

**Arrow Timber Supply Area
And
Tree Farm Licence #3 and #23
Old Growth Management Areas Report**

July, 2007

Prepared by:
Stewart Clow
Planning Forester
Client Services Division
Integrated Land Management Bureau
Ministry of Agriculture and Lands

Introduction and Methodology

Landscape unit targets for old seral forest are proposed in the Forest Practices Code *Biodiversity Guidebook* (Province of British Columbia 1995). The Arrow Forest District began a process of identifying old growth patches in early 1998. At that time we were mapping old, mature and early seral with a goal of identifying where larger early seral patches would be created, mainly through logging and where similar large mature and old patches would be retained for biodiversity values at a landscape level. The process involved identifying potential patches through the use of forest inventory mapping. The main focus was on finding suitable old growth recruitment areas as most analysis at the time showed that for a majority of BEC there was a deficit of old to meet the targets of the BGB.

The initial delineation and ranking of patches was done by a variety of consultants and forestry personnel in government and industry. Various formats for reports and a variety of procedures were used. This inconsistent approach worked fine to address the wide variety of opportunities available. The subsequent amendments were completed by MSRM and later ILMB staff. General patch positions have not changed much since 2004. Changes are now being tracked by the people doing the change to ensure they are in compliance with the HLPO.

Office procedures delineated large and medium sized patches in rather large “blobs” centered on inventory aged old growth. Aerial overview flights were conducted to assess and rank these patches by landscape unit. It is important to note that a high ranked old patch in Bear where there is no old, is not comparable to a high ranked patch in Kuskanax where there are miles of great old growth. Once flights and comparative rankings were complete an office procedure selected the highest ranking patches to meet full biodiversity targets and biodiversity values in the Landscape Unit Planning Guide, including interior conditions.

After some period of time a decision was made to not map any more mature targets, then to eliminate the requirement for interior conditions. Later processes dropped the requirement for mapping old to one third of target for Low Biodiversity Emphasis variants. Close scrutiny of timber supply people caused a further reduction in patch size to the absolute minimum targets to the point where much of the information collected on large patches became meaningless. The value of a large variable patch cannot usually be compared to a disjunct group of much smaller pieces separated by other elements.

The remaining patches were then digitized and through a process of meetings with forest tenure holders and analysis made into a product designed to meet the minimum requirements of the Higher Level Plan, licensees used the patches and an informal

process was implemented to identify areas and methods for amending the patches in the field and on the data base.

The old growth targets are as percentage of Crown Forest Land Base (CFLB) for each landscape unit. The area of CFLB and targets has changed up and down since their inception. The most recent inventory increased the CFLB by over 100,000 ha, with a corresponding increase in targets. Further detailed analysis and review has reduced this CFLB area by about 86,000 ha.

A Word of Caution:

The numbers for CFLB and old growth targets have changed many times during this process. The new inventory has been closely reviewed and there remain two main problems;

1. There is a problem with the inventory data. Fields such as site index, age class and other information have been shown to be suspect in some cases.
2. The algorithm used to define CFLB uses the above information to determine CFLB and targets. It also has some flaws but gives a reasonable CFLB and old growth target given current direction.

While these problems are known and should be fixed, the urgency to complete OGMAs and the lack of priority for agencies not using this data for old growth calculations, they remain on the “to do” list.

The base forest inventory was not developed to determine old growth. The former inventory was not either. It is a fairly accurate picture of the TSA wood volume. The old patches we have are based on a lot of field work, over flights, and field knowledge. They were mapped at a scale of 1:50,000 and should be used that way. The patches should not be used at 1:5,000 or such scales as they are not mapped to that level of detail. At an operational level the forest types should dictate where the patch boundaries actually are. They do not always correspond to patches that would be developed without field knowledge. For this reason the reports (Higher Level Plan Order Monitoring Reports and others based on VRI or other data sets) give a misleading interpretation of what is in the forest and what is in the patches. They are a good guide but certainly are not an accurate reflection of the old growth surplus and deficit that exist in the field.

First Nations Consultation

There has been no consultation specifically on this project. It has been deemed low risk as there are no activities planned that would alter these areas from this process.

