

Archaeological Overview Assessments as General Land Use Planning Tools - Provincial Standards and Guidelines

These standards represent a departure from the Provincial AOA standards developed in the 1990's. The new standards and guidelines have been reviewed by a committee of experienced AOA modellers and have been applied to four large projects. However, unanticipated problems are guaranteed and we need your feedback to refine this work. Please forward your comments and questions to ARCWEBFEEDBACK@gov.bc.ca

Introduction

The term archaeological overview assessment covers a broad spectrum of studies ranging from the review of small properties to determine the need for detailed archaeological studies to forest district wide mapping of archaeological potential to assist strategic and operational planning.

For the purposes of these standards and guidelines, an archaeological overview assessment (AOA) is a review of hundreds to many multiple thousands of hectares by professional archaeologists to provide information (including maps) of archaeological site potential and distribution in the study area. These AOA studies compile existing knowledge about recorded archaeological site locations, historical First Nations land use, and cultural and environmental constants and changes in the area likely to effect site location. This information is used to build a model of where archaeological sites are expected to be located. The resulting AOA maps divide the landscape into areas of potential to contain archaeological sites.

At one time, AOAs were principally applied to large-scale projects to aid the archaeologist, proponent and government in determining if and where archaeological inventory and impact assessment studies would be focused. Starting in the mid 1990s, the purpose of AOAs broadened to include their development as a stand-alone planning tool. While the AOA reports and maps were produced by an archaeologist, they were often used by forest professionals, First Nations or Provincial land managing agencies.

In the mid 2000s we find the potential clients for AOA products again increasing to include local government decision makers and the general public. Local governments are integrating AOA maps into their planning and development approval processes to enable development proponents to be notified of overlaps between proposed development and archaeologically sensitive areas. Further, there is some appetite to include AOA data within Official Community Plans to indicate to their constituents where there is archaeological potential that will affect their approach to development.

Changes to AOA deliverables

Whereas AOAs were once used to determine where archaeological inventories and impact assessments were required, now AOAs can be used to notify development or resource-extraction proponents of the need to engage archaeological expertise as part of a project planning team. The changing nature of the client group and use of the AOA studies requires a change in the AOA products. The resulting products must be easy to use and unambiguous.

AOA data must be compatible with the Remote Access to Archaeological Data (RAAD) application. RAAD allows approved users to view archaeological sites and overview assessment mapping. This application is a primary source of archaeological information for a number of land and resource management groups and many archaeological consultants.

The final product requirement resulting from the use of AOAs as a general planning tool is a mechanism to track field observations. Many observations that compare the actual field results to the predictions of the AOA study take place outside the permitting process. These observed results form part of the basis for meaningful AOA improvements. Including this information within an AOA revision will be simplified if the core of observed information is recorded in a standardized format and stored in a central repository.

Effective and Efficient AOA Models

As an approach to address the ambiguous nature of many AOA products, these standards define thresholds of effectiveness and efficiency when testing the accuracy of potential mapping.

Effectiveness is measured as the ability for the model to capture a substantial number of known archaeological sites. Efficiency can be defined by the amount of land the model requires to capture these known sites.

Finally, linked to these concepts of effectiveness and efficiency, is a requirement to produce a map layer that has no gradation in potential or relative ranking. This map layer will indicate either where archaeological expertise needs to be employed or where no further archaeological work is required.

Methodological Approaches

Two main approaches to developing an archaeological overview assessment are commonly employed. The choice of approaches is usually dependent on the size of the subject area to be investigated.

For areas less than 10,000 ha in size, AOA maps have been developed through professional judgement wherein the archaeologist has researched the First Nations land use patterns, past environmental history and known site locations. Through a map review and field observations, the archaeologist is able to manually identify areas likely to contain archaeological sites. The success of this approach depends on the complexity of past land use as well as the intricacy of the landscape, although it should be noted that areas as large as landscape units ($\leq 100,000$ ha.) have been accurately modelled by archaeologists with considerable regional expertise.

For larger areas, after completion of background research, it is much more common for archaeologists to employ GIS analysis of known site locations to determine environmental attributes that correlate with site areas. Maps are then produced identifying similar areas on the landscape as having the potential to contain sites. This approach always incorporates a degree of professional judgement as well, to identify resources that cannot be modelled accurately with GIS.

