbon to BC's forests.

The Forest Carbon Partnership Program (FCPP) relies on external investment that restores forests in exchange for the atmospheric benefits and associated carbon offsets. Growing forests sequester carbon, however, generating validated and verified forest carbon offsets is complex and expensive; the FCPP model achieves this through partnership. Forest carbon modelling, verification and project management are the responsibility of an aggregator working on contract; currently, FLNR is working with the Carbon Offset Aggregation Cooperative. The Ministry is responsible for ensuring work is completed on the forest land base. The investor, through contract with FLNR and/or FCPP, invests funds in return for validated and verified carbon offsets.

It enables forest ecosystem restoration over and above the capacity of the Ministry of Forests, Lands and Natural Resource Operations. In addition to reforestation, other activities like fertilization, improved forest management and salvage may also be undertaken.

The benefits of the program go beyond demonstrating climate action and replenishing the carbon stored in our forests.

- There is no taxpayer burden for reforestation funded via private sector involvement in replanting Crown forest damaged by forest fires and pine beetle infestations.
- The trees planted and land used for forest carbon projects remain public assets.
- Forest carbon projects create near term direct forestry jobs and support the working forest by providing medium to longer term job opportunities for the management and manufacture of climate friendly forest products from forest resources.⁸

⁸ A 1,000 hectare project in BC's interior has been forecast to create 13.6 FTE worker years in short term jobs (e.g. restoration, planting) and 393 FTE worker years in long term jobs (e.g. harvesting, milling). It would sequester over 160,000 tonnes of additional carbon.

The program was successfully launched at the end of May, 2013 with an initial pilot project with more work planned through 2018.

4. Land Use, Timing and Costs

In order to access and use crown land to undertake a forest carbon project, land use authorization is necessary to ensure the project proponent operates in accordance with the Ministry of Forests, Lands and Natural Resource Operations' requirements. The explanation and diagram below (figure x) describe the tenure and associated documents under the Land Act necessary to undertake forest carbon projects.

The overarching legislation for granting access and use of public forest land applicable to forest carbon projects is the *Forest Act* and *Land Act*. Currently, a Master Licence of Occupation (MLOO) under the Land Act is the primary tenure (i.e. permit) for activity based forest carbon projects. Other forms of tenure may be considered in the future. The Master Licence of Occupation provides the authority to occupy and complete the work on Crown land and specifies the total amount of area on which forest carbon projects will be carried out. The Master Licence of Occupation is signed by the aggregator representative and the Regional Executive Director applicable to the initial areas in which projects will occur. The Master Licence of Occupation may be used in multiple regions.

The MLOO allows individual areas to be added over a period of time specified in the licence. Each area added under the MLOO is referred to as an Annex. Each Annex must contain standards applicable to the work area such as stocking standards, latest planting completion date and must include a map. The District completes the Annex. The site plan, created by the aggregator and signed off on by a Registered Forest Professional (RPF), informs the standards in the Annex.

A Framework Agreement is attached to the Master Licence of Occupation for forest carbon projects. The Framework Agreement clarifies responsibilities of the Ministry and the aggregator regarding the unique characteristics required for successful forest carbon projects. The Framework Agreement is further described in section five.

