

Vegetation Resources Inventory

Revelstoke TSA - Project Implementation Plan for Photo Interpretation

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Forest Analysis and Inventory Branch (FAIB)

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Section 1 – Introduction and Background Information

Background Information

This inventory planning document is a working document that states the key reasons and objectives for carrying out a Phase 1 vegetation resources inventory (VRI) together with details on the area to be inventoried and key steps during the implementation of this Phase 1 inventory project. This plan identifies the target project area for new photo interpretation and may include small portions of the TFLs where the adjoining areas overlap. The project planning process itself sets the stage for discussions with local stakeholders and First Nations in terms of confirming project goals, objectives, scope, methodologies, deliverables and timelines specific to the Revelstoke VRI project area.

The Revelstoke project area encompasses approximately 481,151.2 or approx. 31 full mapsheet equivalents (FMEs), excluding TFLs 55, 56 and 23. Stakeholders for this unit include:

- Selkirk Natural Resource District (SNRD) staff
- Ministry of Environment and other government agencies
- B.C. Timber Sales
- Local major licensees and woodlot owners.

In addition to the above stakeholders, there are First Nations with asserted traditional territories within the Revelstoke project plan area. For engagement within the project area described in this plan (see Appendix A for list of First Nations). The TSA falls within the asserted traditional territories of the Ktunaxa Nation, the Shuswap Nation (Secwepemc), and the Okanagan Nation (Sylx). In total there are twelve (12) First Nation groups - 3 tribal councils and 9 bands, who have an interest in the Revelstoke TSA. Engagement with First Nations including consultation is paramount during the development of this inventory plan and during subsequent Phase 1 fieldwork planning and ongoing project activities. Engagement and consultation will follow the protocol and guidance as described in:

<https://www2.gov.bc.ca/gov/content/governments/organizational-structure/ministries-organizations/ministries/indigenous-relations-reconciliation>

https://www.for.gov.bc.ca/dni/Programs/AboriginalAffairs.htm#First_Nations_Consultation_-_Related_Links

Overview of the VRI Process

The Vegetation Resources Inventory (VRI) provides a ‘strategic’ level inventory at the management unit level (TSA or TFL) designed to answer two basic questions: where is the resource and how much is there. The VRI inventory standard consists of two phases that may be undertaken in combination or, in certain situations, individually. In Phase I of the inventory, air photos are acquired, and polygons are delineated within an inventory unit in order to provide full ‘wall-to-wall’ coverage at the management unit level. Vegetation attributes of these polygons are estimated by photo interpreters.

The re-inventory process starts by acquiring new imagery. The new digital air photos acquired during the 2017 field season will provide full coverage of the Revelstoke inventory project area. This new imagery will be used for photo interpretation of the inventory in concert with air and ground calls for calibration purposes. In addition, Light Detection and Ranging (LiDAR) derived information could be used to enhance the inventory for key attributes where available. One option being explored is to use LiDAR enhanced attributes such as stand heights, densities, etc. as a reference for the VRI photo interpreters during the reinventory process wherever there is LiDAR coverage in the inventory project area.

In Phase II of the inventory, a subset of the polygons is randomly selected for ground sampling. One of the key purposes of Phase II ground sampling is to verify our level of confidence in the Phase 1 inventory and to provide supplementary information on stand characteristics (such as tree size distribution) that are not captured in Phase 1. Phase II sampling is

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carried out using documented statistical procedures and standards. Ground sampling is laid out on a grid across the province and the data is also used for monitoring. More details regarding the VRI process and the VRI standards and procedures are available at the MFLNRO Forest Analysis and Inventory Branch (FAIB) website:

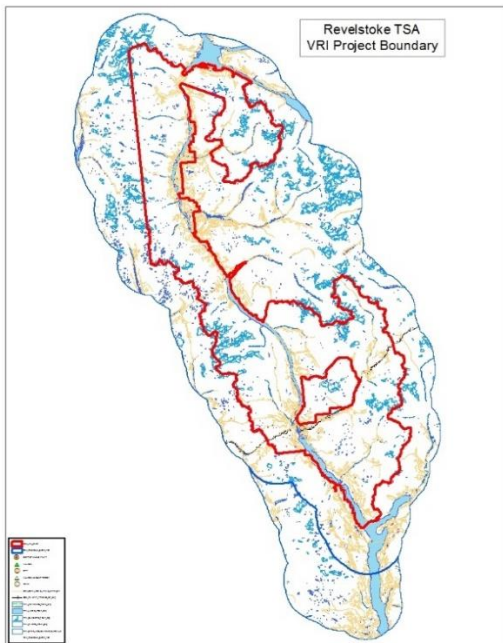
<https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/forest-inventory>

State of the Current Inventory

Revelstoke Timber Supply Area (TSA) Summary

The Revelstoke timber supply area (TSA) is in southeastern British Columbia between the Monashee mountains to the west and the Selkirk Mountains to the east. The entire TSA covers 527,000 hectares and lies within the Kootenay-Boundary Natural Resource Region. Administered primarily by the Selkirk Natural Resource District Office in Revelstoke, The Revelstoke VRI inventory project area covers the TSA portion only and, because a new inventory was completed on the north-west side of the TSA when the Kamloops VRI was completed, the Revelstoke inventory project area is limited to 481,151.2 ha. (see Fig. 1 below).

Fig 1 - Revelstoke TSA Inventory Project Boundary



Approximately 55 percent of this area is non-forested. Of the forested area (45 percent), only 10 percent is currently suitable and available to support timber harvesting. A large portion of the area available for timber harvesting, referred to as the timber harvesting land base (THLB), exists in younger age classes (0-40 years) and older classes (older than 141 years); relatively little is available in the age class between 41 and 140 years. The productive forest in the TSA falls nearly equally into the Interior Cedar-Hemlock (ICH) and the Engelmann Spruce-Subalpine Fir (ESSF) biogeoclimatic zones. It should also be noted that much of the access in the TSA is limited due to mountainous terrain and there will be a reliance on air access ground calibration points. The inventory is mostly 1990-99 vintage and is in V (VRI) format (see Figs. 2 and 3 below). The July 2011 TSR review noted that the inventory underestimated volume by 5% to 7% on average, while cedar volume in the ICH may be overestimated. Stand ages in older stands are unreliable in the current inventory, as noted by local stakeholders, and need to be improved.

