AOA Model Project:
Year 3 Progress Summary

Forest Investment Project# : 4205011

Prepared for:

Tolko Industries Ltd.
Thompson Nicola Woodlands, Heffley Creek
6275 Yellowhead Hwy
Kamloops, BC
V2H 1T8

Project Contact: Michael Bragg, RPF,
Divisional Forester

Prepared by:
Dave Christie, MSc, RPF
Cascadia Natural Resource Consultants Inc.
108 – 1383 McGill Road
Kamloops, BC
V2C 6K7

March 31, 2005

Table of Contents

1.0 Introduction 3
2.0 TSA Area Description 5
3.0 Methods 6
3.1 Collation of Archaeological Assessment Results 6
3.2 Translation and Linking of Spatial Data 6
3.3 Spatial Summaries and Reporting of Field Survey Results 6
4.0 Results 7
4.1 Collation of Archaeological Assessment Results 7
4.2 Translation and Linking of Spatial Data 7
4.3 Spatial Summaries and Reporting of Field Survey Results 8
5.0 Recommendations for Continued Work 9

1.0 Introduction

Current provincial legislation requires the management of forests in a manner that balances the social and cultural needs of First Nations. Proposed forest development plan (FDP) activities such as roads and cutblocks must therefore be assessed to ensure both the protection of cultural heritage resources and that archaeological sites are managed for, protected and conserved. Archaeological Overview Assessment (AOA) models are key tools used to guide assessment work by predicting the potential to find archaeological sites.

An initial Archaeological Overview Assessment (AOA) model was created in 1995 by Archaeology Branch in Victoria for the Kamloops LRMP process (the "1995 Model"), which encompasses the Kamloops Timber Supply Area (KTSA). This model was created at a scale of 1:250,000 and was based primarily upon proximity to known archaeological sites. In 1998, Archaeology Branch improved the model by moving it to an operational scale of 1:20,000 (the "1998 Model"). These revisions were made for the following reasons:

1) to involve First Nations more directly in the assessment process and in conducting archaeological assessments;
2) to improve the precision with which the model predicts the occurrence of archaeological evidence in proposed FDP areas by incorporating traditional use and cultural information along with other environmental data;
3) to make the process more cost effective and efficient; and
4) to increase the operational accuracy of the model primarily by improving the scale of the input data from an overview scale of 1:250,000 to an operational planning scale of 1:20,000.

At the request of the Shuswap Nation Tribal Council (SNTC), the 1998 Model was further refined in 1999 (The "1999 Revised-Model") to include additional information that SNTC felt was relevant to First Nations' traditional use. The 1999 Revised-Model was a considerable improvement upon the 1995 Model as it was created using a significantly larger number of attributes at an improved scale.

A Kamloops Timber Supply Area (KTSA) AOA Subcommittee comprised of members from industry, Ministry of Forests and First Nations developed a process to implement the 1999 Revised-Model. The AOA committee has evolved into a Steering Committee to oversee, monitor and review the implementation of the 1999 Revised-Model which was initiated on May 16, 2002 with a letter to Industry from the Steering Committee. The effective date of the model was June 1, 2002 and was relevant for any field work not substantially completed by that date.

The 1999 Revised-Model was developed to increase opportunities for First Nations communities to participate in archaeological work within their traditional territories. The 1999 Revised-Model and process included specific on the ground archaeological information collected and incorporated into the model for tracking and updating. The model is made up of 5 "risk" or probability categories which classify the probability of finding archaeological evidence. Comparing field assessment results against the model data was intended to assist with testing the existing logic statements and help to reduce the number of risk categories from 5 to 3 for simplicity.

During the 2002\03 and the 2003\04 fiscal years, revisions were made to the model coverage and field survey forms and the new maps were distributed along with the model in ArcInfo and Microstation format. The Archaeological Assessment Database (AAD) was created to collate the archaeological assessment records and track the results of the archaeological surveys to facilitate future model testing. Two different types of assessments were reviewed; the first type of assessments was completed using the 1995 Model and the second type were completed using the 1999 Revised-Model assessment process and field forms designed by the AOA Steering Committee. The 1999 Revised-Model coverage was also updated with new archaeological sites and maps were updated with improved cartographic features. Existing field survey forms were revised based upon recommendations of both First Nations surveyors and the AOA Steering Committee. A digital data entry template was revised and completed to enter field survey results in the Archaeological Assessment Database. Translation and cleaning of spatial data to be linked to the AAD has been ongoing.

