



**Final Fire Perimeter
DATA STANDARD REPORT
July 14, 2010
Version 1.0**

**United States Department of Interior
Bureau of Land Management
National Operations Center
Data Resource Services
Denver Federal Center
Denver, Colorado 80225**

Purpose of Data Standard Report

The Data Standard Report is the necessary document for a new or revised National Data Standard. DOI Data standards process requires certain pieces of information to be documented for a data standard to be valid. The Data Standard Report is the tool BLM uses to accomplish this documentation. The completed Report is distributed for review and comment on the content of the standard. The comments are gathered and resolutions are developed through working with the appropriate data stewards, commenters and other Subject Matter Experts. More iteration can occur depending on comments and complexity of the data standard. Once all comments are resolved, the data standard report is then finalized.

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INTRODUCTION

Description of Standard

Final Fire Perimeters (polygon features). This data set represents the final perimeter (the linear feature that encloses and encircles a fire, thus creating a polygon) recorded for a wildland fire incident. This statewide standard is based on the 2006 National Wildland Fire Coordinating Group (NWCG) Fire History data standard and the 2010 Wildland Fire Decision Support System (WFDSS) Daily and Final Fire Perimeter Geospatial Data Standard. This standard includes the minimum data elements for reporting an incident to NWCG through the National Interagency Coordination Center (NICC) at the National Interagency Fire Center (NIFC). The Bureau of Land Management (BLM) Washington Office Information Bulletin number [WO IB 2007-056](#) outlines the data standard, the minimum acceptable data and the process to post fire perimeter spatial data to the NIFC Incident Data Storage site (ftp://ftp.nifc.gov/Incident_Specific_Data/) using File Transfer Protocol (ftp). The BLM is a signatory party to these national standards and processes and is expected to contribute data for each calendar year. Several elements have been added to the NWCG standard for this data standard to enable BLM field offices to have a more robust data set which will be more useful for land and resource management.

This data set is for the capture, maintenance, query, and display of data related to naturally ignited wild fires and escaped prescribed fires managed with a suppression strategy. Data relating to prescribed fires (ignited by management for the purpose of treating vegetation) will be captured in the BLM Treatments data set.

Final Fire perimeters will normally be collected as polygon features. In some instances, dispatch offices may only have received a point (latitude/longitude) of a fire incident. The local fire management officer (FMO) will determine how large of a buffer to place on a point to create a polygon to correctly represent the fire.

This data standard will result in a BLM Montana/Dakotas corporate data set, collected and maintained by each field office or dispatch center and housed at the Montana/Dakotas State Office. Each field office and dispatch center will use this data set for all storage, query, and display of data relating to fire perimeters.

Affected Groups

Include but are not limited to: fire management officers, dispatch center managers, incident commanders, fuels management specialists, rangeland management specialists, land use planners, GIS specialists, botanists, natural resource specialists, foresters, wildlife and fisheries biologists, resource advisors, civil engineers and technicians, and range technicians. This may also include partners or cooperators that provide fire perimeter information to the BLM.

Sponsor

Theresa Hanley, Deputy State Director, Division of Resources, Montana State Office, BLM (LLMT920000)

DATA STEWARD/CONTACT INFORMATION

Office	Role	Name	Contact Information
Montana State Office, Division of Resources, Branch of Fire and Aviation Management (LLMT925000)	State Office Data Steward; State Fire Management Office	Phil Gill	5001 Southgate Billings, MT 59101 406-896-2914
Central Montana District Office, Division of Fire Management (LLMTL00300)	Data standard reviewer; Field Office Data Steward; Fire Ecologist	Jennifer Walker	920 NE Main Street P.O. Box 1160 Lewistown, MT 59457 406-538-1900
Montana State Office, Division of Resources, Branch of Fire and Aviation Management (LLMT92500)	Data standard reviewer; GIS Specialist (Fire)	Rebecca Casillas	1299 Rimtop Drive Billings, MT 59105 406-896-2963
Montana State Office, Division of Resources, Branch of Planning and Biological Resources (LLMT923000)	GIS Specialist	Randy Schardt	5001 Southgate Billings, MT 59101 406-896-5141
Montana State Office, Division of Support Services, Branch of Information Resource Management (LLMT932000)	GIS Specialist	Shelley Johnson	5001 Southgate Billings, MT 59101 406-896-5140
Montana State Office, Division of Support Services, Branch of Information Resource Management (LLMT932000)	State GIS Coordinator	Kathie Jewell	5001 Southgate Billings, MT 59101 406-896-5144