Table 1. Comparison of AOA mapping developed through professional judgement and GIS supported studies

Professional Judgement	GIS Supported
<ul style="list-style-type: none"> • Appropriate for smaller study areas • Less expensive per ha • More difficult to revise manually-derived maps to incorporate new information • Subjective, based on qualitative criteria 	<ul style="list-style-type: none"> • Cost-effective for large study areas • Modeling requires digital environmental information at appropriate scale • Accuracy depends on statistically valid site samples • Requires detailed review to eliminate “nonsensical” polygons • Based on objective, quantitative criteria often combined with subjective modification

Regardless of the approach employed, an overview study to be used as a general planning document should entail:

- Documentary Research
- Direct Consultation
- Preliminary Field Reconnaissance
- Deliverables including a statement of archaeological resource potential and distribution in the study area plus a summary report (see Appendix A);;

Documentary Research

This aspect of the overview study should involve a thorough review of library and archival literature as well as other relevant data sources. The research should include, but need not be limited to:

- a check of extant records including the B.C. Archaeological Site Inventory, legal land survey records, and other pertinent records and inventory files;
- a review of all previous archaeological investigations in the study area or in immediately adjacent areas;
- a review of relevant information from published and unpublished sources, such as local and regional history, prehistory and ethnography;
- a review of relevant paleoecological studies to assess past environmental conditions that may have influenced cultural adaptations; and
- examination and interpretation of aerial photographs and geomorphological and pedological information as an aid for assessing the potential for past human habitation.

Direct Consultation

Individuals and organizations with knowledge of archaeological resources in the study area should be contacted where appropriate. The objective is to compile information concerning the location, distribution and significance of reported archaeological sites. Interviews should be designed to elicit information which may facilitate reconstructing or confirming ethnographic and historic patterns of settlement, land use and subsistence. First Nations must be contacted to determine if they have information they wish to contribute to the AOA. Among others who may be consulted are local museums and specialists having local or regional expertise in the area. Specialists may include archaeologists, historians and ethnohistorians, among others.

Consultation, collaboration and sustained involvement with appropriate representatives from local First Nations is important to the development, acceptance and implementation of an archaeological overview assessment study. First Nations should be informed of the scope and intent of the study, consulted concerning information related to the study area and, where possible, offered the opportunity to participate in archaeological studies. First Nations participation can provide:

- unique environmental and cultural perspectives;
- political, administrative and community support;
- critical information on site locations, environmental and logistical knowledge, interpretation of site
- function, and important oral history; and
- insight into the interpretation of site use over time by community members

Preliminary Field Reconnaissance

The archaeological overview may require a preliminary field reconnaissance to make, field observations within the study area. If greater intensity is demanded, an archaeological inventory may use either systematic or judgemental site sampling techniques.

Reconnaissance survey should be undertaken in the event that historical, archaeological, ethnological, or other documentary sources necessary for assessing the archaeological resource potential of the study area are insufficient or unavailable.

The reconnaissance survey should be designed to assess the archaeological resource potential of the study area, and to identify the need and appropriate scope of further field studies. Although this may involve some ground reconnaissance, areal coverage will usually be quite small relative to the overall size of the study area. This preliminary survey will seldom provide sufficient data to ensure an adequate estimate of all archaeological sites in an area. However, information resulting from preliminary field reconnaissance should:

- confirm or refute the existence of archaeological sites reported or predicted from documentary research;
- allow further predictions to be made about the distribution, density and potential significance of archaeological sites within the study area;
- identify areas where sites are apparently absent, implying low or no potential;
- suggest the most appropriate survey methods or techniques to be used in an intensive field survey should such a survey be necessary.

By accomplishing these research objectives, the reconnaissance survey serves as a useful preliminary study for designing and subsequently implementing a more intensive site survey.

Techniques employed in reconnaissance survey will vary depending on such factors as terrain, vegetation, land use, ease of access, urbanization, the size of the project area, and the types of archaeological resources being sought. Where archaeological sites are anticipated, it may be necessary to undertake some subsurface testing to locate sites lacking surface evidence or to delineate sites boundaries.