The 2004\05 project was scaled down significantly from previous years as no more changes to the database or forms were required and digital data entry was to be performed by field surveyors. Tasks to be completed included the collation of the field surveyed and spatial data to keep the database current. Spatial data, collected previously, was linked to the database. Draft overview maps were created showing results of field surveys. Preliminary spatial overlays of field survey results onto the AOA model coverage were performed. This process is awaiting completion of a related project funded by the Ministry of Forests (MoF) to further enhance the model revision process. This work will be completed in April, 2005.

2.0 TSA Area Description

The AOA model addresses all of the Kamloops Timber Supply Area (KTSA). The KTSA includes the Kamloops and the former Clearwater Forest Districts (Fig. 1). The North and South Thompson Rivers are the main drainages through the Kamloops TSA, which ranges in elevation from 400 to 3200 m.

The KTSA is within the traditional territories of the following First Nations that are participating in this process:

Adams Lake Indian Band
Bonaparte Indian Band
Kamloops Indian Band
Neskonlith Indian Band
North Thompson Indian Band
Skeetchestn Indian Band
Whispering Pines Indian Band

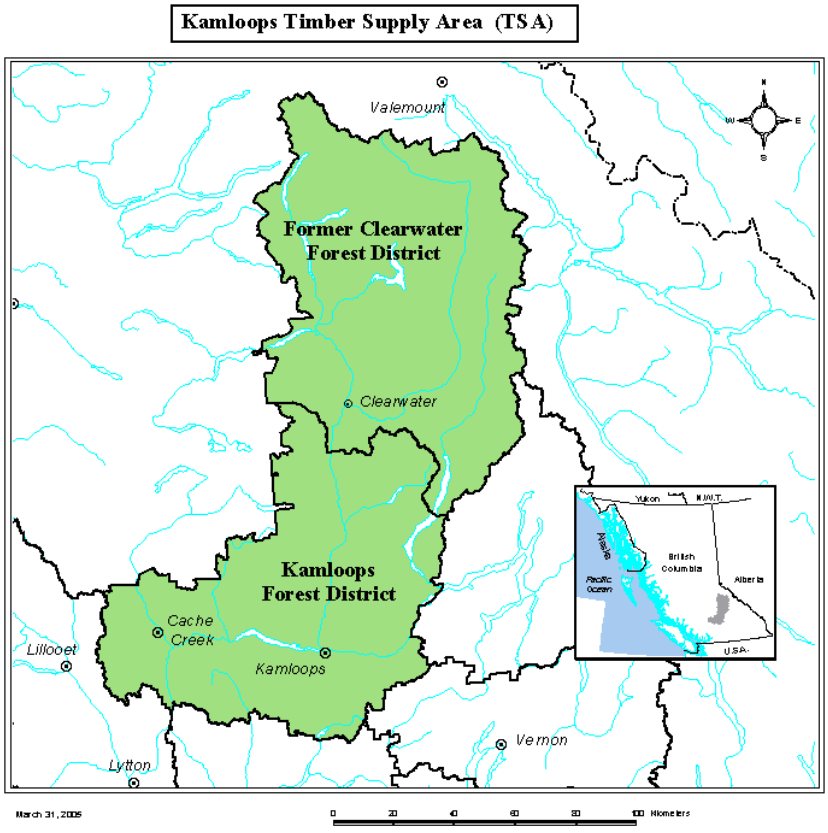

Fig. 1. Kamloops Timber Supply Area.

3.0 Methods

3.1 Collation of Archaeological Assessment Results

Results from new archaeological assessments (ORs, PFRs, CFSs, and AIAs) performed within the 2003\04 year were entered into the Archaeological Assessment Database (AAD) created in 2002\03. Again this year, not all surveyors used the new field data form and some data came in using the old procedures, which made data entry somewhat more complicated and time consuming.