Montana State Office, Division of Support Services, Branch of Information Resource Management (LLMT932000)	Data Administrator	Kevin Brooks	5001 Southgate Billings, MT 59101 406-896-5270
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DATA SET CHARACTERISTICS

Overall Security

a.	Identify Security Level
	Public
b.	Privacy Information
	No Privacy Act (PA) or Personally Identifiable Information (PII) will be collected or maintained through this standard. The BLM may collect and display fire perimeters for incidents that occur on private lands, but no names, addresses, or PII will be collected or linked to this data set.

Data Privileges

Who has create, read, update, and/or delete privileges?

The state data steward for the fire management program, in coordination with each district/field office and dispatch center, will determine access rights to fire perimeters data. Each dispatch center and field office will designate those individuals responsible for entering and editing the data set. Editors shall have access to Fire Reports and other data regarding incidents required to populate this data set.

The field office or dispatch center staffs that are responsible for inputting fire perimeters will require Create, Read, Update, and Delete (CRUD) privileges for their specific geographic portion of the data set. Where fire perimeters cross field office, district or state boundaries, individual access will be dependent on duties assigned. In some cases, individuals will require CRUD privileges to more than one field office, district or state portion of the data set depending on assigned work.

State Office (SO) GIS specialists, fire data stewards, and fire management officers (FMOs) may require CRUD privileges for the entire state portion of the data set. Other SO staff will have Read permission. Because the data will be posted yearly and available online from NIFC, the data set may be read and downloaded by cooperators, contractors, state or county agencies, and others.

Dispatch center managers, incident commanders, fire ecologists, fire planners, land use planners, GIS specialists, rangeland management specialists, botanists, natural resource specialists, foresters, wildlife and fisheries biologists and range technicians, and invasive species coordinators may require CRUD privileges for specific geographic areas or portions of the data set. Access conditions and terms may be specific to each office and location within the BLM. Some portions of the data set may be reviewed and read by cooperators, contractors, state or county agencies, and others as needed to accomplish the BLM mission.

Data Collection & Maintenance Protocols

a. Location Accuracy Requirements

	<p>Spatial Accuracy: The Accuracy Measurement defines how close, measured in feet, the actual ground location is to the spatial depiction in the GIS. This value would typically be determined by one of three methods: 1) the map accuracy value, if a published map was used to define the location; 2) the expected spatial accuracy achieved with a Global Positioning System (GPS) unit; or 3) the measurement of that accuracy as is noted in the National Standard for Spatial Data Accuracy (NSSDA) which is a data usability standard issued by the Federal Geographic Data Committee (FGDC). The spatial data standard will be based on the FGDC and NSSDA accuracy standards. Please refer to the FGDC-STD-007.3-1998 reference document for both horizontal and vertical accuracy.</p> <p>The best available data source shall be used to collect and input data relating to fire perimeters with the target of reaching 1:24000 accuracy or better.</p> <p>Spatial location accuracy shall be +/- forty (40) feet for all features identified in the final fire perimeter data standard. Minimally acceptable data sources for data submitted to NWCG is 1:24000 scale maps. Arcs making up the boundary shall be duplicated from other data sets if possible (i.e., if the fire perimeter is a road, then that specific arc of the polygon shall be coincident with that road feature in the transportation coverage).</p>
b.	Data Content Accuracy Requirements
	Expected data content accuracy shall be 90 percent accurate for initial data entry. After yearly review, data accuracy is expected to be 95 percent prior to posting to the NIFC data storage site.
c.	Collection & Input Protocols:

Each field office and dispatch center will be expected to use the adopted protocols for populating and maintaining the corporate data set. Several methods will be available for inputting and updating data, including: screen digitizing from a variety of original source materials (aerial photography, paper maps) or Global Positioning System (GPS) data from field collection. Where perimeters cannot be created from GPS data, aerial photos, remotely sensed data or existing maps, point data from fire reports may be used and buffered to create polygons of reported fire size. Data collectors and editors shall be required to use domain fields to improve accuracy of the data.

- 1) The field or district office FMO, as the data steward for their geographic area of responsibility, is responsible to ensure that the servicing dispatch center or field office creates the final fire perimeters and inputs them into the corporate data set by September 30 of each year. Fires occurring on or after September 30 shall be input as soon as they are declared out. The FMO is responsible for ensuring timely and accurate input of data from the Fire Reports.
- 2) The State FMO, as the state data steward, is responsible for ensuring that each fire in the corporate data set is accurately represented spatially and has the correct attributes, based on the Fire Reports. The FMO shall coordinate with the appropriate GIS staff to ensure spatial integrity of the data set. The FMO shall coordinate with each field office and dispatch center for entity and attribute accuracy.
- 3) The State FMO is responsible for ensuring that the fire history information is posted to the correct location on the NIFC site per WO IB 2007-056 by December 15 of each year. The State FMO will review the state data set between September 30 and December 15 of each year to insure data quality goals are met.

There is currently no single method for data collection and input for this data set. Data may be collected and input from a variety of sources as long as the data, and the collection method, are documented with metadata. The BLM has not yet migrated enough of its existing data stores to any specific format to eliminate any methods for digital data collection. The most common method of data collection shall be with GPS technology. For historical fires, the boundary may be established by digitizing from aerial photos, using remotely sensed data or digitizing from manuscript lines.

Projection and Datum: All spatial data collected, derived, displayed or analyzed will be geo-referenced and provided in the Montana/Dakotas Custom Albers projection with the following parameters:

Projected coordinate system name: NAD_1983_Albers

Geographic coordinate system name: GCS_North_American_1983

Details:

Map Projection Name: Albers Conical Equal Area

Standard Parallel: 43.500000

Standard Parallel: 48.000000

Longitude of Central Meridian: -106.000000

Latitude of Projection Origin: 42.500000

False Easting: 0.000000

False Northing: 0.000000

d.	Update Procedures:
	<p>Data depicting the location and describing the fire perimeter will be input into this data set no later than September 30 of each year. The data steward may require more frequent data entry, depending on fire activity or other constraints. The data steward is responsible for ensuring that each field office and dispatch center complies with the data standard. Corrections to spatial accuracy or attributes will be completed within 2 weeks of the data steward notifying the appropriate office of the discrepancy. Data input and edit rules for the Fire Reporting System and this data standard will be followed by field offices.</p> <p>Existing historical data, as depicted on various source materials, shall be input into the system in a timely manner, such that a complete statewide, current and historical data set can be constructed and maintained. Timeframes for this data entry will be established by the Data Steward and Sponsor, based on funding and workflow. Each field office and dispatch center shall establish a process to input and verify historical fire occurrences.</p>

Data Quality

a.	Transaction level data quality:
	Implementation will include domain value edits during data entry.
b.	Monitoring level data quality:
	<p>Field office data stewards, FMOs, dispatch center managers and the state data steward shall review the data set annually prior to September 30 of each year for end of year reporting requirements. Discrepancies or deficiencies are to be reported to the appropriate field office data steward for clarification and update. The state data steward will review any corrections or updates to the data set again prior to December 15 of each year. This data set will be used to satisfy national reporting requirements and those established deadlines and timeframes will be met using this data. Cooperating agencies and partners may choose to review portions of the data for accuracy of attributes and locations. Field and district office FMOs are responsible for all aspects of data quality and accuracy for their specific geographic area. The State FMO, as the state data steward, is responsible for the overall quality of the data and for ensuring that national reporting requirements are met.</p>