Fig. 2 – Revelstoke Inventory File Standard

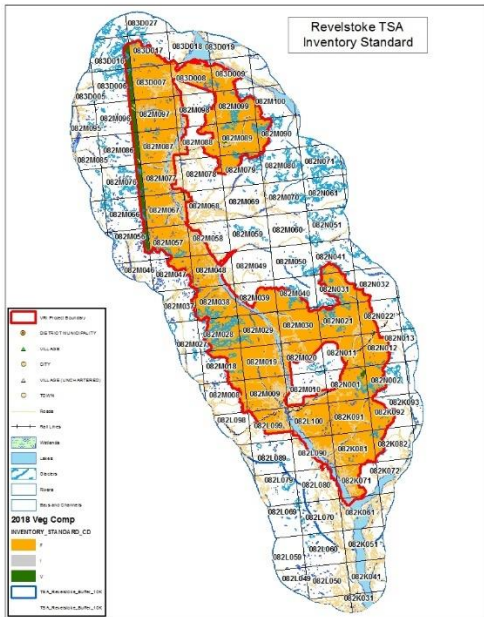
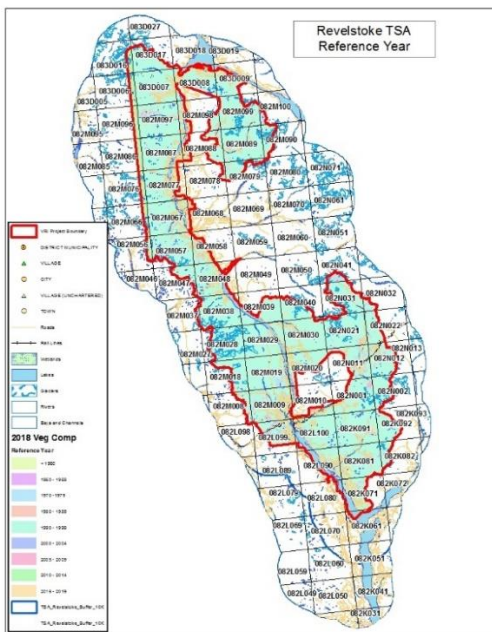


Fig. 3 Revelstoke – Inventory Currency



The forests of the Revelstoke TSA provide a variety of habitat for wildlife, including large animals such as black bear, grizzly bear, moose, elk, mule deer and mountain goat. The TSA also provides important habitat for the Revelstoke-Shuswap caribou herd. A new Phase 1 inventory in all TSA areas will provide more current information on critical stand attributes such as species composition, volume, density, age and height. A new inventory will also provide more accurate and current information on depletions from harvesting, wildfire and other disturbances. The most significant issues affecting forest management decisions in the TSA are:

- Biodiversity
- Caribou
- Riparian habitat

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Unknown	12,257.89
TSA Summary	
Revelstoke TSA	481,110.36
Other TSA	40.80
Total TSA	481,151.22

Table 3 Revelstoke TSA Ownership Summary (VRI Project Area)

Ownership Code	Ownership Description	Area (ha)
40	Private	18,555.22
54	Federal - Dominion government Block/Federal Parcels	14.18
60	Crown - Conservancy Area, Ecological Reserve, Protected Area, Provincial Park	430.76
61	Crown - UREP (Use, Recreation and Enjoyment of the Public Reserve)	62.78
62	Crown - Forest Management Unit	265,912.61
68	Crown - Forest Recreation Reserves	18717.08
69	Crown - Community Watershed	2434.07
69	Crown - Misc. Reserves	20,328.97
69	Crown - Misc. Reserves Caribou	147,815.06
72	Crown Tenure - Tree Farm Licence, Schedule B	26.31
77	Crown Tenure - Woodlot Licence, Schedule A	57.73
77	Crown Tenure - Woodlot Licence, Schedule B	1734.65
80	Crown - Municipal Parcels	293.26
81	Crown - Local/Regional Park	81.65
91	Unknown Ownership/Exceptions	4619.48
99	Crown Lease - Misc. lease	67.25

Table 4 Revelstoke TSA Non-Forested and Non-Productive Forest Summary

Non-Productive Descriptor (Code)	Area (ha)
A – Alpine (02)	176,285.28
AF – Alpine Forest (10)	19,327.43
C – Clearing (42)	19,327.43
G – Gravel Bar (18)	130.80
GR – Gravel Pit (06)	11.81
L – Lake (15)	18,308.71
M – Meadow (62)	109.40
NP – Non-Productive (12)	8,491.06
NPBR – Non-Productive Brush (11)	8,710.69
NPBU – Non-Productive Burn (13)	437.01
NTA – No Typing Available (00)	11,802.56
OR – Open Range (63)	6.88

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R – Rock (03)	2,854.56
RIV – River (25)	1,486.58
S – Swamp (35)	218.16
U – Urban (54)	4,085.09
Total Non-Productive Area (ha)	252,602.10
Non-Forest Descriptor	
NCBR – Non-Commercial Brush	78.02
NSR – Not Satisfactorily Restocked	7,622.21
Total Non-Forest Area (ha)	7,700.23

The main commercial tree species are Engelmann spruce (31 percent), western hemlock (23 percent), western redcedar (22 percent), and Douglas-fir (18 percent). The summary of forest cover polygons by leading species is provided in Figure 5 and Table 5 below and may be limited based on the reference year of the inventory coverage across the current project area.

Figure 5: Revelstoke TSA Leading Species

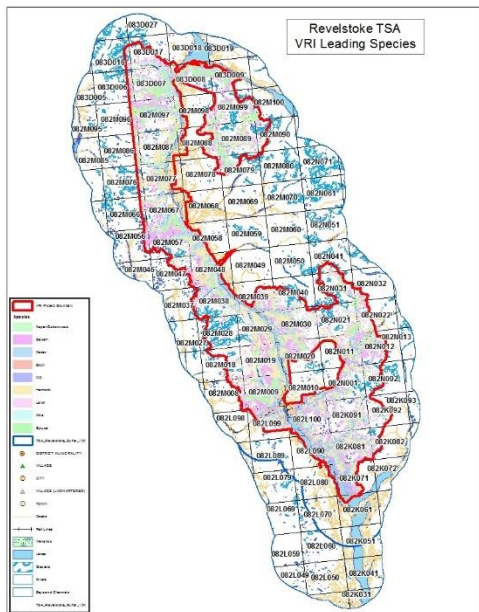


Table 5: Revelstoke TSA Leading Species Summary

Leading Species	Area (hectares)
BL	72,795.13
S	33,364.73
CW	29,842.61
H	23,288.66
FD	23,179.98
HW	22,514.25

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HM	12,978.89
SE	8883.51
SX	6926.75
EP	3502.97
AT	2415.45
AC	807.08
PL	766.89
PW	405.38
LW	98.74
PA	24.6
SW	22.48
Total Forested Area	241,818.10

The biogeoclimatic (BEC) summary is based on current information across the current Revelstoke VRI project area and is a complete coverage (see Figure 6 and Table 6 below). The is by far the predominant BEC Zone, followed by.

Figure 6: Revelstoke Inventory Project Area BEC

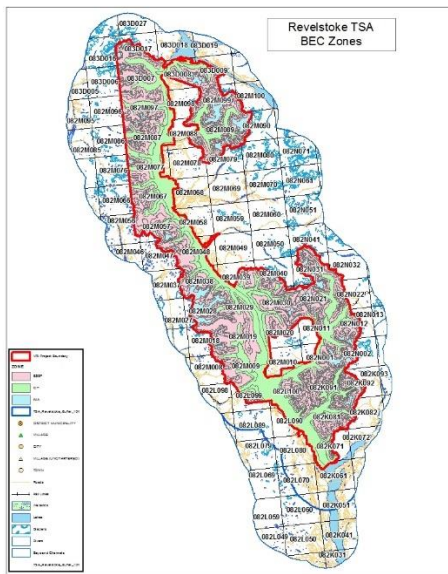


Table 6 Summary of Project Area by BEC Zone

Biogeoclimatic Zones (BEC)	Area (Ha)
ESSF – Engelmann Spruce Subalpine Fir	270,069.8
ICH – Interior Cedar Hemlock	174,574.7
IMA – Interior Mountain-heather Alpine	36,506.6
Total BEC	481,151.1

Private Land, Woodlots, First Nations

The new inventory will include any woodlots lying within the project area. Any photo interpretation calibration points established in earlier inventory projects would be made available as part of any historical data source for use in the new

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inventory project. Private and municipal lands and woodlots are included in this project however ground calls will not be established on any private lands. FAIB will work with stakeholders to resolve any potential concerns.

