

MEMO: AFRED FireSmart Database FRIAA Submission Requirements

The AFRED FireSmart Database began as an inhouse initiative for collecting information, spatial and nonspatial, relating to fuel management treatments completed in Alberta.

Project information is first captured by fuel management professionals, and then delivered to FRIAA to be submitted into the database by Alberta Agriculture and Forestry.

The goal of the database is to be the source of truth for fuel modification in the province. This comprehensive dataset will be used to inform and improve the practice of vegetation management moving forward. It is imperative that quality data is captured at the project level to support future projects and initiatives.

The intent of this memo is to inform contractors about required fields for treatment polygons which are submitted to FRIAA.

Example Entry

| | | |
|-----------------------|-----------------------|--|
| Administrative | DATABASE FIELD | FIELD ENTRY |
| | Project_name | Rainbow Lake East |
| | Polygon_notes | Completed as per 2014 WMS; brushing after thin/prune |
| | Year | 2016 |
| | Forest_area | High Level Forest Area |
| Treatment | DATABASE FIELD | FIELD ENTRY |
| | Maintain_canopy | True |
| | Canopy_trtment | Partial_thin_manual |
| | Surface_redistribute | none |
| | Surface_reduce | Manual |
| | Surface_remove | none |
| | Surface_composition | none |
| | Site_access | All_vehicle |
| | NewFBP | Fuel_grid |

Appendix A. Database Field Descriptions

- Administrative Fields
 - project_name
 - Name of the project, generally reflective of location
 - polygon_notes
 - Optional additional information not captured in required fields
 - Year
 - Year in which the treatment occurred
 - forest_area
 - Provincial Forest Area in which the treatment occurred
- Treatment Fields
 - maintain_canopy
 - This is a true/false field. If a canopy is maintained as part of the treatment (thinning or selective harvest for example), this field is marked as true. If the canopy is removed as part of the treatment (clear harvest and clear mulch for example), this field is will be marked as false
 - canopy_trtment
 - Entry will describe the canopy treatment based on predefined options included in the Appendix C
 - surface_redistribution
 - One of four fields relating to the modification of surface fuels, particularly describing treatments which result in a redistribution of surface vegetation and post treatment canopy debris
 - surface_reduce
 - One of four fields relating to the modification of surface fuels, particularly describing treatments which result in a reduction of surface vegetation and post treatment canopy debris
 - surface_remove
 - One of four fields relating to the modification of surface fuels, particularly describing treatments which result in a removal of surface vegetation and post treatment canopy debris
 - surface_composition
 - This field allows for planting as a treatment option.
 - site_access
 - This field is used to capture information relating to operational access to the site during fire season. Assume unfrozen ground conditions when selecting an entry.
 - NewFBP
 - Field options describe fuel types as defined by the Canadian Forest Fire Behaviour Prediction System. Provides options for options for archiving the treatment polygons, using default fuel grid call and overwriting the default fuel grid call.

Appendix B. Database Field Entry Notes

| Canopy_trtment | Description of efforts to mitigate crown fuels in treatment areas |
|------------------------------|---|
| harvest_selective | Harvesting of single trees according to harvest plan and criteria |
| harvest_patch_ret | Clear harvest in which group of live mature trees are left standing |
| mulch_patch_ret | Mulching of canopy fuels while retaining groups of standing trees |
| mulch_strip_ret | Mulching of canopy fuels while retaining standing trees in strips |
| partial_prescribed_fire | Partial reduction of canopy fuels by use of prescribed fire |
| partial_thin_manual | Partial reduction of canopy fuels by thinning performed by hand crews |
| partial_thin_mechanical | Partial reduction of canopy fuels by thinning performed by equipment |
| partial_unknown | Partial reduction of canopy fuels as a result of unknown treatment type |
| none | No canopy treatment occurred |
| mulch_selective | Selective mulching of single trees according to predetermined criteria |
| clear_mechanical | Complete removal of canopy fuels performed by equipment |
| clear_mulch | Complete removal of canopy fuels through a mulching prescription |
| clear_manual | Complete removal of canopy fuels performed by hand crews |
| clear_harvest | Complete removal of canopy fuels through traditional harvesting |
| composition_clean_stand_dead | Removal of standing dead trees from treatment area |
| composition_tending | Partial removal of canopy species to adjust composition to favour less flammable species. |