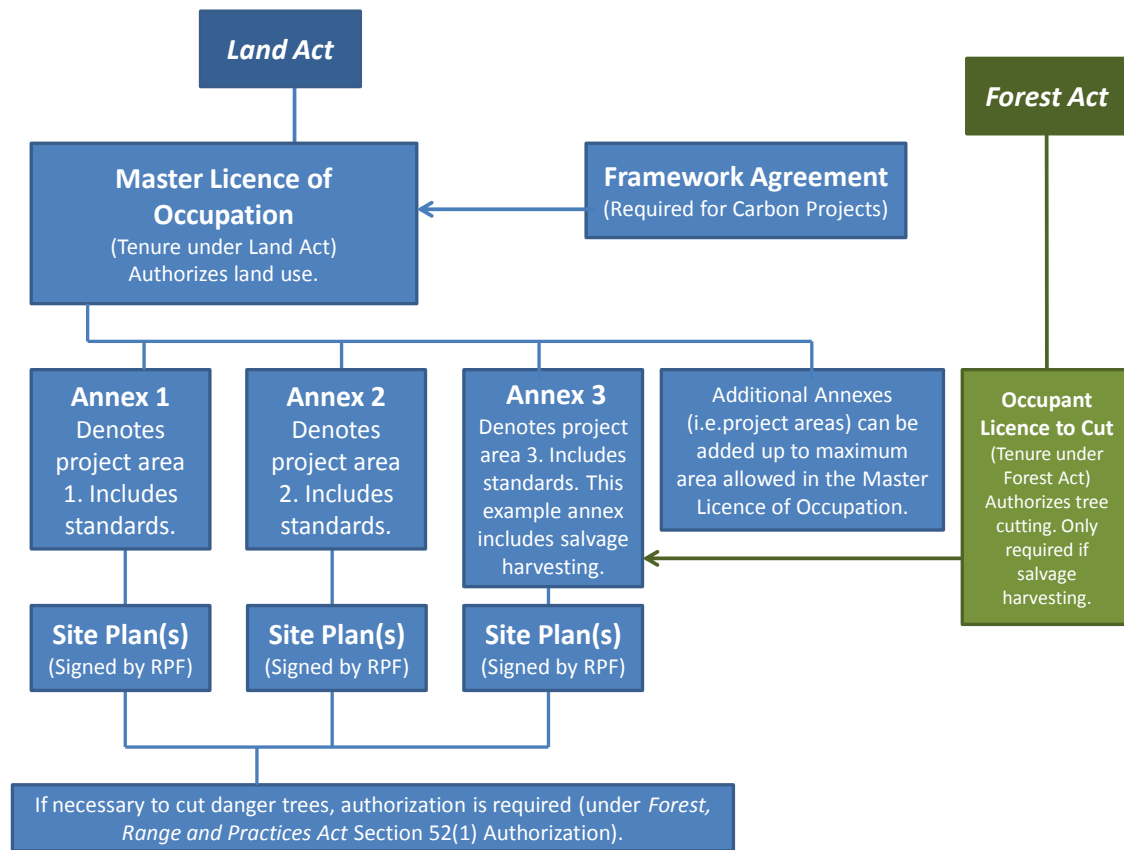


Figure x. Tenure Under Land Act to Access Land for Forest Carbon Projects

This figure depicts the various pieces in relation to one another that are required to establish a forest carbon project on crown land. The **Master Licence of Occupation (MLOO)** authorizes land use and is signed by the Ministry's Regional Executive Director from the region where the forest carbon project begins. It is uniquely created for a forest carbon project. The **Framework Agreement** is part of the obligations of the MLOO and is signed by the applicable Assistant Deputy Minister. An **Annex** is a site specific document of key standards described by the Site Plan and a detailed map of a project area. The project work must be carried out in accordance to the standards in the Annex. An annex is approved by the applicable District Manager. Annexes are added for each area of project work. The Site Plan is... If dangerous trees are required to be removed to make a site safe for work, an authorization under the Forest, Range and Practices Act is required. Some forest carbon projects may involve salvage harvesting (as in the example of "Annex 3"); this requires an Occupant Licence to Cut. An aggregator must have the various pieces described above in order to begin a forest carbon project on crown land. These pieces were developed and are currently in place for current aggregator COAC.

Currently, an aggregator is in place (the Carbon Offset Aggregation Cooperative). COAC has a Master Licence of Occupation and a Framework Agreement to carry out 1100 hectares of forest carbon restoration projects over the next 5 years. This is a pilot project to test and subsequently improve the process in the future; staff at the Competitiveness and Innovation Branch, therefore work closely with regional staff and the aggregator to establish projects. As of January 2014, the Forest Carbon Partnership Program had one pilot project underway with three Annex areas either approved or under development. Policies are under development that may affect new projects.

The agreement may be terminated by the Crown for non performance by the proponent of any obligation in the applicable agreement. Typical actions characterized as non performance include, but are not limited to, a proponent failing to carry out any of its obligations under a forest carbon agreement or becoming insolvent. Any dispute between the Parties with respect to the performance by either Party of their respective obligations will be resolved pursuant to a specified dispute resolution procedure described in the Framework Agreement.

Any new aggregator will need a MLoO or other approved form of tenure before carrying out a forest carbon project on Crown land. Current forest tenure holders as well as those without tenure who are interested in forest carbon projects can begin by contacting the Carbon Offset Aggregation Cooperative and/or the Competitiveness and Innovation Branch.

Operational Timing

Activity based forest carbon projects that include tree planting, have a long planning horizon that may be 2 years from the time potential areas are identified. This is mostly a result of the constraints around field work (generally possible from May to October) and the window for ordering (September), the time required to grow seedlings (9 months+) and finally the season suitable for planting the seedlings (usually May-June or late summer on some sites). Figure 2 shows the operational considerations and general timing for tree planting projects in BC. It is possible to shorten the time from planning to planting where surplus seedlings become available due to over production at the nursery or other circumstances. In these cases time from planning to planting could be as little as 6 months.