The Ministry of Forest and Range (MoFR) Traditional Use Study (TUS) data website identifies three TUS inventories in the Revelstoke TSA, having been prepared by the “Ktunaxa/Kinbasket Tribal Council (KKTC, 1998), the “Adams Lake and Neskonlith Secwepemc” (March 1999). And the “Little Shuswap Indian Band” (March 2000). Information on First Nations traditional use studies are not generally made available to government agencies or the broad public and any information such as location of cultural heritage resources or archeological sites is held in confidence. A new Phase 1 VRI will not record location or any other associated details regarding this sensitive information as it is completely outside the scope of inventory data collecting activities.

Section 2 - Photo Interpretation Plan

Project Objectives

The overriding objective of this photo interpretation project is to update the inventory for the Revelstoke TSA to one standard, format and currency across the entire Revelstoke TSA Inventory Project Area to account for what is presently a complicated and fragmented inventory consisting of various standards, formats and currencies and with known gaps in forest cover information. Producing one consistent and seamless inventory across this entire project area will provide all local stakeholders with accurate and up-to-date forest resource information (delineation and attribution) that will be available in a single dataset using published standards and format.

Target Area

The entire Revelstoke TSA will be photo interpreted including all woodlots, private land, and small parks and exclusive of those areas listed as having a recent and available VRI as noted in the Project Area Overview (see Fig. 4 VRI Project Overview Map of Revelstoke above). VRI inventory for all parks will be to the same standard as the TSA in order to determine seral stage distribution, potential wildlife habitat, etc.

Historical Data Sources

An unknown number of the established data sources may have been destroyed over the years through harvesting and other disturbances. FAIB is still assembling historic data and an approximate number of data sources ultimately available will be determined at the data source transfer stage which may or may not be completed prior to the award of the VRI photo interpretation contract.

All data sources that were available in the last re-inventory project are documented on the earlier document photos. A digital spatial location of these points will be made available in ESRI shape file. **Where the document photos are available**, data sources available on the document photos will be reviewed by photo interpreters and data sources that are still relevant to a new inventory on the 2017 imagery will be transferred to a digital format provided by the Ministry. A full list of currently known FIP and VRI historic calibration data will be made available to the VRI contractor.

Situations that would justify removal of existing data sources include a major disturbance (such as a large fire, harvesting or insect/disease damage), large stand structure changes, or as defined in the contract document.

There is an estimated total of 3,011 historic data sources as of the date of this first draft (See Table 7 Historical Data Sources below).

Table 7: Historical Data Sources

Data Source Origin	Number of Data Sources (est)*
TSA Historic Air and Ground Calls	
X	2054

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XG	577
XGO	377
XGR	3
TOTAL	3,011

*NOTE: A detailed list of data sources by mapsheet will be made available

New Data Sources

The contractor will establish a minimum of 10 ground calls and 20 air calls per map (FME) with the exact ratio of ground to air calls per FME still to be determined pending confirmation of the number of historic data sources available. It should also be noted that much of the access in the TSA is limited and there will be a reliance on air access ground calibration points.

The type of ground call established in each polygon is based on the stand structure complexity as described in the VRI Photo Interpretation Field Calibration Procedures. The ratio of 3-pt versus 1-pt ground call will be confirmed based on the approximate ratio of mixed versus pure composition stands and multi- versus single layer stands. Any deviation from these numbers must be agreed upon by the Ministry Project Manager and will be reflected in the field calibration plan. **Note: ground calibration data will NOT be collected on private land (this includes the establishment of any type of ground plots).**

Prior to the initiation of a field calibration program, a Field Calibration Plan (is to be submitted to the Ministry Project Manager for approval.

As part of the deliverables, the Ministry requires a complete set of any new data sources be provided in a suitable digital format (as determined by the Ministry), including the geographical locations (UTM coordinates) of these data sources as well as the complete set of field attribute data collected.

LiDAR Data

LiDAR inventory data coverage exists for some of the VRI project area and will be made available for government use through BCTS. The intent is to use the LiDAR derived reference information in conjunction with the standard imagery employed for VRI photo interpretation in order to enhance specific attributes such as stand height in areas where LiDAR information may be available. Standard VRI photo interpretation will be performed in these areas concurrently to capture species composition and other key attributes from the standard digital air photo imagery.

Other Data Sources

The origin and number of other possible data sources is still to be determined as of the time of this draft VPIP. The VRI Phase 1 contractor will use the provincial site productivity layer information as a reference for site index (SI) where SI is not available in the RESULTS and where photo interpreters are responsible for estimating SI values as described in Section 6 of the Photo Interpretation Procedures. This GIS database contains seamless PEM/TEM and SIBEC information for the Revelstoke TSA. The provincial site productivity layer data and supporting information is available at:

<https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/forest-inventory/site-productivity/provincial-site-productivity-layer>

The last BEC update that changed linework in the Revelstoke TSA was released in 2016. Relevant changes include adjustments of ICH subzone/variant boundaries, particularly between ICHmw3, ICHwk1, ICHvk1, and introduction of woodland mapping in the ESSFvcw and ESSFwcw. There have also been changes to the PEM and there has been some exceptional materials mapping which may be available (see Appendix B for further information).

Polygon Delineation

Polygon delineation is to be completed to VRI standards. Any deviation from these standards must be agreed to by the Ministry Project Manager. The original delineation in this project area was carried out to an acceptable standard.

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Adjustments to the line work are to be carried out only where absolutely necessary, for example in alpine and sub-alpine areas which constitute approximately 40% of the project area. The contractor must import the existing delineation of the Revelstoke project area, review all polygons and adjust as necessary in accordance with VRI photo interpretation standards.

Integrating RESULTS Information

The integration of the RESULTS (Reporting Silviculture Updates and Land status Tracking System) spatial files and tree attribute data will be completed at the delineation and attribution stages of the project. The RESULTS database in the Revelstoke project area indicates there are 2,570 openings for a total area of approximately 34,552.3 ha (see Figure 7 and Table 8 below).

Fig. 7: Revelstoke TSA Inventory Project Area RESULTS Spatial File Coverage

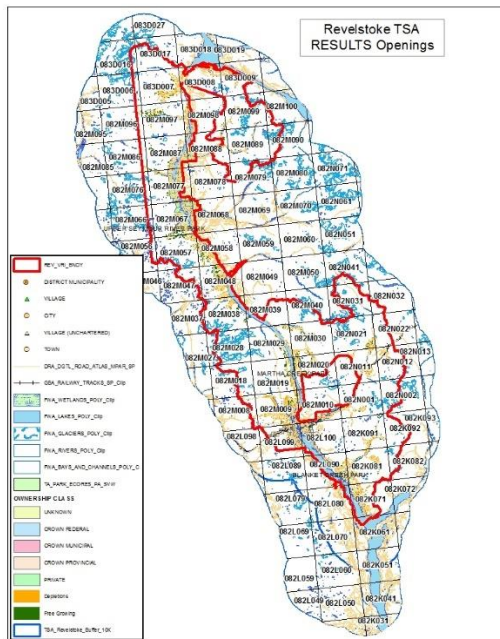


Table 8: RESULTS Summary for Revelstoke Inventory Project Area

RESULTS Data Summary	# of Openings	Area (Ha)
RESULTS Free Growing (# of Openings)	1,193	13,161.6
RESULTS Depletion/Regen (# of Openings)	1,377	21,390.7
Totals	2,570	34,552.3

The FAIB Kamloops Update Team is presently running a RESULTS data preparation process for the Revelstoke TSA Inventory Project Area and an updated ESRI file (PGDB format) for the RESULTS openings and tree attributes will be provided to the successful bidder. A significant portion of the RESULTS depletions will have been updated in the current forest inventory, however there may still be some missing spatial and attribute data and some more recent openings in the 2017 air photos may not be found in the RESULTS data cut. Attribution of harvested areas that are not identified in the RESULTS spatial files will be completed in accordance with the procedures for *Photo Interpretation Guidelines for Integrating RESULTS Information*.