Relationship To Other Standards

Fire Perimeter locations may cross multiple field office, district, or state boundaries. Where possible, coincidental lines or points from other data sets (e.g., state boundary, office boundary, political jurisdictions, range improvements, transportation, etc.) shall be used to create the polygon features depicting the fire perimeter locations. Fire perimeters may also be identified as hydrographic features. If mapped on the National Hydrography Database (NHD), the NHD feature shall be used to create the feature in this data set. Fire perimeters that follow roads or other transportation features shall be created by duplicating the appropriate line from the transportation data set. Offsets or buffers may be used to locate the perimeter feature.

The Fire code shall be used to relate data in this dataset to the NWCG Fire Reporting System database. Geographic state codes shall follow Federal Information Processing Standards (FIPS) codes. Unit identifiers shall follow NWCG guidelines. Office or administrative unit codes or names shall follow the Federal Personnel and Payroll System (FPPS) codes.

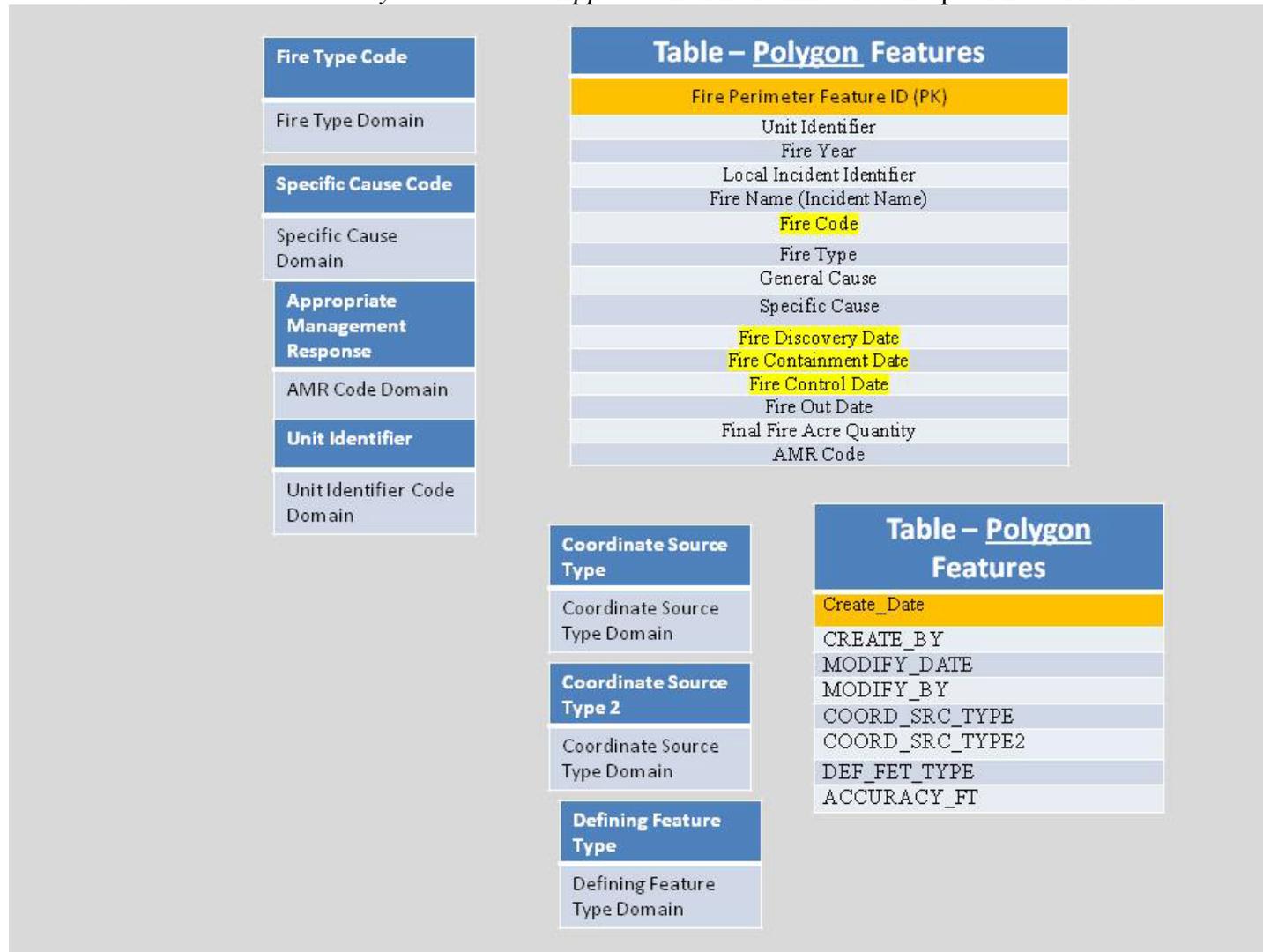
This data standard adheres to the NWCG (2006) and WFDSS (2010) data standard for Final Fire History. All nationally required data elements are accounted for in this standard. Below is the minimum data required to comply with the NWCG & WFDSS standard:

Data Element Name	Data Abbreviation	Description	Required?	Length	Data Type	Example	Data Standard Reference
Incident Name	INCIDENT	Name assigned to an incident	Yes	64	Text	Swamp Creek	NWCG: Incident Name
Fire Year	FIRE_YEAR	- Year the fire was confirmed to exist or was reported as discovered - A component of the unique fire identifier	Yes	4	Text	2010	NWCG: Date NWCG: Fire Discovery Date NWCG: Unique Fire Identifier
NWCG Unit Identifier	UNIT_ID	- Uniquely identify a particular organizational unit within the government or non-government organization recognized by NWCG as a wildland fire cooperator. - Corresponds to the Point of Origin Responsible Agency Unit Identifier. - A component of the unique fire identifier	Yes	6	Text	IDFCP	NWCG: Point of Origin Responsible Agency Unit Identifier NWCG: Unit Identifier NWCG: Unique Fire Identifier
Local Fire Number	LOCAL_NUM	- Uniquely identifies incident at the local level - A component of the unique fire identifier	Yes	6	Text	5033	NWCG: Local Incident Identifier NWCG: Unique Fire Identifier
Date	DATE_CUR	Collection date of the fire perimeter	Yes	8	Date	YYYYMMD D	NWCG: Date
Time	TIME	Collection time in 24 hour military	Yes	5	Text	1330	NWCG: Time

Data Element Name	Data Abbreviation	Description	Required?	Length	Data Type	Example	Data Standard Reference
Map Method	MAP_METHOD	Method by which the polygon data is collected and/or compiled	Yes	80	Text	GPS/Air	None Identified
Acres	GIS_ACRES	Polygon acres as calculated by the GIS	Yes		Double	187	NWCG: Final Fire Acre Quantity
User Name	USER_NAME	WFDSS username of the person who loaded/drew the polygon in WFDSS	Yes	50	Text	Ben Butler	None Identified
Comments	COMMENTS	Fire perimeter related comments	No	255	Text		None Identified

DATA CHARACTERISTICS

Each data standard is to be supported by a data model which includes entities and relationships between entities. The logical data model with its associated data dictionary is included in Appendix B. Fire Perimeter Conceptual Data Model



Fire Perimeters Data Elements

The following is a list of the data elements and associated metadata relevant to this data standard. Any design considerations for these data elements are included in the implementation guidelines. Naming Conventions can be found in the “Data Administration and Management Handbook” BLM Manual H 1283-1.