As shown in the timeline below, it could take approximately two years to establish seedlings in the ground on a forest carbon offset project area. This assumes the aggregator has already gotten the MLoO and identified areas. The timeline identifies major milestones for investors, the aggregator and FLNR necessary to establish an activity based forest carbon project on crown land.

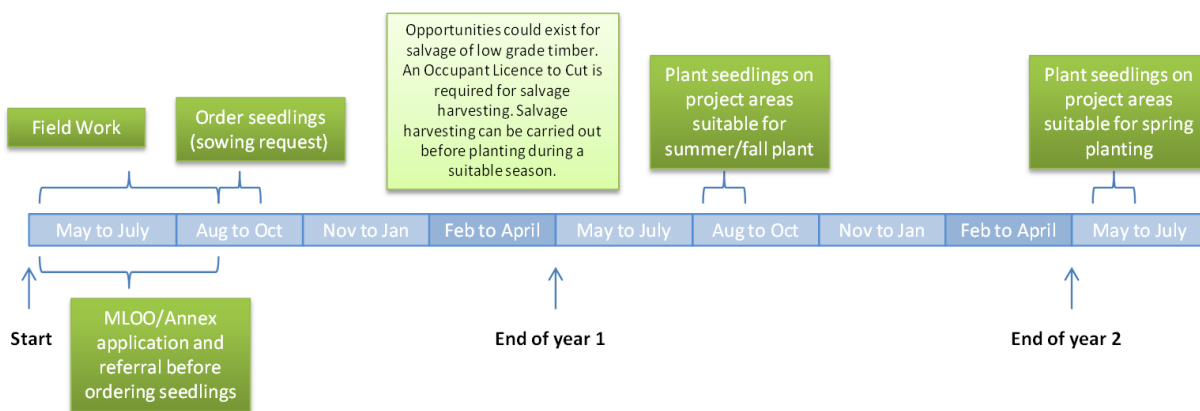
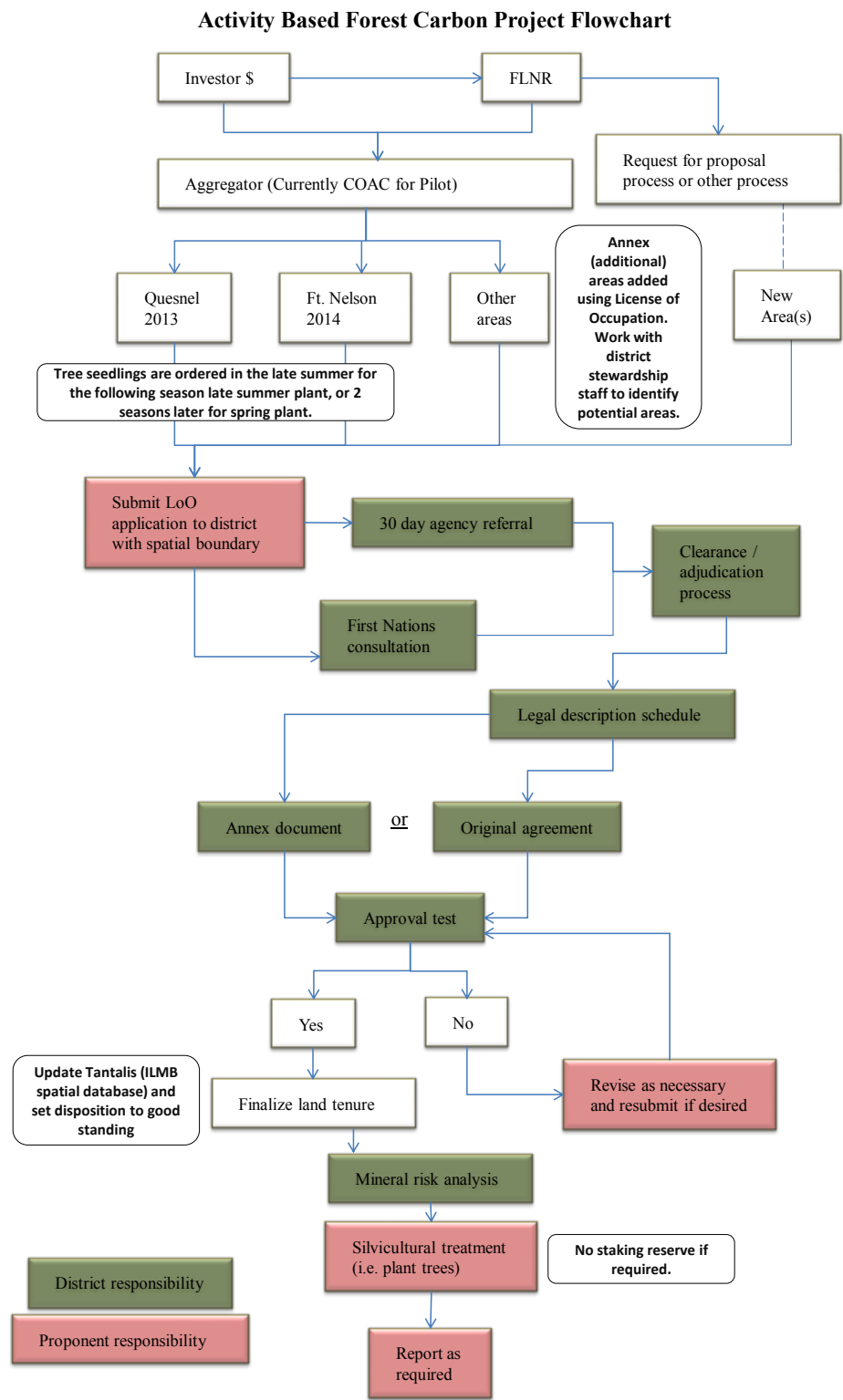