Attribute Estimation

This project will be undertaken in softcopy (digital photogrammetric) format and will follow published VRI standards and procedures.

Mapping

The Ministry has developed a format and database standards for the submission and storage of spatial and attribute data for VRI Photo interpretation. All new projects must be completed to this standard and submitted to the Ministry Project Manager following successful QA.

The Contractor will adhere to the most current version of the *VRIMS Personal Geodatabase Structure and Use and VRIMS Vegetation Cover Polygon Validation Rules* published by FAIB.

Fresh Water Atlas (FWA) Base

A set of FWA (NAD 83) format base files will be made available to the contractor at the project pre-work meeting.

There will be no changes made to the FWA feature unless significant changes occurred to the polygonal features such as lakes and double-line river features.

Section 3 - Project Implementation

Project Pre-work meeting

A project pre-work meeting is mandatory. The purpose of a project pre-work meeting is to bring together the Ministry Project Manager, VRI Phase 1 contractor, MFLNRO representatives and quality assurance personnel prior to project start-up. This meeting will ensure that an efficient communication network is established, identify individuals responsible for all aspects of the project, allow discussion of any issues before project work commences and establish timelines for deliverables and data flow. Minor changes to the contract to complete the Phase 1 activities may be identified at this meeting.

A project pre-work checklist, signed off by all parties attending, will be used to organize and guide the meeting.

Scheduling

The Revelstoke VRI project will progress over two fiscal years commencing in the spring of 2020. Reinventory work will progress from south to north. One field season will be required for collection of photo interpretation field calibration data (air and ground calls). Field calibration is to coincide with subsequent attribution of blocks as scheduled in the approved work plan. Any project specific details such as safety, access and seasonal field work scheduling are covered during the contract award and pre-work meeting with the contractor(s). The delivery schedule of specific maps will drive the stages of work throughout this project, with the southernmost TSA maps being the priority for Year 1. The northwestern portion of the Revelstoke TSA will be tied-in with the recently completed Kamloops TSA VRI. The remaining photo estimation and map production will be completed in the 2021/22 fiscal year (Year 2). All completed VRI data should subsequently be loaded to the BCGW by January 2023.

A delivery schedule outlining progressive delivery of products will be submitted by the contractor for each fiscal. The format of the delivery schedule and the order of map completion will be finalized and agreed to at the project pre-work meeting.

Aerial Photography and Photo Scale

The present 2017 digital air photo acquisition is being administered by GeoBC on behalf of FAIB and therefore meets all standards and specifications as summarized below.

Digital frame camera imagery of the project area was acquired to GeoBC photo standards and specifications in the summer of 2017.

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Flight lines were oriented in an East-West direction and captured at 25cm GSD (ground scale distance). The digital copy image sets will be available in 4 band RGBIR imagery in TIF (compressed tiled jpeg) format with ZI model setups.

Project Manager

The Ministry Project Manager for the Selkirk Natural Resource District Phase 1 VRI project is Roman Bilek, FAIB. Responsibilities include the following: coordinating the project; monitoring and communicating project progress with the local stakeholders; ensuring all contractors are qualified and certified; overseeing photo-interpretation activities; ensuring quality assurance is complete and delivered at each stage and assisting in coordinating technical expertise where required.

Personnel

All VRI photo interpretation work must be completed by or directly supervised by a VRI Certified Photo Interpreter or equivalent. All uncertified photo interpreters are to be directly supervised by a Certified Photo Interpreter or equivalent working on that project.

At least 50% of the photo interpreters working on the project must be certified for VRI photo interpretation. A ratio of one certified interpreter to two uncertified interpreters is acceptable provided the delineation and attribution work of the uncertified interpreters is carried out in the same physical work location of the supervising certified interpreter.

Quality Assurance

An independent third-party quality assurance (QA) will be completed on all stages of the project in accordance with the VRI Photo Interpretation Quality Assurance Procedures and Standards.

Quality assurance intensity for each stage of the project is to be completed as follows:

Historical Data Source Transfer	5%
Delineation	5%
Field Calibration	5%
Attribution	5%

Quality assurance for digital map production will be conducted by the Province. Contractors will utilize “VEGCAP for Contractors” validation software to perform quality assurance on data files.

All QA findings and re-work instructions are communicated to the VRI contractor by the Ministry Project Manager.

Deliverables

The VRI photo interpretation project deliverables for each stage of the photo interpretation project are outlined in the VRI Photo Interpretation Procedures and VRI Field Calibration Procedures for Photo Interpretation.

For a multi-year project, deliverables are required at the end of each year fiscal. To provide enough time for completion of independent third-party quality assurance and Ministry in-house mapping quality assurance, the final deliverables will be submitted at the end of February of each fiscal.

The most current VRI Phase I standards documentation can be accessed from the following MFLNRO web site:

<http://www.for.gov.bc.ca/hts/vri/standards/photo.html>

Submission of all final deliverables will be signed-off by a qualified ABCFP Registered Forest Professional.

Roles and Responsibilities

MFLNRO

The Project Manager is the point of contact for the Ministry and provides overall communication of project activities with contractors and Revelstoke Natural Resource District staff and stakeholders.

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VRI Contractor

The VRI Contractor works with the Ministry Project Manager to ensure the planning, coordination and execution of project activities is consistent with the VPIP and contract requirements.

VRI QA Contractor

The VRI QA Contractor works with the VRI Contractor and Ministry Project Manager to ensure that Quality Assurance reporting meet the VRI prescribed standards.

References for Inventory Standards and Procedures

All work will be carried out in accordance with the following British Columbia Government specifications, current at the time of contract signing.

- *Vegetation Resources Inventory Photo Interpretation Procedures*
- *Vegetation Resources Inventory Photo Interpretation Standards and Quality Assurance Procedures*
- *Vegetation Resources Inventory Field Calibration Procedures for Photo Interpretation*
- *Guideline for Integrating RESULTS Information (currently contained within the VRI photo Interpretation Procedures)*
- *Vegetation Resources Inventory – The B.C. Land Cover Classification Scheme and addendums*
- *VRIMS Personal Geodatabase Structure and Use*
- *VRIMS Vegetation Cover Polygon Validation Rules*

Project Sign-off Sheet

Revelstoke TSA Vegetation Resources Inventory Photo Interpretation Project Implementation Plan

I have reviewed and approved the Revelstoke TSA Vegetation Resources Inventory Photo Interpretation Project Implementation Plan (VIP)



Tim Salkeld
Manager, Forest Inventory Section
Forest Analysis and Inventory Branch
Ministry of Forests, Lands, Natural Resource Operations
and Rural Development

Feb 24, 2020
Date

APPENDIX A - List of First Nations

Revelstoke TSA

The Revelstoke TSA lies within the ancestral territories of Indigenous Nations including: the Secwepemc (Shuswap); Sinixt (Lake Tribe of the Confederated Tribes of the Colville Reservation); Ktunaxa Nation, and Syilx (Okanagan). Those relative to the Revelstoke TSA are listed below.