Modelling and Mapping

This section details required and recommended approaches to:

- Expected site types and modelling
- Standards for modelling effectiveness and efficiency
- Spatial Data and Data limitations in Modelling

Expected Site Types

The three main cultural regions are defined within BC are the **Coast**, the **Plateau**, and the **Subarctic**. Each region represents a major cultural/environmental adaptation and within each region there is significant local variation. The core site categories to be address in these regions are:

- Permanent habitation sites** (Coast, Plateau and where applicable in Subarctic Region)
- Temporary habitation or Subsistence sites** (All regions)
- Human remains** (Coast, Plateau and where applicable in Subarctic Region)
- Fishing sites** (Coast, Plateau and where applicable in Subarctic Region)
- Quarry sites** (All regions)
- Rock Art sites** (Coast, Plateau and where applicable in Subarctic Region)
- Trails** (All regions)

The descriptive site typology used in the Provincial Archaeological Site Inventory records will have to be assigned to these largely functional site categories. Although these categories should be modelled separately as part of analytical model development; the final product as submitted to the Archaeology Branch must include a combined coverage for all site categories (excepting CMTs).

Where the core site categories are not modelled because they are absent from the study area or the environmental correlates for the site category are too vague, these factors must be discussed in the final report. Other categories of sites may be added, as appropriate, providing they represent archaeological sites protected under the Heritage Conservation Act.

CMT sites

CMT sites must be modelled separately. Only pre-1846 CMTs are modelled. The CMT layer must be submitted to the Archaeology Branch as a separate site type layer. Within some study areas, CMTs may not be present.

Model Effectiveness

AOA models must capture at least 70% of known archaeological site locations within areas of archaeological potential to be accepted by the Province.

Model Efficiency

Two levels of modelling success will be accepted by the Province, high efficiency models that capture 70% or more of the known archaeological sites in 10% of the land base or less and, moderate efficiency models that capture 70% or more of known archaeological sites in 10% to 14% - 20% of the land base. (70% site capture in 14% of land base = Kv. of .8, as does 100% site capture in 20% of the land base).

Highly efficient AOA reports may, and moderately efficient AOA reports must, include recommendations for improving model efficiency. Recommendations may contain the need for focused archaeological inventory projects to further determine the distribution of archaeological sites or, where practical, development of more accurate environmental datasets used in the modelling process (e.g. laser altimetry (LIDAR)).

When calculating the Kvamme's Gain Statistic, a site is considered within a potential area polygon when it intersects a potential area polygon in any way. Further, arguments can be made to buffer the site polygons from 5 to 10 meters to compensate for inaccuracies in site location data and baseline spatial data such as TRIM.

Measuring Model Efficiency

Measurement of efficiency will be done using **Kvamme's gain statistic** to estimate how far the model deviates from a random distribution or the model's level of improvement over chance. It will be used to provide a single measure of model performance that allows comparison of models predicting different percentages of sites and with different proportions of the land area classified as having archaeological potential.

Gain is calculated as $1 - [\% \text{area} / \% \text{known sites}]$ (Kvamme 1988), where **percent area** is the percentage of the study with archaeological potential, and **percent sites** is the percentage of known sites of the type modeled actually found in the same area. A perfect model would include very little area in the archaeological site potential class, but would accurately predict 100 percent of sites. The gain statistic for that model would be very close to one. In a less effective model, that provided no improvement over chance alone, the gain statistic would be very close to zero.

The standards classify high efficiency models as having a Kvamme's Gain Statistic of 0.90 or greater. Moderately efficient models have a Kvamme's Gain of between 0.80 and 0.90.

Spatial Data and Data Limitations in Modelling

The minimum base mapping requirement for modelling is TRIM, or TRIM II where available. Use of the most accurate base mapping available is strongly encouraged (see discussion below concerning the need for accurate digital elevation models). Other important regional spatial data sets include physical shorelines, sea level curves, forest cover, fishery data, geological distribution and trail networks.

After base mapping, the two most important components for successful modelling are correct known site locations and an accurate Digital Elevation Model (DEM).

The Need for Accurate Site Locations

The ability to measure the strength of real associations between environmental variables and site location depends on the accuracy of site placement. Between 2001 and 2007, the Archaeology Branch reviewed all earlier records to replot site location and extent. However, these plots are only as accurate as the original record. Site records contain three fields describing the information used to plot site location and resulting accuracy. These fields are Spatial Accuracy, Accuracy Remarks and GIS History Source Notes.

