Fuel Management Prescription - Requirements for Maps & Spatial Data 2023

Large format georeferenced PDF map that clearly represent (at a suitable scale) the following required content and spatial data submissions, including metadata, is required as part of the final report requirements for fuel management activities.

Provincial Crown land: treatments are required to be entered into RESULTS and the ACTIVITY_TREATMENT_UNIT_ID (ATU ID) will be required as evidence of a successful RESULTS entry. Please refer to the [RESULTS Information Submission Specifications: Government Funded Activities](#).

A. Summary of Map & Spatial Data Requirements

Maps and Spatial Data			
	Maps	**Spatial Data Layers & KMZ**	**Notes**
Fuel Management Prescriptions including prescribed fire	**Fuel management Prescription**	• PRESC_PROJECT_ BOUNDARY • PRESC _TREATMENT_ UNIT	**Refer to Part B and C for maps** **Refer to Part D, H and I for spatial data**

B. Mandatory Requirements for All Maps

- Descriptive title
- Scale (as text or scale bar)
- North arrow
- Legend
- CRI Project number and proponent name, consultant and GIS company name
- Date
- Reference data such as roads, railways, transmission lines, pipelines, water bodies and rivers/creeks
- Compress map files to reduce unnecessary large file sizes

C. Required Map for Fuel Management Prescriptions

- PRESC Project Boundary with land status and tenure overlaps (e.g. range, woodlots, area-based tenures)
- Values including any reserves, wildlife habitat areas, or critical infrastructure
- Streams, wetlands, lakes including the class and identification number/name
- Areas of safety concern (steep slopes).
- PRESCRIBED_TREATMENT_UNIT (labelled by TREATMENT_UNIT_ID)
- Access including existing/proposed roads, trails and stream crossings
- Previously completed treatments if applicable (labelled by year)
- Table with all areas identified in Treatment Unit Summary, including treatment regime and hectares (from the signed Fuel Management Prescription doc)
- Wildfire Threat Assessment plots / labelled by PLOT_NUMBER

D. Spatial Data Requirements

The Province of BC uses ArcGIS 10.6 and all spatial data submissions must be compatible with ArcGIS 10.6. In addition, some feature layers as identified in the table below, are also required in a KMZ format.

Spatial data must conform to the following general formats, naming conventions and standards.

1. **Data Format and Naming Conventions:** Data must be submitted in a File Geodatabase (FGDB) and KMZ format and must conform to the conventions for feature dataset names, feature class names, attribute names, and attribute values as identified in the Specific Submission Requirements by Project Type section below. It is strongly recommended that you use the template FGDB in order to facilitate meeting this requirement.

   FGDB and KMZ names must adhere to the following naming standard:
   < Local Government/First Nation Band Number>_<ProjectTypeAndDescription>
   For example: PrinceGeorge_CWRPNorthPG.gdb, PrinceGeorge_CWRPNorthPG.KMZ

2. **FGDB Projection:** The projection standard is NAD_1983_BC_Environment_Albers (EPSG:3005), with parameters of:
   - Central meridian: -126.0° (126°00'00" West longitude) Latitude of projection origin: 45.0 (45°00'00 North latitude) First standard parallel: 50.0° (50°00'00" North latitude)
   - Second standard parallel: 58.5° (58°30'00" North latitude) False easting: 1000000.0 (one million metres)
   - False northing: 0.0
   - Datum: NAD83, based on the GRS80 ellipsoid.

3. **Data Quality:** Submitted data must meet general data quality guidelines to ensure corporate data quality standards are met. Data with slivers, gaps between adjacent polygons, and geometry or topology errors shown as overlaps will not be accepted.

4. **Metadata:** Metadata must be provided for all spatial layers. The metadata standard is FGDC and is required to be submitted in .xml format. Metadata must document the following:
   a. A description of what each dataset represents for all datasets provided in addition to what is outlined in the individual project sections.
   b. A description of each attribute and the codes/values used to populate it for all attributes provided in addition to what is outlined in the individual project sections.
   c. Data Source information including where the data came from, the currency of the information and source contact details for potential follow-up.
   d. For resultant datasets, metadata must also include the methodology and source data used in the creation of the resultant, the date of creation, and contact details for the person who created it.