Secwepemc Nation (as represented by Shuswap Nation Tribal Council) offices are located in Kamloops and members of the nation who have been engaged include Adams Lake Indian Band (Kamloops); Splotsin First Nation (Enderby); Shuswap Indian Band (Invermere); Little Shuswap Lake Band (Chase); Simpcw First Nation (Barriere) and Neskonlith Indian Band (Chase).

Ktunaxa Nation, (as represented by Ktunaxa Nation Council) government offices are located in Cranbrook. Members engaged include ʔakisq̓nuk First Nation (Invermere), Tobacco Plains Indian Band (Grasmere), yaqan nuʔkiy (Creston), and ʔaq̓am (Cranbrook).

Syilx (Okanagan Nation) includes the Okanagan Nation Alliance and members of the nation consulted with respect to the Revelstoke TSA include Penticton Indian Band, Lower Similkameen Indian Band (Keremeos), Okanagan Indian Band (Vernon) and Upper Nicola Indian Band (Merrit).

APPENDIX B - List of Approved PEM/TEM for Revelstoke

The provincial site productivity layer data and supporting information is available at:

<https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/forest-inventory/site-productivity/provincial-site-productivity-layer>

Summary information on the completed PEM/TEM projects and datasets within the Revelstoke project area can be found in the accompanying technical report at:

https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/forestry/stewardship/forest-analysis-inventory/site-productivity/technical_document_flnr_provincial_site_productivity_layer_v61_draft_20171205.pdf

(Table 7, pg. 22 – 29)

4316 Revelstoke PEM 1.0 Completed; conditionally approved (ICH units only) All and Approved 4018

BEC

The last BEC update that changed linework in the Revelstoke TSA was released in 2016. Relevant changes include adjustments of ICH subzone/variant boundaries, particularly between ICHmw3, ICHwk1, ICHvk1, and introduction of woodland mapping in the ESSFvcw and ESSFwcv. One more BEC update is planned for the TSA and is anticipated to be released in the next 2 years and the change is related to site productivity and may be helpful for inventory purposes. The change will split the ESSFvc into two units – a lower elevation unit where Hw and Hm both occur with Sxw and Bl and site productivity is higher, and an upper elevation unit where Hm occurs, Hw is uncommon, and site productivity is lower. Contact Deb MacKillop, Kootenay Boundary Region for background information and plot data.

PEM and Exceptional Materials Mapping

In ~2014 Parks Canada paid for “exceptional materials mapping” for the full Revelstoke TSA, including the Parks, TSA, and both TFLs, in anticipation of a planned PEM in partnership with the province. This mapping included avalanche features, rock outcrops, shallow soils, fans, and other special features. Since the contract was for Parks Canada, the province does not have the deliverable. However, the province may want to ask Parks Canada if they would be willing to share the data since much of it would be applicable to a new VRI inventory, either as a base input or a QA layer.

The PEM listed in the report had a 3rd party accuracy assessment which resulted in a fail for the ESSF because of different interpretations of what was, at the time, too broad of a site classification for the ESSF. Note that the PEM used an interim, never-published site series classification version. Contact Deb MacKillop, Kootenay Boundary Region for further background information and a copy. Use of this PEM requires detailed knowledge of these issues for correct interpretation.

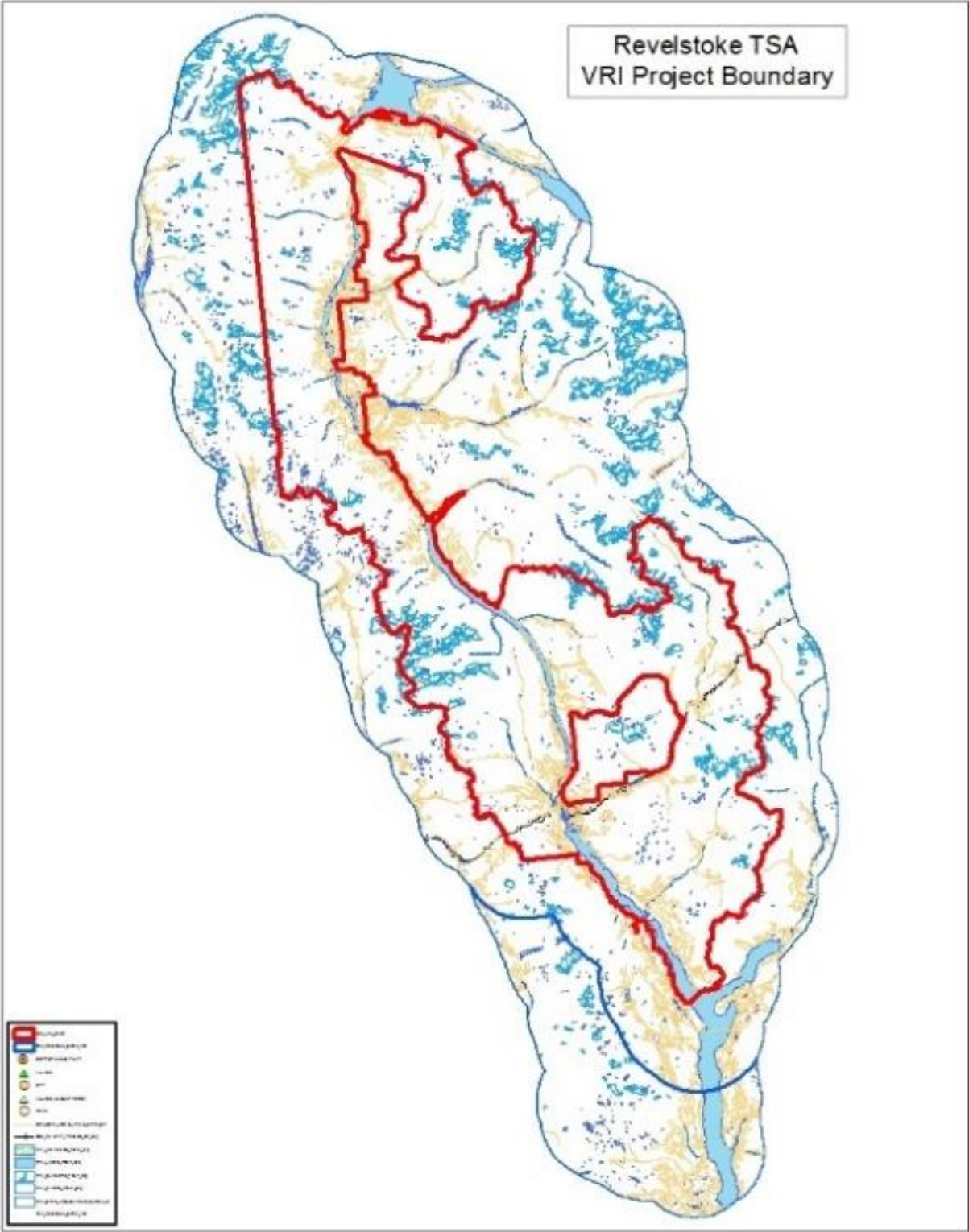
APPENDIX C – Summary Mapsheet List and Overview Maps