Landscape Unit General Information

The following is a Landscape Unit by Landscape Unit statement of current status and reliability of the present old patches. As the data is modified and “cleaned up” over time some of the issues will be minimized. ILMB has no intention of doing any further work on the data or on the line-work of the existing patches.

N501 Sheep LU

There is very little to no old growth in this LU. Recruitment is required in all BEC variants. The mapped Old Seral Patches (OSPs) have a surplus of ICHmw2. This is due to a change in BEC since the original patches were developed. As ICHmw2 is Low BEO so the surplus mapped should be used as a portion of the 2/3 top up. The remainder of the BEC should be left as they are. The current data set does not seem to take into account the large areas of private land in the Sheep Creek valley bottom.

N502 Rossland LU

There is very little to no old growth in this LU. Recruitment is required in all BEC variants. There is a surplus shown in ESSFwc4. This entire surplus is in the inoperable. The entire LU is in Low BEO. The existing patches should be left as they are.

N503 Bear LU

There is very little to no old growth in this LU. Recruitment is required in all BEC variants. Some of the existing patches have been logged. This is due to a problem with existing Cat A blocks on the former FDP. Replacement patches will need to be identified in conjunction with the licensee. Several riparian reserves in the close proximity will replace this area. The reserves are typed as age class 8 but are most likely age class 6 due to fire history in the area. There is a data problem with private land in the vicinity of lower Hudu Creek. There is a data problem with coding of the power right of way in Hudu Creek to Bombi Summit. It appears that there is a problem with timber type identification especially with regard to identifying the age class 8 in this LU. These data issues will result in inaccurate information in the tables.

N504 Pend d' Oreille LU

There is very little to no old growth in this LU. Recruitment is required in all BEC variants. The age classes indicated on the forest inventory are generally incorrect. Field work (cruising) has generally found these stands to be age class 6. An ongoing forest health issue with fir beetle and mountain pine beetle and previous logging has led to a point where most of the BEC are close to threshold where they would be in non compliance with the HLPO. BCTS and Atco are currently harvesting insect damaged stands. Current patches are close to targets and should be reassessed once the issue is under control. There is a data problem with coding of the power right of way in Limpid

and McCormack Creek. These data issues will result in inaccurate information in the tables.

N505 Stagleap LU

This LU is in caribou habitat. A large percentage of the LU in lower elevation was harvested and or burned about the early 1900's. The age class distribution is therefore largely skewed to old growth at higher elevation then younger age class 5 forests at lower elevations. Stagleap LU is High BEO and the ICHdw has mature requirements. This effectively "locks up" all age class 6 and older and a good share of the age class 5. ICHdw does not have old patches mapped. There is no danger of harvesting below the current recruitment levels for many years. This LU should be re-examined once the caribou recommendations are complete and logging plans begin to be developed in the area.

The ICHmw2 shows a large surplus. This "surplus" was created with the shift of a large area of non forested land to CFLB during the last inventory. This surplus is generally located along the South Salmo River North Slope. It is generally aspen forests and ungulate winter range. The patches should be left as they are in ICHmw2.

The high elevation sites are generally habitat for caribou. They may need to be reassessed after the caribou guidelines come out in 2007.

N506 Erie LU

There is very little to no old growth in this LU. Recruitment is required in all BEC variants. The current patches are in surplus for the following reasons. A large piece of ungulate winter range above lower Erie Creek was reserved as part of a larger planning process leading to the surplus in ICHmw2 and ICHdw. The patch is generally inaccessible and was designated a patch as it is confined by private land and inoperable. This LU has been logged throughout for the past 100 years. Most stands have had some disturbance and some older stands have had the better old attributes removed. There is a small deficit in ESSF that can be amended while identifying the 2/3 target for this Low BEO LU. Present patches should be left as they are.

N507 Glade LU

There is very little to no old growth in this LU. Recruitment is required in all BEC variants. The age class 8 is generally age class 6 based on cruise information (not in forest inventory). This Low BEO LU has a surplus identified due to very low targets and the inclusion of fairly large areas of inoperable. There is a data problem with coding of the power right of way in Golf course to Bombi Summit. It appears that there is a problem with timber type identification especially with regard to identifying the age class 8 in this LU. These data issues will result in inaccurate information in the tables. Present patches should be left as they are.