5. **Submission:** The method for spatial data submission is a file geodatabase (FGDB) compressed into a zip file and KMZ file(s). KMZ files are to be saved with symbology (i.e. similar to what is displayed on the required maps).

Additional notes about Fuel Management and Prescription submissions:

      • The prescription_ operational project boundary represents the net operational area.

      • One single or multi part polygon must be submitted for each treatment unit and/or activity.

      • Project boundary, treatment unit and spatial hectares must match the net hectares stated on the maps and in the final report, or worksheet 2 for fuel treatments.

      • Provincial Crown land: treatments will be required to be entered into RESULTS.

E. Specific Submission Requirements for Fuel Management and/or Prescription

Feature Layer Name	KMZ	Feature Layer Description	Mandatory Attributes	Attribute Description	Attribute Details (Data type, length)
PRESC _PROJECT_ BOUNDARY	YES	Single or multi-part dissolved polygon layer defining the net area under prescription	DATA_COLLECTION_DATE	Date spatial data was collected	Date (DD/MM/YYYY)
			DATA_COLLECTION_METHOD	Method of spatial data collection (ex. GPS, digitized, etc.). See Table 1	Text, 45
			AREAHA	Area in hectares	Double
PRESC _ TREATMENT_UNIT	YES	Prescription treatment units	TREATMENT_UNIT_ID	Treatment Unit ID	Text, 10
			CURRENT_FUEL_TYPE	Current treatment unit fuel type. See Table 2	Text, 15
			CURRENT_STEMS_PER_HA	Current treatment unit density stems per hectare	Long integer
			LOCATION_NAME	Geographic description of treatment unit	Text, 50
			DATA_COLLECTION_DATE	Date spatial data was collected	Date (DD/MM/YYYY)
			DATA_COLLECTION_METHOD	Method of spatial data collection (ex. GPS, digitized, etc.). See Table 1	Text, 45
			AREAHA	Area in hectares	Double

F. Attribute Value Reference Tables

Table 1: Data Collection Method

DATA_COLLECTION_METHOD	DESCRIPTION
differentialGPS	The data was captured with a differential GPS unit, or was post-processed with information received from known reference stations, to improve data accuracy.
Digitizing	The data was converted from an analog map into a digital format using a digitizing tablet connected to a computer.
GISAnalysis	The data was created as a result of a GIS Analysis.
nondifferentialGPS	The data was captured with a GPS unit but was not post-processed or was captured with a GPS unit incapable of doing differential GPS.
orthoPhotography	The data was delineated from an orthophoto (aerial photography).
Photogrammetric	The data was delineated using photographs or images in stereo pairs
satelliteImagery	The data was delineated from a satellite image.
sketchMap	The data was hand sketched, either on an analog map or on-screen.
tightChainTraverse	The data was surveyed with a hand compass and chain to create a closed traverse.

Table 2: Fuel Type

FUEL_TYPE	DESCRIPTION
C-1	C-1 Spruce Lichen Woodland
C-2	C-2 Boreal Spruce
C-3	C-3 Mature Jack or Lodgepole Pine
C-4	C-4 Immature Jack, Lodgepole Pine, densely stocked Ponderosa Pine, or Douglas Fir
C-5	C-5 Red and White Pine
C-6	C-6 Conifer Plantation
C-7	C-7 Ponderosa Pine or Douglas Fir
D-1/2	D-1/2 Green or Leafless Aspen or Deciduous shrub
S-1	S-1 Jack or Lodgepole Pine slash
S-2	S-2 White Spruce, Balsam slash
S-3	S-3 Coastal Cedar, Hemlock, Douglas-Fir slash
O-1a/b	O-1a/b Matted or Standing Grass
M-1/2	M-1/2 Green or Leafless Mixedwood
M-3	M-3 Dead Balsam Fir Mixedwood – leafless
M-4	M-4 Dead Balsam Fir Mixedwood – green
Non-fuel	Non-fuel
Unclassified	Unclassified
Water	Water