MAP_TILE	AREA (ha)
082K061	996.61
082K071	8844.27
082K081	15534.09
082K082	3102.53
082K091	15635.39
082K092	6550.06
082L080	932.74
082L090	8427.88
082L098	19.44
082L099	8981.39
082L100	15187.34
082M008	2950.49
082M009	15420.33
082M010	4793.26
082M018	7570.16
082M019	15568.73
082M020	9498.44
082M028	12367.00
082M029	15535.32
082M030	15191.24
082M037	510.50
082M038	14687.51
082M039	8815.31
082M040	6258.16
082M047	3951.83
082M048	11173.42
082M049	71.26
082M056	1383.74
082M057	13574.50
082M058	4795.08
082M059	24.85
082M066	1739.82
082M067	15373.94
082M068	858.28
082M076	2010.09
082M077	12795.52
082M078	843.38
082M079	4676.26
082M080	86.94
082M086	2055.69

Inventory Plan for Photo Interpretation of the Revelstoke TSA

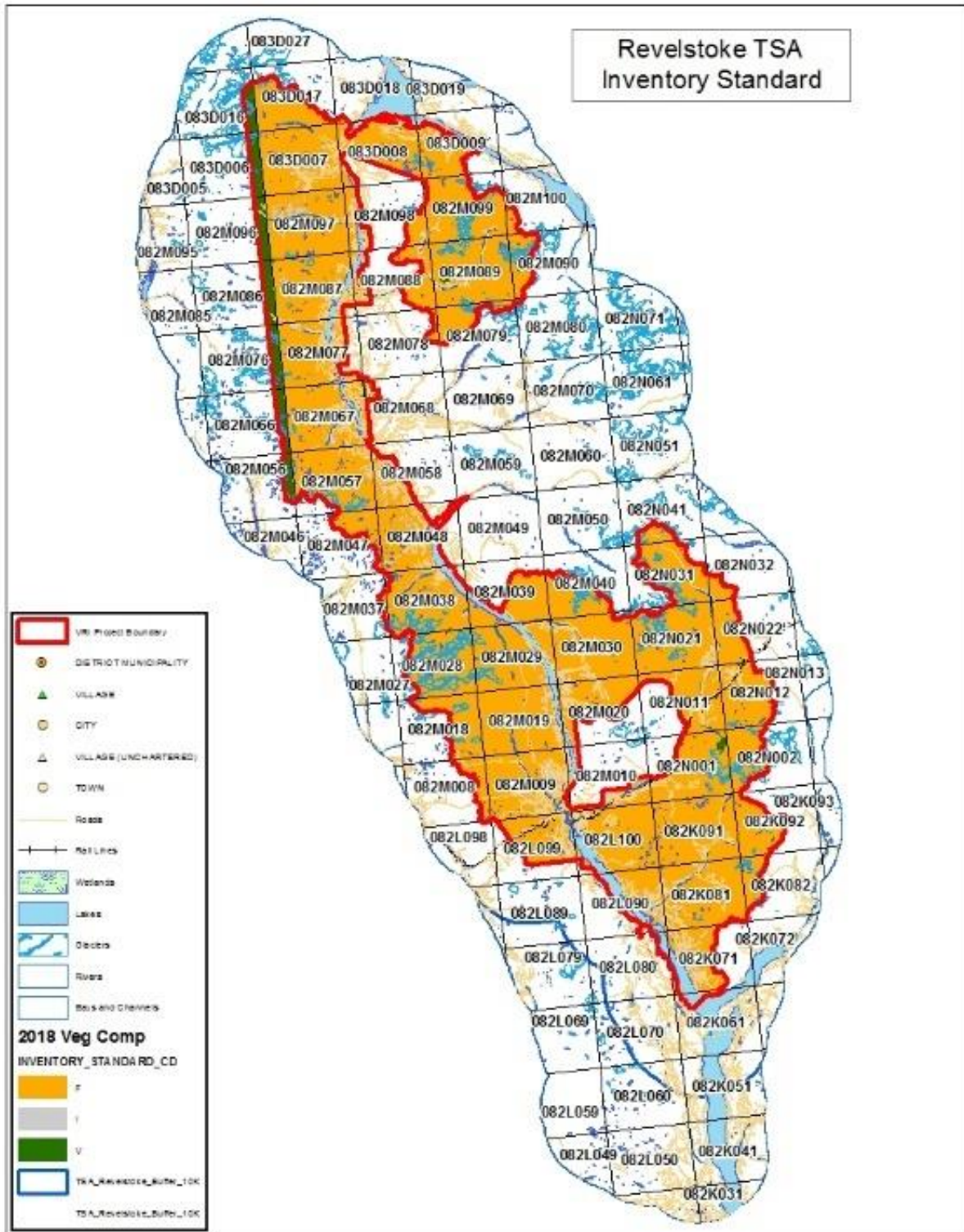
082M087	14908.46
082M088	7032.62
082M089	15333.88
082M090	3998.48
082M096	2101.30
082M097	15300.13
082M098	5301.93
082M099	13104.86
082M100	1017.35
082N001	12228.97
082N002	6138.99
082N011	9666.72
082N012	8976.74
082N021	15084.88
082N022	5240.17
082N031	9219.18
082N032	1520.91
082N041	1637.52
083D006	2146.92
083D007	15266.34
083D008	10890.90
083D009	6541.45
083D016	1563.26
083D017	7821.74
083D018	314.65
Total Area (ha)	481,151.16