Figure x. Operational considerations and general timing for activity based tree planting forest carbon projects in B.C.

The flowchart below outlines the major milestones for completing an activity based forest carbon project.



Costs

The aggregator is responsible for all costs associated with the project including planning, seedlings, planting, maintenance of the trees, all surveys, monitoring, carbon project validation and verification of the tonnes. Additionally, the aggregator is responsible for any fees associated with the application or renewal of the tenure. Currently, the fee for application is \$250 and renewal or addition of new Annex areas under the MLoO is \$200. Fees are set out under the *Crown Land Fees Regulation*.⁹

Currently, no land rent is collected. In lieu of annual or other fees payable to use and occupy the land, the aggregator must, at their expense, reforest the land and maintain the trees planted to the standards described in the Annex document attached to their MLoO. Land rent for future projects may or may not be payable and is subject to policy development and approval by government for new projects under the Forest Carbon Partnership Program.

5. The Framework Agreement

What the framework agreement does, relationship to FCOP (reversals, permanence, etc.). A Framework Agreement is necessary for carbon projects on Crown land and provides the opportunity to claim ownership of the emissions reductions created by the project as well as clarity around the responsibilities of the parties.

Offset Ownership

The Government of British Columbia (the “Province”) supports and encourages investment in greenhouse gas (GHG) emission reduction and removal projects in the province. The Province recognizes that when atmospheric GHGs are reduced as a result of activities that reduce emissions or increase amounts of GHGs removed from the atmosphere, the reductions may have a value if they are recognized by a particular regulatory scheme, or the voluntary marketplace, as offsets. GHG reduction or removal projects on Crown land will require processes which will enable proponents to demonstrate their entitlement to claim either offsets or ownership of reductions for a defined term.

The Province asserts that, subject to any clear disposition of its title to minerals in situ, soil or standing timber, carbon sequestered on, above, or below Crown land is the property of the Crown.

The Province also asserts that, subject to any clear agreement to the contrary, GHG reductions resulting from reductions in the emissions from Crown Land, or increased sequestration of carbon on Crown Land, are the property of the Crown.

⁹ Land Act; Ministry of Lands, Parks and Housing Act

In order to foster carbon sequestration projects on Crown land, the Province may at its discretion:

- In accordance with the Province's existing policies and procedures, use legally established instruments, to authorize a proponent to undertake a GHG reduction or removal project on Crown land.
- Depending on the instrument used to authorize an activity, the Province may include terms in the instrument which provide that the proponent may claim entitlement to any reductions that result from the activity during the term referred to in the instrument.

Reversals

For the purposes of the Protocol for the Creation of Forest Carbon Offsets in British Columbia (FCOP), the term reversal refers to significant disturbances that are not anticipated based on the normal incidence of reversals for the project area. Disturbances and harvesting that are anticipated to occur on a predictable basis for the project area are included within the modeling of the project and baseline. More information on quantification and reporting of reversals can be found in the Protocol for the Creation of Forest Carbon Offsets in British Columbia. The province of BC is not responsible or liable for natural reversals and other reversals out of its control.

6. Types of projects

Forest carbon projects are expected to be one or more mapsheet openings with one or more standards units in each opening. The silviculture activities (including surveys) carried out on the area to be reforested will be reported by the proponent and entered into RESULTS (Reporting Silviculture Updates and Land status Tracking System) and other applicable government systems. Proponents will be responsible for input of spatial files for project area(s), planning and reporting activities.