3.2 Translation and Linking of Spatial Data

Translation and cleaning of spatial data, begun in previous years, was continued this year and linked to the AAD database. A consolidated FDP coverage was completed in 2004 and data linking was for entrees from the 2003\04 survey years and previous. Further work this year will be completed in conjunction with the Ministry of Forests (MoF) AOA funding and will also utilize the 2005 consolidated FDP.

3.3 Spatial Summaries and Reporting of Field Survey Results

Spatial overlays of field surveyed results onto the AOA model coverage were planned to summarize and report on work to date. Summaries from overlays would provide the areas of each model ranking type that have been surveyed. This would facilitate future analysis around the representative nature of the sampling as well as analyzing the effectiveness or accuracy of the model predictions and different ratings.

4.0 Results

4.1 Collation of Archaeological Assessment Results

The intention for this fiscal year was for the majority of field reports to be entered by the Licensees or their field surveyors. Unfortunately, the majority of reports were not entered at the Licensees end and this year's budget did not account for that increased cost. As many reports were entered as possible under the funding but many were left to either be completed under the MoF funding or to be entered next year.

The number of Archaeological survey results reviewed and entered is summarized in Table 1. For the most part, the proper field data forms were used facilitating more efficient data entry which was a vast improvement over previous years. Trips to Licensees offices were not required this year as the data forms could efficiently be mailed, emailed or faxed.

Table 1: Archaeological Assessment Records Collated as of March 31, 2005

OR	PFR	CFS	AIA	Field Sites	Arch Sites
113	86	2	16	5	0

OR: Office Review
PFR: Preliminary Field Reconnaissance
CFS: Comprehensive Field Survey
AIA: Archaeological Impact Assessment
Field Sites: Evidence Found or Suspected (PFR/CFS)
Arch Sites: Archaeological Sites Found

4.2 Translation and Linking of Spatial Data

Linking of spatial data to the AAD database was completed but a significant number of records in the database would not link. The expected reason for this is inconsistency between the naming of cutting permits and blocks used on the survey forms verse the naming used in FDP digital data. Sometimes the names had been changed over the time-span between the field surveys and the creation of the digital data. Also, the majority of unlinked records may be due to changes in Licensees in operating areas and the consequent changing in the Licensee code in the FDP data. This would not have been reflected in the original survey reports entered into the AAD database. Attempts will be made to correct as much of this data as possible under the MoF funding.

4.3 Spatial Summaries and Reporting of Field Survey Results

Initial spatial overlays were completed using the results of the AOA database linking. Further overlays will be completed in conjunction with the MoF AOA funding. Presentation of results will be performed when the additional work is completed and also enhanced with the new spatial data available from the 2005 consolidated FDP.

5.0 Recommendations for Continued Work

The Kamloops TSA 1999 Revised-Model is intended to be a dynamic model that will be re-calibrated as accumulating field assessment data is analyzed. Continual collation of field data is recommended over the course of the field season. Data can be entered weekly or monthly and should be completed either by the field crews themselves, if they possess the necessary technology and expertise, or by a centralized organization that could collect and input reports on an ongoing or periodic basis.

Further refinements of the 1999 Revised-Model can be achieved through the incorporation of improved data, both data that was requested during 2002\03 but was not yet available and also additional data sets identified in subsequent years. This should be an ongoing process to keep the model as accurate and current as possible. A revision of logic statements with the AOA Steering Committee should be completed to determine where edits to statements could also lead to improvements to the model. Future model edits and re-runs will be an efficient process now that model data and AMLs are documented and organized.

Linking of assessment results to spatial data will be an ongoing process. A consolidated FDP coverage will be completed for 2005 as well and linking new database records to that coverage should be completed to keep the database current. Once new spatial data is linked to the AAD, ongoing comparative analysis of the field assessment results versus model predictions should be completed periodically. This analysis should be overseen by a recognized statistician. Results of the analysis should be considered for any model logic statements revisions.