N508 Blueberry LU

This LU has been heavily logged to address mountain pine beetle for the past 20 years. Ongoing beetle activity will require further logging to salvage beetle. Parts of the LU have been selectively logged to leave behind small amounts of other species and Larch vets. These blocks are identified as logged, age class 0 when they do have some attributes. During the 2005 inventory update large areas of this LU were changed from non forested to forested. This increase in CFLB increased the targets as well, especially in the lower elevation ICHdw and ICHmw2. The change has also led to a “paper increase” in the area of old growth (mostly younger age classes with few old attributes) as previously non forested is now classified as CFLB and appears to indicate a surplus of old is mapped. The patches can be left as they are or processed to remove the former non forested.

Blueberry ICHdw is to be managed for mature. The apparent deficit in old can be made up in the mature non spatial calculation until such time as the remaining data problems are resolved.

N509 Dog LU

There is very little to no old growth in this LU. Recruitment is required in all BEC variants. This LU has been heavily logged to address mountain pine beetle for the past 20 years. Ongoing beetle activity will require further logging to salvage beetle. Parts of the LU have been selectively logged to leave behind small amounts of other species and Larch vets. These blocks are identified as logged, age class 0 when they do have some attributes.

The old patches in this LU are often somewhat elongated. This leads to digitizing issues and edge effect. It would be too tedious to try to re-digitize and correlate the work with the forest inventory. Examination of the Gladstone Park area indicates there are more older age classes available for old targets than is currently included in the patches. The digitizing differences would certainly make up the apparent deficit in old shown in the tables. Present patches should be left as they are.

N510 Johnson LU

These patches are all on TFL 23. There was no change to their inventory data so no changes to the patches are proposed.

N511 Cayuse LU

There is very little old growth in this Landscape Unit. There is a lot of age class 8 and more is mapped than is required to meet the targets, especially in the lower elevations. This is a shared landscape unit with Pope and Talbot and Kalesnikoff. Kalesnikoff have provided some alternative area for relocating old patches. The Ministry of Forests have issued an extension to an existing wood lot, much of which is in a mapped old patch. Kalesnikoff have provided maps of cutting permits they are applying for in the near future. Both will reduce the amount of mapped old patches. The woodlot extension has highlighted a problem with ownership in the LU that should be addressed before targets are calculated again. It indicates there is more crown land than recent data indicates.

Pope and Talbot and Kalesnikoff should decide how to allocate the old (and mature) by ownership or other method as further harvesting takes place.

N512 Ladybird LU

This LU is Low BEO. The tables indicate a mapped surplus in all BEC. The majority of the surpluses are in the inoperable of highly constrained parts of the landscape unit. Kalesnikoff has proposed some changes to the Slocan Valley side of this unit to reflect difficulties in operating in the steep terrain. As this is a shared landscape unit, other tenure holders should be consulted before finalizing any line changes. Present patches should be left as they are.

N513 Pedro LU

There is very little to no old growth in this LU. Recruitment is required in all BEC variants. There are surpluses of mapped recruitment patches shown in all BEC. There is an ongoing very heavy mountain pine beetle outbreak with salvage logging throughout this unit. There is a community forests proposal in final stages of issue. This LU may have to be examined once beetle and community forest issues are resolved.

Present patches should be left as they are.

N514 Perry Ridge LU

The old growth patches in this unit were mapped during a community planning process. The patches are currently in slight deficit according to the latest data. However, the current patches locate the majority of the older recruitment stands. Mature is also mapped for all BEC. It is only required to be mapped in the ICHdw. At this time the licensees, BCTS and Springer Creek are “respecting” the mapped old and mature.

Present patches should be left as they are.

N515 Lemon LU

There is a large data problem, especially with work done in the Park. There is one patch of many ha shown as CFLB that is barren rock, big slide chutes show as age class 8 old growth. Including these areas inflates the targets and also suggests unsuitable stands could contribute to the old requirements. Both are misleading.

Therefore while there is an 1100 ha surplus of area is shown to be mapped in ESSFwc4 and ESSFwc1, in fact it is relatively small. Approximately 120 ha are operable THLB. This LU has full old and mature requirements for retention. Any surplus old should be considered as part of the mature target.