Independent review of the Archaeology Branch results show that minor errors still exist that may affect modelling efforts.

Calculation of the Kvamme's Gain Statistic poses the question, when is a site considered within a potential area polygon? If a site polygon intersects a potential area polygon in any way, it is considered captured by the potential polygon. Further, arguments can be made to buffer the site polygons from 5 to 10 meters to compensate for inaccuracies in site location data and baseline spatial data such as TRIM.

Accuracy in calculating elevation

One of the hardest modelling tasks is identifying the microtopographic features that are strongly associated with archaeological site location. The TRIM DEM is marginal when trying to recognize the small hummocks in relatively flat terrain or minor terraces in more mountainous areas.

The inclusion of LIDAR data is strongly recommended for archaeological potential modelling. Recent comparisons of TRIM DEM to LIDAR showed a LIDAR Kvamme Gain of .98 vs. a TRIM DEM Kvamme Gain of .6 in the Northeast for a test plot of approximately 500 sq. km.

Project Deliverables

AOA project **deliverables** will include:

1. Corrected site location data

As noted above, digital site locations may be reviewed and improved as a first step during the AOA process to more accurately reflect the original site record and create a more accurate dataset for model development. These revised site locations should be submitted to the Archaeology Branch for inclusion in RAAD and the Heritage Resource Information Application [HRIA], providing they are in the format detailed below. The required information consists of a shape file containing the revised site locations with attached attributes for each site that discusses the accuracy and basis of the revision. All information will be reviewed by the Archaeology Branch prior to loading into the database.

Spatial Standards

Spatial files must be in ESRI shape file format only and must include the .prj, .dbf, .shp, and .shx files. Shapefiles must be in the proper projection (see below) and their associated attributes must contain the fields listed below.

Projection

All spatial data submitted to the Archaeological Inventory Section must be in the provincial standard Albers projection, and be accompanied by a .PRJ file which matches the following parameters. Other projections (e.g. UTM's) must be discussed with the Branch prior to submission.

BC Provincial Standard Albers Projection

Alias: Geographic Coordinate System: Abbreviation: Name: GCS_North_American_1983 **Remarks:**
Alias:Projection: Albers **Abbreviation: Parameters: Remarks: False_Easting:** 1000000.000000 **Angular**
Unit: Degree (0.017453292519943295) **False_Northing:** 0.000000 **Prime Meridian:** Greenwich
 (0.000000000000000000) **Central_Meridian:** -126.000000 **Datum:** D_North_American_1983
Standard_Parallel_1: 50.000000 **Spheroid:** GRS_1980 **Standard_Parallel_2:** 58.500000 **Semimajor Axis:**
 6378137.000000000000000000 **Latitude_Of_Origin:** 45.000000 **Semiminor Axis:**
 6356752.314140356100000000 **Linear Unit:** Meter (1.000000) **Inverse Flattening:**
 298.257222101000020000

Spatial features

Site or study area boundaries can only be represented as polygons. **Spatial files with points or line features will not be accepted.** Trails must be represented as polygons with a default width of five metres rather than lines. The minimum size for a polygon is a circle with a diameter of 5 m, eg. a confirmed isolated find left *in situ*.

Log Format Attributes

The attribute information contains fields describing the site location and extent, the accuracy and origin of the spatial information, the site type, when the site was recorded, who recorded the site, and general remarks. Fields within the shape file's attribute table must match those shown below in both name and data type. **Each polygon must have a unique identifier.**

HRIA Name	Shape File Column	Data Type	Length	Precision	Scale
Spatial Accuracy	ACCURACY	String	13	0	0
Accuracy Remarks	REMARKS	String	254	0	0
Source Notes	DESCRIPT	String	254	0	0

The Spatial Accuracy field refers to the accuracy of maps used to plot the site location. This field is a pick list with values of "1:10K", "1:20K", "1:50K", "GPS", "Site Map (Rough)", "Site Map (Detailed)", "Unknown".

Accuracy Remarks indicates the rationale used to plot the site (e.g. "Detailed site map used to plot site, with orthophoto layer for reference to fix exact location.")