The Forest Tenure Administration (FTA) system updates the [Integrated Land and Resource Registry](#) (ILRR) to ensure the project is recorded spatially and tracked over time. Some project types may be recorded under the [TANTILIS](#) (Crown Registry and Geographic Base) system. Forest carbon projects are more likely to enter under the FTA system. TANTILIS and FTA are similar purpose systems and will result in the same updates to the ILRR.

Forest carbon projects may improve timber supply, restore damaged or under productive forest land and create near term silviculture employment. For projects that result in increased future timber supply, restore Crown forest lands and create employment, the Crown may waive all or a portion of its right to the offsets created by the project. For projects that result in reduced future timber supply the Crown retains the right to a share/portion of any carbon offset credits created by the project in order to balance the costs of the foregone economic opportunity(s) associated with the project area(s).

In the case of conservation type or reduced harvest carbon offsets projects proposed by First Nations, these may occur on Crown land where the Crown and First Nation has signed an agreement such as a Reconciliation Agreement. Such arrangements may include an agreement on ownership of the reductions (offsets) under section 46 of the *Financial Administration Act* or future legislation.

The four types of forest carbon projects described in FCOP are afforestation, reforestation, improved forest management and conservation/avoided deforestation. Previously forested lands are appropriate for these projects. Lands not previously forested will not be converted to forest land. The intent is to avoid afforestation on areas with natural grasslands, alpine meadows or other special features.

- Afforestation means the direct human-induced conversion of land that has not been Forest Land for at least 20 years prior to project commencement to Forest Land through planting, seeding and/or human-induced promotion of natural seed sources. Afforestation projects on Crown land must meet land use objectives for the project lands.
- Reforestation means the re-establishment of trees on land through planting, seeding and/or human-induced promotion of natural seed sources. Reforestation projects are applicable to land that has reduced tree cover as a result of natural disturbance or harvesting and has no legal requirements to reforest the project lands.
- Improved Forest Management means a system of practices for stewardship and use of forest land which reduces GHG emissions and/or increases GHG sinks / carbon pools. Improved forest management projects on Crown land may or may not impact the rate of harvest as compared to the rate of harvest without the project. For example, an IFM project could delay harvest as part of an overall forest management strategy. Other forest management approaches on the project area could increase growth rates to maintain the sustainable rate of harvest. Reduced harvest projects are a type of IFM project. IFM projects that have a negative impact on the sustainable rate of harvest may not meet the approval test by the delegated decision maker (DDM).
- Conservation/Avoided Deforestation means preventing the direct human-induced conversion of forest land to a non-forest land use. Logging as part of forest management is not included as a potential conservation/deforestation activity that may be avoided under this definition. Conservation/avoided deforestation projects on Crown land will require approval at a level applicable to the land use change proposed.

7. Applicable Standards and Legislation

7.1 Relevant Laws and Regulations

Forest offset projects on Crown land must comply with all laws that are applicable to the project area and activity. Some of the relevant legislation is listed below. The list below includes any applicable regulations under the various Acts. The list is not exhaustive. Please see the [Protocol for the Creation of Forest Carbon Offsets \(FCOP\)](http://www.for.gov.bc.ca/tasb/legsregs/) and <http://www.for.gov.bc.ca/tasb/legsregs/> for more information on applicable laws and regulations.

Forest and Range Practices Act (FRPA);
Private Managed Forest Land Act;

Federal Fisheries Act;
Wildlife Act;
Wildfire Act;
Integrated Pest Management Act;
Environmental Management Act;
Heritage Conservation Act;
Transport of Dangerous Goods Act;
Waste Management Act;
Workers Compensation Act;
Water Act;
Drinking Water Protection Act;
Chief Forester's Standards for Seed Use;
Foresters Act;
Fisheries Act (Federal);
Migratory Birds Convention Act (Federal);
Navigable Waters Protection Act (Federal);
and Species at Risk Act (Federal).

7.2 Standards

Forest carbon projects occur within the province's established sustainable forest management framework and are subject to the numerous acts, regulations, standards and policies applicable to the type of tenure that governs the activity.

Forest carbon projects must follow the *Forest and Range Practices Act* FRPA and other sections that are applicable through the licence and contract issued for the project. For example the Chief Forester's Standards for Seed Use are applicable to forest carbon projects that involve tree planting. The Chief Forester's Standards for Seed Use prohibit the use of genetically modified trees, limits the use of species collected outside of BC and establishes criteria for the registration of seedlots and vegetative lots.