| Surface_mgmt_redistribute | Redistribution of surface fuels and post treatment canopy debris |
|----------------------------------|--|
| compaction | Canopy and surface fuels compacted over project area |
| mulch | Canopy and surface fuels mulched over project area |
| site_prep | Redistribution of surface fuels through site preparation post-harvest |
| chip | Canopy and surface fuels chipped over project area |
| mow | Redistribution of grass fuels over project area by mowing |
| herbicide | Destruction of live surface fuels by chemical means |
| logging_debris_scattered | Decrease fuel continuity across harvest blocks |
| Surface_mgmt_reduce | Reduction of surface fuels and post treatment canopy debris |
| Pile_and_burn_mechanical | Mechanically piling surface fuels and debris, then burning |
| pile_and_burn_manual | Manually piling surface fuels and debris, then burning |
| broadcast_burn | Burning of treatment area to reduce surface fuels |
| hazard_reduction_burn | Burning of grass fuels on a reoccurring basis |
| graze_normal | Grazing of surface fuels by livestock such as cows and goats |
| logging_debris_pile_burn | Mechanically piling logging debris and burning post-harvest |
| manual | Reduction of surface fuels by hand crews or volunteers |
| Surface_mgmt_remove | Removal of surface fuels and post treatment canopy debris |
| site_prep | Removal of surface fuels through site preparation post-harvest |
| broadcast_burn_heavy | Intensive burning of treatment area to remove surface fuels |
| graze_heavy | Intensive grazing of surface fuels by livestock such as cows and goats |
| mechanical | Removal of surface fuels by heavy equipment |
| chip_haul | Breakdown of surface fuels followed by transport from treatment area |
| logging_debris_community_zone | Post-harvest debris removed to community zone standard |
| Surface_mgmt_composition | Surface has been planted as part of veg. management prescription. |
| plant | Treatment area will be planted |
| none | No planting will be done on site |

| Site_access | Fire season operational access; assume unfrozen ground condition. |
|-------------------------|--|
| all_vehicle | Access compatible with all vehicle types |
| heavy_equipment_tracked | Wet ground condition suitable for access by tracked equipment |
| heavy_equipment_wheeled | Dry ground condition suitable for access by wheeled equipment |
| helicopter | Fly-in access only, inaccessible by ground vehicles |
| light_OHV | Site condition unsuitable for access by heavy equipment of any kind |
| unknown | Site condition and access potential is unknown |

| FBP Fuel Type | Fuels types defined as per the Canadian Forest Fire Behavior Prediction system |
|---------------|--|
| archive | Archived fuel treatment; will not appear in active treatment spatial layers |
| C-1 | Spruce-lichen woodland |
| C-2 | Boreal spruce |
| C-3 | Mature jack or lodgepole pine |
| C-4 | Immature jack or lodgepole pine |
| C-5 | Red and white pine |
| C-6 | Conifer plantation |
| C-7 | Ponderosa pine-Douglas-fir |
| D-1 | Leafless aspen |
| D-2 | Green Aspen |
| fuel_grid | Use existing fuel grid classification |
| M-1 | Boreal mixedwood-leafless |
| M-2 | Boreal mixedwood-green |
| M-3 | Dead balsam fir mixedwood-leafless |
| M-4 | Dead balsam fir mixedwood-green |
| O-1 | Grass |
| S-1 | Jack or lodgepole pine slash |
| S-2 | White spruce-balsam slash |
| S-3 | Coastal cedar-hemlock-douglas-fir slash |