Source Notes identifies the study or permit that captured the spatial information. (e.g. "Site boundaries updated as part of the City Y AOA conducted under permit 200X-XXX by Company Z.")

Questions regarding the format and submission of corrected site locations should be forwarded to the Archaeological Site Inventory Section.

2. Modelling Results

Two spatial layers are required from GIS-aided studies:

- One layer combining the potential for site types excepting CMTs
- A second layer containing potential for only CMTs

Combined Potential Layer

This layer will be used to identify where proponents are notified to hire a qualified professional archaeologist. The layer must contain both potential areas and known site locations falling partially or entirely outside of the potential areas. Known site locations must be masked sufficiently to avoid easy identification, as there is the option to place this information into the public domain (e.g. within an Official Community Plan).

A layer metadata statement containing the following must be included as a MS Word document:

- Study title, author, affiliation and date
- Permit number, if done under permit
- Description of both study areas and potential areas
- Modelling approach
- Types of sites modelled
- Kvamme gain
- Any other relevant information concerning the accuracy and effectiveness of the mapping.

CMT Site Type Layer

The CMT potential layer will identify where CMT surveys will be recommended. AOAs completed for local governments may not have a CMT layer as there may be no evidence of original forest remaining within the study area.

A CMT layer metadata statement must be completed even if no actual layer exists, so that users will know that the layer does not exist rather than the layer is missing. The remainder of the CMT layer metadata statement must include:

- Study title, author, affiliation and date
- Permit number, if done under permit
- Description of both study areas and potential areas
- Modelling approach
- Kvamme gain
- Any other relevant information concerning the accuracy and effectiveness of the mapping.

Both TRIM (or finer-scale) maps and recorded archaeological site location datasets will be used. The recorded site locations will be extracted from the Heritage Resource Inventory Application (HRIA) database, available from the Archaeology Branch as polygon data in shape file format.

Digital mapping must be done based on 1:20,000 (or finer-scale) TRIM maps showing areas of archaeological potential for the complete study area, incorporating data sets in Arc-Info Export. The final map will show only the two layers **(all sites excluding CMTs and CMTs only)** discussed above. This is intended to minimize the ambiguity and confusion associated with the “moderate” potential layer of earlier AOA studies.

Final Report Format (see Appendix A)

A **written report** in PDF format, based on BC Archaeological Impact Assessment Guidelines, (*Archaeology Branch 1998*) and attached to these standards as Appendix A.

- The report will be hyperlinked to the AOA layer in RAAD.
- **A short, succinct report is preferable to a longer volume.**

A **copyright license** release must accompany the report, per bulletin 20, <http://www.tsa.gov.bc.ca/archaeology/bulletins/20.html>

Geographic Information System (GIS) AOA Potential File Delivery

In order to streamline the process for updating the provincial AOA layer the following is required:

Potential Shapefiles will be delivered as follows:

- In a single shape file for regular potential and a separate file for CMT potential (if modeled). It is not acceptable to deliver the final shapefiles as individual map sheets they must be compiled into single composite shapefiles.
- Potential shapes files will be delivered in a folder named 'Final AOA Potential Shapefiles'. They will be the only files in this folder.
- Potential shapefiles must be named as follows:
 - Standard AOA potential: 'Study Name'_Potential.shp
 - CMT Potential: 'Study Name'_CMT_Potential.shp (if modeled)
- If the model is developed with ArcGIS please run the Repair Geometry (Data Management) tool before delivering the shapefiles.

Potential shapefile attributes:

The potential shapefile(s) must have an attribute called POTENTIAL (text field of with a length of 4 characters). Values for the field are HIGH or LOW.

A study area shapefile will be delivered as follows:

- In a single shape file with a single polygon describing the area covered by the AOA study.
- The study area shape file will be delivered in a folder named 'Final AOA Study Area Shapefile'. It will be the only file in this folder.
- The study area shapefiles must be named as follows:
 - 'Study Name'_Study_Area.shp

3. Ground-truthing Documentation (see Appendix B)

To track and record field observations for use in future revisions of the AOA, these standards include an AOA field data collection form. Ideally, field observations resulting from implementation of the AOA would be recorded and submitted to a central repository.