Fig 1 - Revelstoke TSA Inventory Project Boundary



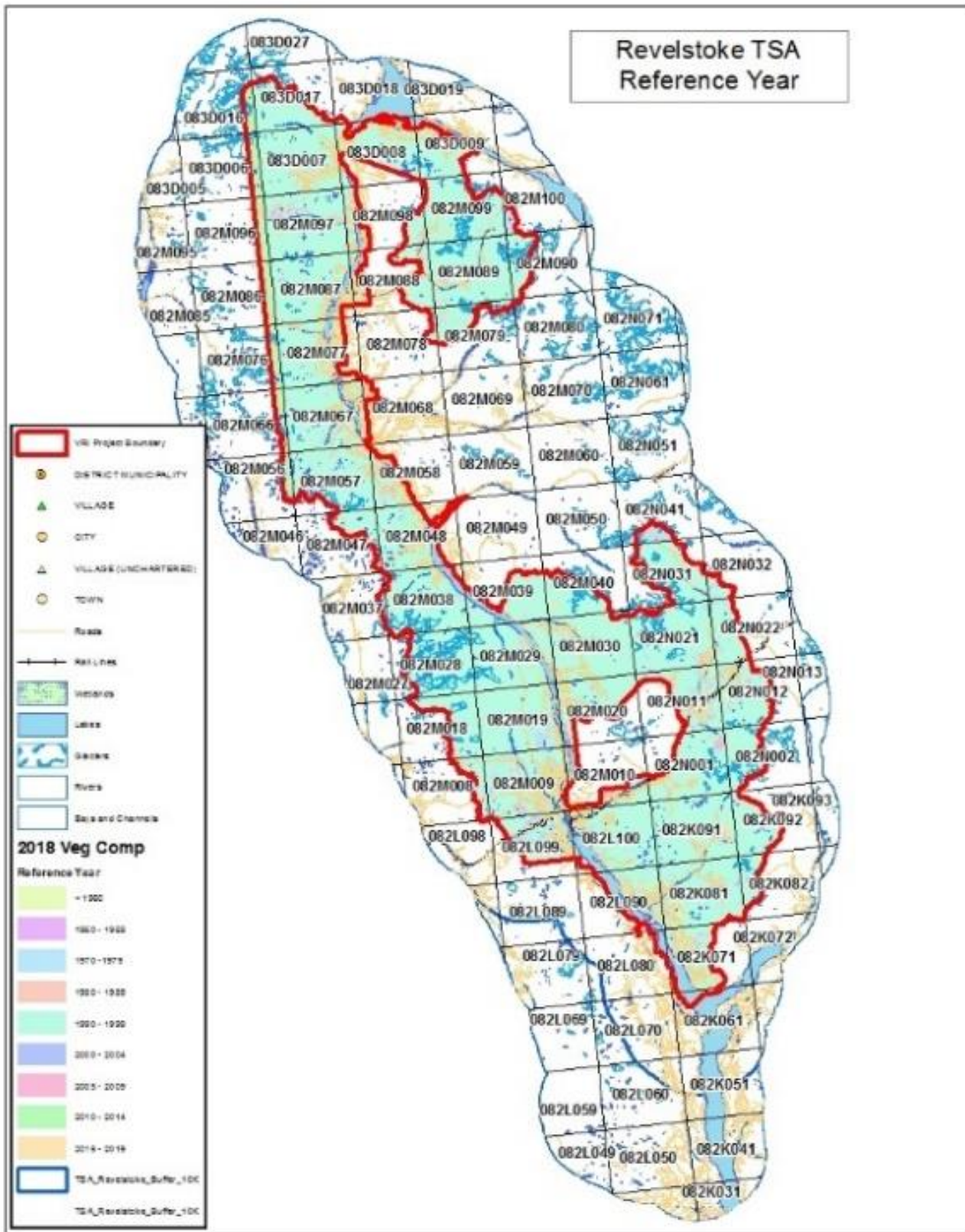
Inventory Plan for Photo Interpretation of the Revelstoke TSA

Fig. 2 – Revelstoke Inventory File Standard



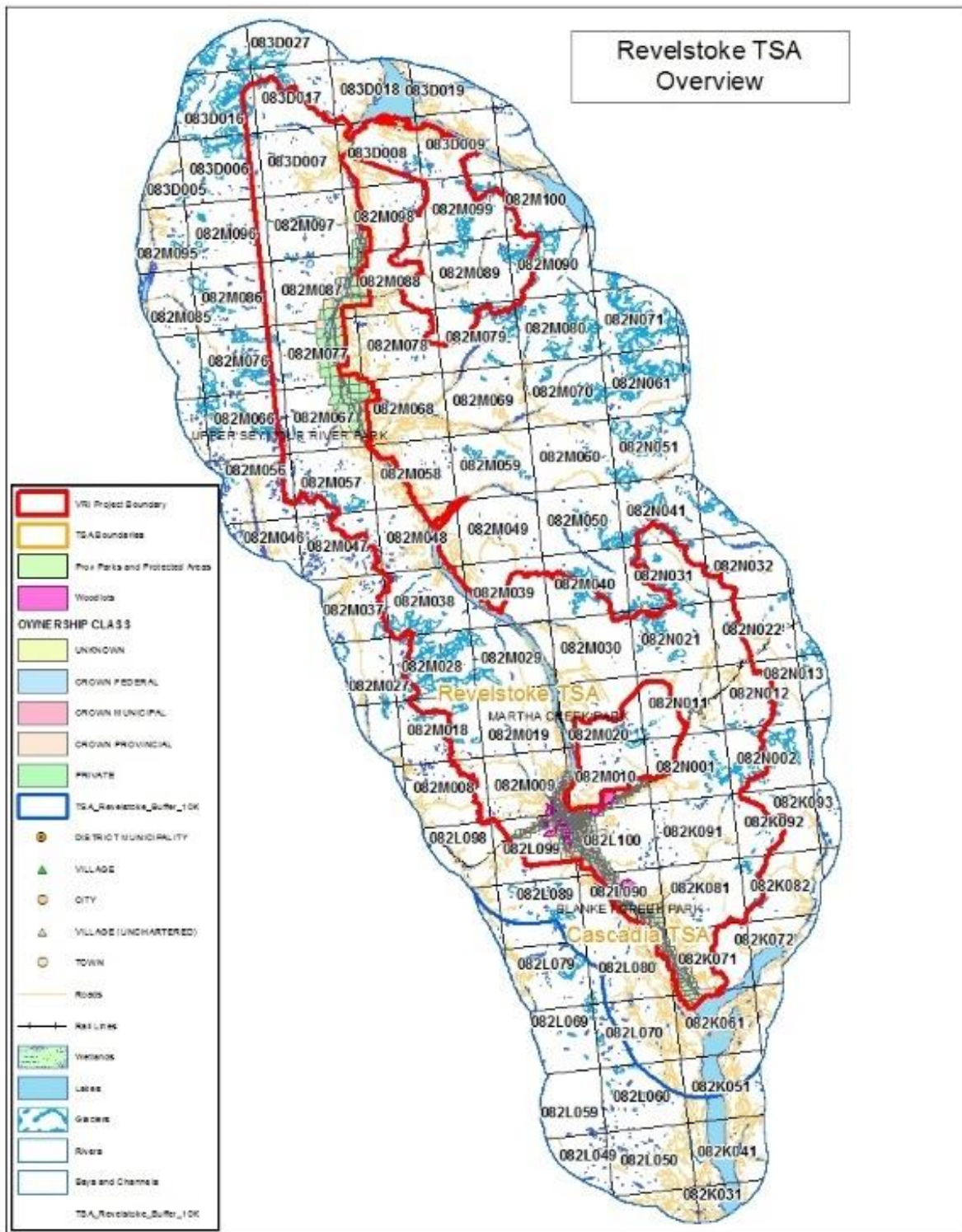
Inventory Plan for Photo Interpretation of the Revelstoke TSA