Overall decisions on land use are made through land use planning processes, such as Land and Resource Management Plans (LRMP). These are developed with public input and approved by the provincial government. Forestry management units are often tied directly to these higher level plans. In addition, the province is beginning to address cumulative effects of various land uses on the land base. The Province has recently embarked on the development of a Cumulative Effects Assessment and Management Framework. Cumulative effects are changes to environmental, social, and economic values caused by the combined effect of present, past, and reasonably foreseeable future actions or events on the land base. Cumulative effects assessment addresses the often negative unintended consequences resultant from an increasing number and type of activities and Inconsistent approaches to assessing and managing values across sectors.

The forest sector has identified a need to objectively assess the social, economic and environmental effects of decisions relative to proposals for non-timber uses of forested land. A pilot project is currently underway to develop meaningful and quantifiable indicators, and a rigorous and standardized process to assess, evaluate, quantify, and track spatial and temporal

effects across multiple scales. The information from this pilot may be useful and provide valuable information to the cumulative effects initiative. At this time, forest carbon projects are not subject to cumulative effects assessment. However, as more information is developed and this initiative is more fully established across the province, the context of forest carbon projects will be adapted as relevant.

In general, restoration projects will enhance sites disturbed by wildfire, mountain pine beetle and other natural disturbance through the re-establishment of a forested landscape. Returning these sites to a forested landscape will improve or promote biodiversity, minimize negative impacts to streams and wetlands, and contribute to other environmental co-benefits such as wildlife habitat. Over the duration of a carbon funded restoration project the sites will return to a mature forest providing other opportunities and benefits.

Ministry of Forests, Lands and Natural Resource staff may reject or approve any project or portion of a project with or without conditions. Conditions may be added to the licence or any agreement applicable to the project. It is recommended that project proponents work closely with the government staff, First Nations and stakeholders during plan development to ensure social and environmental goals are met.

The adherence to the high environmental standards for forestry in BC will help ensure that environmental co-benefits for forest carbon offset projects are consistently achieved in addition to real GHG emissions reductions benefits.

Agreements may be terminated by the Crown for non performance by the proponent of any obligation in the applicable agreement. Typical actions characterized as non performance include (not limited to) a proponent failing to carry out any of their obligations under a forest carbon agreement or for becoming insolvent. Any dispute between the Parties with respect to the performance by either Party of their respective obligations will be resolved pursuant to a specified dispute resolution procedure described in the carbon project agreement.

7.3 Tree Seed Legislation and Standards

Seed used for reforestation is regulated under the *Forest and Range Practices Act* (FRPA) and its regulations and standards. "Seed" is defined under FRPA as any part of a forest tree represented, sold or used to grow a plant.

The Chief Forester establishes those standards that he deems necessary to regulate the registration, storage, selection, transfer and use of tree seed. Persons who plant trees in establishing a free growing stand must use seed in accordance with these standards, unless the chief forester or his delegate approves an alternative. An alternative must be consistent with the intent of the standards.

The FRPA regulations also require persons to keep records and a planting map which identify the seed and where it has been planted. Reporting requirements are described in other sections of these regulations. Further information about tree seed legislation and standards is found at <http://www.for.gov.bc.ca/hti/publications/misc/legs&standards.htm>.

Chief Forester's Standards for Seed Use

The [Chief Forester's Standards for Seed Use](#) describes the requirements for using tree seed when reforesting Crown land in British Columbia. The standards are part of FRPA's legal framework. As such they have the weight and force of law. The standards have therefore been written in a manner consistent with other regulations and to provide for consistency in their interpretation and application.

These standards came into effect on April 1, 2005. They represent an updated consolidation of the regulations, guidebooks and ministry policies that were in place under the Code. Registration and storage requirements have been clarified, and increased operational flexibility for seed selection and transfer has been added. The Chief Forester makes amendments to the standards as needed to allow more flexibility for species selection to allow strategies designed to increase the resiliency and/or growth rates of restored areas.

The standards maintain the identity, adaptability, diversity and productivity of the provinces tree gene resources. These standards ensure that seed can be tracked from its source to its planting site and that it is adapted to the environment in which it is planted. Seed must meet specific collection, genetic diversity and physical quality requirements to be eligible for registration. Seed that has been genetically modified cannot be registered.

Tree species other than those listed in the standards for a forest carbon project area may be suitable and desirable to increase resilience of the future forest. Additional tree species can be planted within the constraints and requirements of the Chief Forester's Standards for Seed Use. Where a forest carbon proponent would like to use an unlisted tree species, they may do so only in accordance with the constraints and requirements of the standards. Further information on the standards may be found at <http://www.for.gov.bc.ca/code/cfstandards/>.