In the case of FIA projects, the district office of the Ministry of Forest and Range can be approached to act as repository. For local government related AOA's, the Archaeology

Branch (Manager, Archaeological Site Inventory Section) may be contacted to determine if the branch is a suitable repository for these forms.

Implementation

Copies of the AOA maps and report will be provided to the clients who sponsored the study and to the Archaeology Branch. The branch will incorporate the maps, metadata and report into the RAAD system.

References

Archaeology Branch 1998 *British Columbia Archaeological Impact Assessment Guidelines*. <http://www.tsa.gov.bc.ca/archaeology/pubs/impweb/impact.htm>

Kvamme, K. L. 1988. "Development and Testing of Quantitative Models," in *Quantifying the Present and Predicting the Past: Theory, Method, and Application of Archaeological Predictive Modeling*. Edited by W. J. Judge and L. Sebastian, pp. 325-428. Washington, D. C.: U.S. Government Printing Office.

Appendix A

Guidelines for Archaeological Overview Report Content

Title Page

The title page should include:

- a. the official project name and location,
- b. the type of archaeological resource assessment,
- c. the number of the permit or ministerial order under which the research activities were authorized, if applicable,
- d. the name and address of the agency for which the report was prepared,
- e. the report date, and
- f. the author's signature and title.

Credit Sheet

The credit sheet should contain the names, addresses and professional affiliations of the principal contributors to the overview study including:

- a. the director or supervisor,
- b. researchers, and
- c. report author.

Copyright Release

Copyright ownership (©) must be identified on the title page of each report. Where a license is being granted to the Province of British Columbia, copyright owners must also add the Grant of License identified below to the title page, or second page if there is insufficient space on the title page, of each report; it must be completed and signed by all copyright owners in the case of multiple copyright ownership.

Management Summary

The management summary should contain a brief overview of the study, including a discussion of the modelling approach (professional judgement or GIS supported), site types analysed, measures of modelling effectiveness and efficiency, recommendations for improving modelling accuracy and study implementation.

Table of Contents

The table of contents should be arranged in accordance with the sequence of topical headings and their corresponding page numbers.

List of Figures, Tables, Appendices

All figures, tables and appendices should be referenced by title and page number, and listed according to the order in which they appear in the text of the report.

Introduction

The introduction should include:

- a. the name of the proponent and general nature of the proposed development,
- b. project planning objectives,
- c. the objectives and general scope of the archaeological overview,
- d. the agency and persons conducting the assessment, as well as the kinds of professional expertise involved,
- e. the dates and duration of the study, and
- f. the organizational format of the report.

Study Area

This section should contain a brief description of the study area. The discussion should emphasize biophysical characteristics, both past and present, that may have influenced the density, distribution, variety and potential significance of archaeological resources.

Potential Activities within the Study Area

This section should contain a brief summary of the types or activities expected within the study area and their potential impact on archaeological sites.

Methodology

The basic research plan and the precise methods and modelling approach used to implement the plan should be documented in this section.

Documentary Research and Consultation Results

This section should contain the results of documentary research, direct consultation, and if applicable, preliminary field reconnaissance. Information should be reported here only to the extent that it relates to the basic objectives of the overview.

Results of the background research should include:

- a. a description of past land uses,
- b. a summary of previous archaeological sites reported in the study area and a map showing their location
- c. a brief narrative description of all archaeological sites reported in the study area and a map showing their location.

Results of the preliminary field reconnaissance should include:

- d. discussion of survey strategy
- e. maps showing areas surveyed,
- f. maps showing the location of all sites observed and recorded,
- g. a brief narrative description and photo record of all recorded sites
- h. a description of observed cultural materials

Modelling Results

Included here is a discussion of data preparation, such as improving the accuracy of known site locations, determining the location of sites identified through background research and consultation, spatial data used, and construction of data proxies such as palaeoshorelines, where no data exists.

A discussion of methods of refining elevation and identifying microtopographical features and a summary of the effectiveness of your approach would benefit the archaeological modelling community.

Report on each major stage of modelling, including a summary of associated statistical analysis.

Measures of modelling effectiveness and efficiency must be included in the final product.