Fig. 3 Revelstoke – Inventory Currency



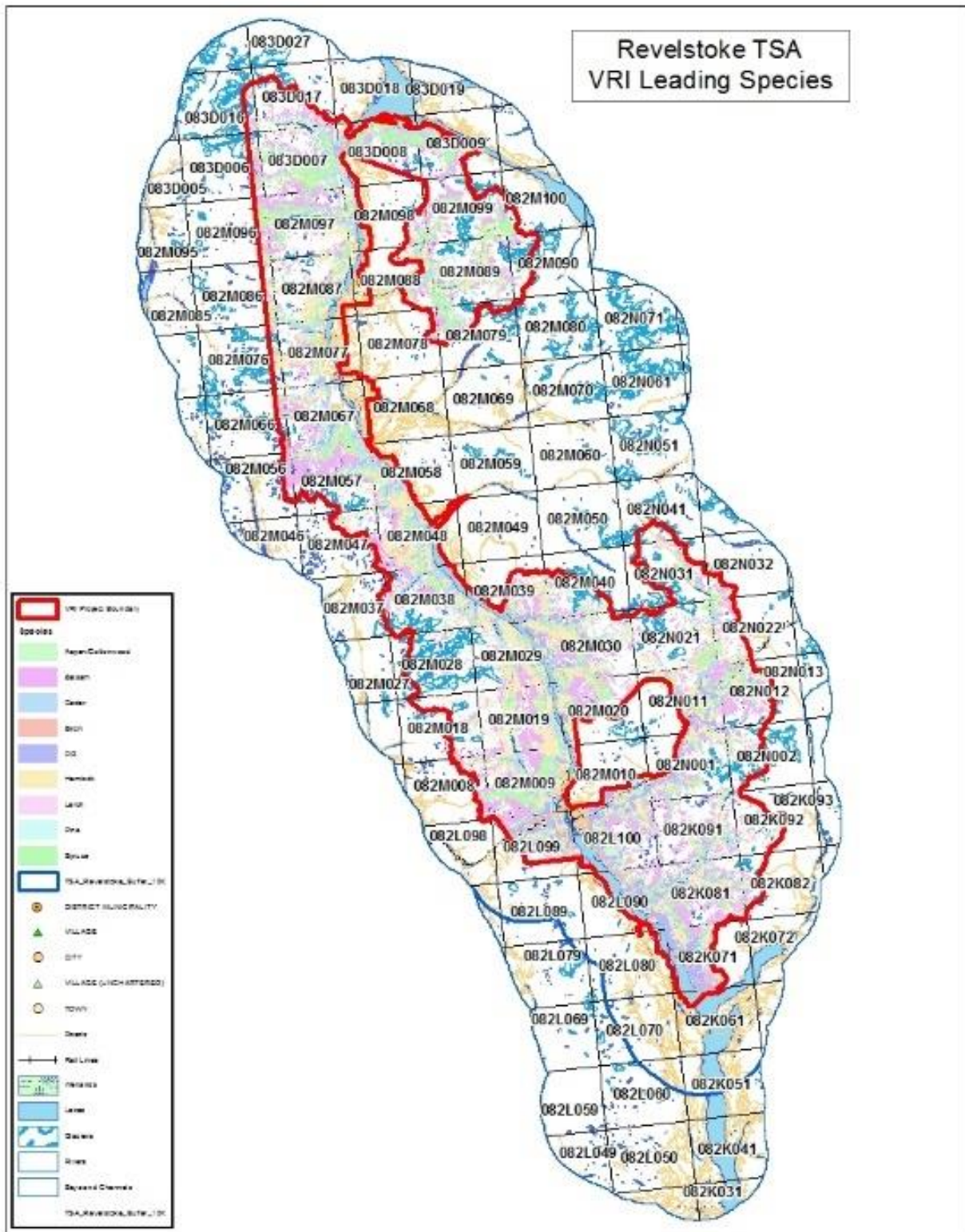
Inventory Plan for Photo Interpretation of the Revelstoke TSA

Figure 4 VRI Project Overview Map of Revelstoke



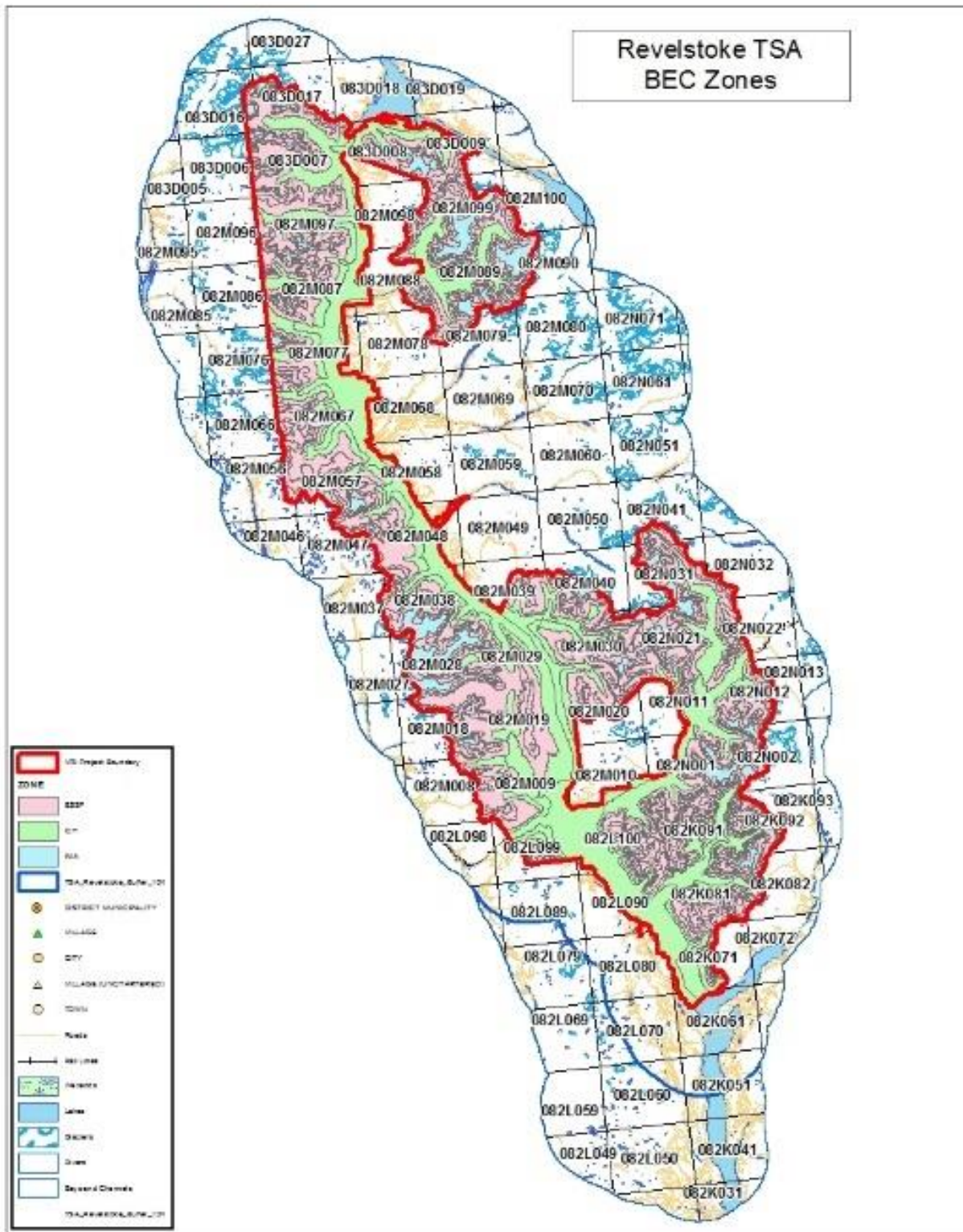
Inventory Plan for Photo Interpretation of the Revelstoke TSA

Figure 5: Revelstoke TSA Leading Species



Inventory Plan for Photo Interpretation of the Revelstoke TSA

Figure 6: Revelstoke Inventory Project Area BEC



Inventory Plan for Photo Interpretation of the Revelstoke TSA

Fig. 7: Revelstoke TSA Inventory Project Area RESULTS Spatial File Coverage