7.4 Stocking Standards

[Provincial Default Stocking Standards](#) contain minimum acceptable thresholds for density and a list of the tree species choices that are considered reliable and ecologically suitable for establishment. The provincial default stocking standards are a minimum standard expected for forest carbon projects. Higher planting densities (additional trees per hectare) are generally acceptable (subject to habitat and other objectives for the project area). Projects should also be consistent with Forest Stewardship Plan (FSP) stocking standards applicable to the area where these differ from the provincial default.

Projects must be consistent with the stocking standards in higher level plans (e.g. LRMP or LU) where the plan contains specific stocking standards for a given zone or area (e.g. Critical Deer Habitat management objectives for specific zones in the Kamloops LRMP http://ilmbwww.gov.bc.ca/lup/lrmp/southern/kamloops/plan/resource_mgmt_zones.pdf).

Naturally regenerated seedlings can and often do contribute to the overall stocking of a planted area. Natural regeneration can contribute to both genetic and species diversity and reduce the risk of regenerated forest stand failure due to natural disturbances. Proponents may encourage natural regeneration through site preparation and other silvicultural treatments. Density control may be necessary where high density would result in failure to meet carbon, timber and/or other objectives for the site.

7.5 Road Access Standards

For roads currently under road permit or licence (3rd party), access to forest carbon project areas for surveys or silviculture treatments will be maintained by the permit or licence holder. The forest carbon project proponent will need a road use agreement with the permit or licence holder. The proponent is responsible for all aspects of access required over the life of the project.

For roads not under road permit or licence needed to access forest carbon project areas for surveys or silviculture treatments the project proponent may use the roads for light truck, ATV or other similar low impact transportation. Where heavy equipment transfers and/or trucks are required for treatments the project proponent will need to acquire a road use permit or licence. Any work carried out to modify a road must be carried out under a valid permit and according to applicable road standards set out in the area's plan and prescription.

The local district should be consulted prior to use to obtain the latest conditions, radio frequencies and protocols for radio use on roads. As a general guide the following principles apply to the use of forest roads:

1. Inspect roads prior to use
2. Address any issues prior to use
3. Maintain high standards for safety
4. Maintain while using
5. Deactivate after use
6. Document all inspections

In all cases the inspection must be carried out by a knowledgeable and qualified person. Any work carried out to modify a road must be carried out under a valid permit and according to standards applicable to the plan and prescription.

Where the roads need to be upgraded the project proponent must develop a plan and prescription and an agreement for the work to be carried out. The plan must be approved by the DDM.

The plan should include a description of access planning; road construction or restoration, maintenance plans, deactivation prescriptions, road inspections and safety.

7.6 Specific Circumstances Standards

Lodgepole pine reforestation – When planting a majority (>50%) of lodge pole pine, the planting must be done to a higher density. For more information on planting lodge pole pine refer to the [Forests For Tomorrow \(FFT\) Stocking Standards and Policy](#).

Use of White Pine - White pine blister rust resistant western white pine should be considered as part of the tree planting species mix where feasible and ecologically appropriate to do so. For more information on planting western white pine refer to [Forests For Tomorrow Western White Pine Guidance](#) document.

- Assisted Migration - Where assisted migration of species is implemented it should consider:
 - The existing species diversity within each current BEC zone and subzone
 - Climate change information that could influence species vulnerabilities
 - Current and future stand resilience to biotic and abiotic influences
 - Species growth requirements individually and in mixtures
 - Appropriate density ranges and variability
 - Maintenance of natural diversity at the landscape level
 - Site and stand objectives (i.e. timber, water, wildlife, etc)
 - Timber supply implications

For more information on Assisted Migration refer to [FFT Assisted Migration Guidance](#).

7.7 Additional Standards

Standards for carbon projects are similar to other silviculture projects carried out with discretionary funding. There is no legal obligation to reforest for projects carried out with discretionary funding. For more information on reforestation obligations visit <http://www.for.gov.bc.ca/hcp/fia/landbase/fft/index.htm>.

8. First Nations

The Ministry and the Carbon Offset Aggregation Co-operative encourage forest carbon projects with First Nations as leaders, partners or participants.

The Strategic Initiatives Division of the Ministry of Aboriginal Relations and Reconciliation has developed a common set of procedures for consulting with First Nations for all natural resource agencies to use. These new procedures and associated guidance documents help steer the Land Base Investment (LBI) First Nations information sharing and consultation process. This information can be found at http://www.gov.bc.ca/arr/reports/down/updated_procedures.pdf.