There is an issue with mature retention and dealing with an ongoing mountain pine beetle salvage program. The present connectivity corridor should be examined and options for alternatives reviewed to address MPB, wood supply and connectivity. After this is done and the data corrected, the patches may require further examination. In the mean time, present patches should be left as they are.

N516 Hoder LU

This is a Low BEO LU, entirely within TFL # 3 and Valhalla Provincial Park. There have been data problems with old cut blocks showing up as non forested. This problem has been addressed and new tables produced.

N517 Koch LU

This is a Low BEO LU, entirely within TFL # 3. There have been data problems with old cut blocks showing up as non forested. This problem has been addressed and new tables produced.

N518 Gladstone LU

These patches are all on TFL 23. There was no change to their inventory data so no changes to the patches are proposed.

N519 Eagle LU

These patches have been reviewed with Tolko, formerly Riverside. While there are problems with the new inventory and VRI, it is mutually determined that leaving the current patches alone is in order.

N520 Barnes Whatshan LU

These patches are all on TFL 23. There was no change to their inventory data so no changes to the patches are proposed.

N521 Woden LU

These patches are mostly on TFL 23. There was no change to their inventory data so no changes to the patches are proposed. The TSA makes up a small portion of the LU.

N522 Caribou LU

There have been some very radical changes to the age class distribution of this Landscape Unit. This has resulted in some surpluses in area required to be included in old growth. The main licensee is Springer Creek. After some consultation they would like some time to evaluate the changes and adjust the old patches after some field review. A large section of this landscape unit is being considered for a community forest proposal for the village of Nakusp. Given the changes it is appropriate to re-examine the old patches and amend them as necessary after further field review.

N523 Hills LU

Approximately half of this unit is within the Valhalla Park. Although this area cannot be made into OGMA's there is substantial area to meet the targets in the short term and more for long term. Present allocation of old patches is done to have old growth throughout the LU rather than grouped in one section. ICHdw has no old growth. Targets are spatialized in ungulate winter range, high VQO and watershed. ICHwk has no old growth. It is spatialized on inoperable lands. There is little impact on timber supply due to these old patches.

N524 Idaho LU

The ESSFwc4 has considerably more old mapped than is required. Springer Creek Lumber is reviewing areas that may be available for harvest. The remainder of the Bec are within reasonable limits and should be left as they are.

N525 Wilson LU

This LU has very little options for harvest or old growth. The Upper area is within Caribou management and the Hamling Lake Wildlife Management Area. This Unit is High BEO and has Mature required. A variance was completed to remove some of the mature and place it in Kuskanax to allow harvest. The old patches in this LU should be left as they are until after the caribou group make their recommendations later in 2007.

N528 Kuskanax LU

This LU is almost all old growth. It has long been identified as “problem forest type”. Therefore it has a surplus of old growth. It is Caribou habitat and has had some mature transferred from Wilson LU. This LU should also be left until the 2007 caribou decision before re-examining the old patches.

N529 Halfway LU

These patches are all on TFL 23. There was no change to their inventory data so no changes to the patches are proposed.

N530 Trout Lake LU

These patches are all on TFL 23. There was no change to their inventory data so no changes to the patches are proposed. The TSA portion is minor in this LU.

N531 Fish LU

This Lu is capable of meeting the old growth targets in the inoperable. Both TFL 23 and the TSA have large amounts of old in the inoperable. There is an area (of yet to be determined size) in the upper Fish at the junction of Battle Brook and the fish river that is valley bottom. This is the last large patches of old growth cedar and hemlock in an intact forest in the Arrow District. Very high value habitats for lichens, mushrooms, orchids and other species have been identified in this area. Pope and Talbot have agreed to set aside a large portion of the area as old growth to allow time for government and others to study the values present. To date response for more research has been dismal with most of the research done by non government people and assorted students. In exchange for reserving this area other patches of accessible old growth were removed from designated patches.

There are known data problems with the former timber licences near McDougall Creek.

Appendix A – OGMA Target Tables by Landscape Unit

Please use the latest Biodiversity tables aka(Fretwell tables) they will change as amendments to files are made. Ensure you have the latest version

Appendix B – Arrow OGMA Map

This map is available at the following FTP site –
<ftp://nelftp.env.gov.bc.ca/pub/outgoing/ogma/maps>
The map file is labelled ogma_ar_061023.pdf