Evaluation and Discussion

The assessment of archaeological resource potential in the study area, based on the major findings of background research, preliminary field reconnaissance and modelling results, should be presented here. The assessment should be made from a local and regional perspective, and based on both known and reported archaeological sites and on predicted sites areas. In this section, the consultant should:

- a. identify major information gaps in the archaeological resource base,
- b. identify major gaps in spatial data,
- c. state predictions about the kinds and number of archaeological sites to be expected,
- d. discuss and, insofar as possible, interpret the nature, distribution, and potential significance of archaeological resource values within the study area,

Recommendations

The need for further archaeological studies that would improve modelling accuracy, as well as the scope of these studies, should be identified and discussed here. Recommendations for further assessment should include:

- a. maps showing precise areas requiring intensive field survey,
- b. justification for a “no survey required” recommendation in areas suggesting archaeological resource potential,
- c. a description of areas requiring special field consideration, and
- d. the site survey strategy and methods to be used.
- e. recommendations concerning the periodic revision of the AOA to improve accuracy and address issues.

Recommendations concerning implementation should be included in this section as well. Central to implementation is the requirement to use a standardized reporting form (Appendix B) for non-permitted preliminary field reconnaissance observations, and identification of a central repository for these forms.

References Cited

A comprehensive list of all literary sources cited in the overview report such as publications, documents and records should be presented in this section. The reference list should also include names and dates of all personal communications.

Appendices

A variety of items should be appended to the overview report, including:

- a. a copy of the proponent's or consultant's terms of reference for the overview studies,
- b. a bibliography of data sources consulted, but not necessarily cited in the report, which may be useful for future research,
- c. names and addresses of persons or organizations interviewed during the background research stage of the study,
- d. unrecorded sites reported in the literature or through informant interviews,
- e. a list of associated contract deliverables



**MINISTRY OF TOURISM, SPORT AND THE
ARTS**

ARCHAEOLOGY BRANCH

**ARCHAEOLOGICAL OVERVIEW ASSESSMENT
FIELD DATA COLLECTION FORM**

This form is to be submitted by those using an Archaeological Overview Assessment predictive model for field reconnaissance studies that are conducted WITHOUT a Heritage Conservation Act permit. The purpose is to confirm archaeological potential estimates and to collect information on how well an AOA is working. This form specifically supports Archaeological Overview Assessments created since 2006 for Local Governments or Forest Licensees.

1.0 PROJECT INFORMATION		
ARCHAEOLOGICAL ASSESSOR		Project Name:
Name:	Report Author:	
Company:	Report Submission Date:	
Address:	Project Proponent:	
Email:	Contact Person:	
Phone:	Fax:	Phone: Fax:
2.0 LOCATION INFORMATION:		
<i>General description of geographic location, topography, and vegetation cover.</i>		
<i>Attach a map from RAAD in PDF format showing the potential area from the AOA Layer with your study area clearly defined. Make sure the NTS 1:20,000 map and Borden Grid layers are turned on.</i>		
3.0 ARCHAEOLOGICAL POTENTIAL ASSESSMENT		
AOA Study Name:		
Original AOA Potential Rating of Study Area: POTENTIAL NOTED <input type="checkbox"/> POTENTIAL NOT NOTED <input type="checkbox"/> MIXED <input type="checkbox"/>		
Are there known archaeological sites within 500 m of the proposed development? YES <input type="checkbox"/> NO <input type="checkbox"/>		

List other sources of information or factors used to identify archaeological potential (RAAD, orthophotos, field visit, etc.):

4.0 FIELD SURVEY METHODOLOGY

Field Director:

Survey Dates:

Field Personnel:

Field Conditions (Visibility, weather, other factors): Describe survey methodology (e.g. transect type and intervals): *Please attach survey coverage maps in as large a scale as practical.*

5.0 FIELD SURVEY RESULTS

Site Numbers *Indicate previously recorded sites by Borden Number or newly identified site by Temporary Nr. :*

Site Type: CMT Surface Subsurface

Site Location: UTM E

UTM N

Site Condition:

Assess Reliability of Survey Results (e.g. expectations vs. observations):

Please remember to submit site forms for all new and updated sites!

6.0 COMMENTS AND RECOMMENDATIONS:

Please note if further archaeological field studies are recommended.

Please attach extra pages if more space is required.

Checklist:

- RAAD map (PDF) of potential area with study area clearly marked
- Survey coverage map in as large a scale as practical
- Site forms for all newly recorded or updated archaeological sites