Forest carbon proponents are expected to follow an approach similar to the process for the LBI program. Proponents are expected to contact district staff early in the information sharing process. In addition to the LBI information sharing matrix, district staff will provide guidance on the suggested level of information sharing and other relevant information. If a signed agreement such as a Forestry Consultation and Revenue Sharing Agreement is in place with specific expectations for information sharing, that process supersedes these information sharing guidelines. Additional information is provided in the [Land Base Investment First Nations Information Sharing Guidelines](#) and should be followed where applicable.

9. Climate Change Adaptation

Climate Change adaptation is apriority for the province. British Columbia's overarching Climate Change Adaptation Strategy envisions that "British Columbia is prepared for and resilient to the impacts of climate change." Forests and agents that affect forest health are sensitive to changes in climate; therefore, FLNRO is taking action to increase the resilience of

BC's forests. In February 2012, FLNRO released [BC's Forest Stewardship Action Plan for Climate Change Adaptation](#). The Plan outlines goals, objectives and actions the Ministry will take over the next five years to adapt forest stewardship to a changing climate.

The planning, implementation and monitoring of forest carbon projects must account for climate change and take action that fosters resilient forests. Projected climate change and its effects vary throughout the province. Therefore, actions to foster climate change resilience within forest carbon projects will vary depending on the area in which a forest carbon project takes place and the type of project envisioned. Planning, implementation and monitoring of forest carbon project areas are all equally important in assessing whether the plans and activities chosen to foster resilience to climate change are working and whether or not changes must be made to meet the goal of creating climate resilient forests.

Under current legislation, Forest Planning and Practices Regulation, Section 26, Forest Stewardship Plans must now address both immediate and long term forest health issues when selecting desirable species suited to the site. In general, this may be best addressed with a diversity of species because other species are available if one becomes susceptible and this creates the opportunity to provide range of products.

It is expected that practitioners use the best science available (especially climate change and species suitability), develop and adapt stocking standards at scales ranging from cutblocks through to watershed or landscape unit or to a management unit and consider diversity at multiple scales. New information on facilitated migration, vulnerability and seed transfer can be used as it becomes available

Additional science-based factors practitioners may consider include:

- Existing species diversity by BEC unit in managed and unmanaged stands
- Climate change info that could influence species vulnerabilities
- Life cycle of forest health agents and their ability to affect young stands now and into the future
- Insect and disease hazard and risk rating systems by BEC unit
- Species that complement each other, e.g. Coastal Douglas-fir and Western red cedar
- Appropriate density ranges and variability
- Maintenance of natural diversity at forest level
- Objectives for a site including but not limited to timber, water and wildlife values
- Important local factors
- Site objectives (e.g. timber, water, wildlife values)
- Other locally important factors

The Ministry website, [Adaptation Knowledge and Tools for Adapting BC's Forest Management](#) provides knowledge, tools, policy and guidance for creating climate resilient forests. The site is regularly updated with new information.

Appendix E: Key Dates for LBIS FFT

Key Dates	
01-Jun	Canvass FLNR executive on goals, objectives and strategic priorities (including scope)
01-Jun	Conduct on-line query of stakeholders about this fiscal LBIS and suggestions for change or alteration next fiscal LBIS
Mid-May to late June	Manual brushing completed
Mid June	Spring planting completed
Week July 1	Meet with Regional Resource Managers to begin regional and district engagement process where applicable
July 1-Aug 31	Investment category leads begin development of draft outputs and targets for the next three years
31-Jul	Submit a completed survey package to the Regional FFT staff for interim field audit
Mid-Aug to late Sept	Chemical brushing treatments completed
Sept 18-19	Current Reforestation/LBI Fall workshop - location TBD
15-Sep	Submit sowing request to Nursery Services for summer planting program
26-Sep	Provide draft activity outputs and targets for next fiscal to RPB
30-Sep	(i) call for quarterly report; (ii) summer planting completed
Oct 1-31	Seek Regional, District, First Nations, and stakeholder input into draft next fiscal LBIS
15-Oct	Submit sowing request to Nursery Services for spring planting program
01-Nov	Submit draft next fiscal LBIS to FLNR executive for consideration in next fiscal service plan and budget discussions
30-Nov	All completed planting activities are reported into RESULTS by Nov 30th
06-Dec	Submit first draft of the next fiscal year's management unit budget to the Regional FFT staff
15-Dec	Run reports on planned activities for current and next fiscal and ensure alignment with completed activities; AOP and five year plan; make changes as required
Dec-Jan	Provide Districts and Regions with a summary of planned outputs and targets for the next fiscal year
Jan	Update Regions and stakeholders on focus and draft budget of the next fiscal LBIS