Fire Perimeter

Data Element Name	Type	Size	Req'd?	Key*	Attribute Definition	Comments
Feature ID	Integer		Yes	Yes	The designed primary key that will uniquely identify a single occurrence of the entity.	
NWCG Unit Identifier	Char	6	Yes		<p>A code used within the interagency wildland fire community to uniquely identify a particular organizational unit within the government or a non-government organization recognized by NWCG as a wildland fire cooperator.</p> <p>The unit identifier is normally the ID of the recognized unit with jurisdiction of the point of origin of the fire. An organizational unit is defined as an office that is administratively responsible for either: 1) managing events (e.g., incidents or projects) supported by the wildland fire community, 2) providing resources to the wildland fire community, or 3) providing logistical services to the wildland fire community.</p>	<p>NOTE: this is not the BLM organizational code.</p> <p>Example: MTBDC is the Billings Dispatch Center, Montana/Dakotas BLM.</p> <p>See domain listing for current (2010) NWCG unit identifier codes.</p>
Fire Year	Char	4	Yes		The calendar year during which the fire started; year the fire was confirmed to exist or was reported as discovered	Example: 2009
Local Fire Number (Identifier)	Char	6	Yes		A number or code that uniquely identifies an incident report for a particular reporting unit and a particular calendar year. Uniquely	Note: Referred to as the “Fire Number” this is the unique code given to an incident by the local

Data Element Name	Type	Size	Req'd?	Key*	Attribute Definition	Comments
					identifies the incident at the local level. This is not a unique code beyond the local level. Each fire unit may have the same values used. Combining the Fire Year, Unit Identifier and Local Fire Report Identifier will create a unique value.	administrative unit. Leading zeros (0s) shall be used to fill the field. Example: 000009, 0DK1E0
Incident Name	Char	75	Yes		Incident name is optional for a wildland fire incident; however, if a wildland fire is named, incident name must be two or more alpha-numeric characters in length. This is the name assigned to an incident.	Note: Most incidents will be named. This is the common named assigned to the incident. This will not be a unique code.
Fire Code Text	Char	4	No		A standardized code assigned by the federal wildland fire agencies/bureaus to effectively track and compile cost information for emergency fire suppression expenditures. The fire code is incorporated into each agency's accounting code structure	Note: This is an accounting code and may be not used by cooperators or partners when they record or report a fire event.
Fire Type Code	Char	2	Yes		A general, high-level code and description of the types of incidents and planned events to which the interagency wildland fire community responds. Use of domain list is required.	Note: See domain listing of NWCG approved fire types.
General Cause	Char	7	Yes		The declared cause of the fire as recorded by the dispatch office. Value must be "Human" or "Natural."	Note: Natural or Human.
Specific Cause	Char	12	Yes		The specific cause of the fire as recorded by the dispatch office. Enter Unknown if not known. Use of domain list is required.	Note: See domain listing.
Fire Discovery Date	Date		Yes		The date the fire was confirmed to exist or was reported as discovered in YYYYMMDD format.	Note: If unknown, record as date the fire was reported to the dispatch office. Example: 20090704
Fire Containment Date	Date		Yes		The date that the wildfire was declared contained in YYYYMMDD format. NWCG glossary defines containment as: The	Note: If unknown, record as date the fire was reported contained or out to the dispatch office.

Data Element Name	Type	Size	Req'd?	Key*	Attribute Definition	Comments
					status of a wildfire suppression action signifying that a control line has been completed around the fire, and any associated spot fires, which can reasonably be expected to stop the fire's spread.	
Fire Control Date	Date		No		The date that the wildfire was declared under control in YYYYMMDD format. The NWCG glossary defines controlled as: The completion of control line around a fire, any related spot fires, and any interior islands to be saved; burned out any unburned area adjacent to the fire side of control lines; and cool down all hot spots that are immediate threats to the control line, until the lines can be reasonably expected to hold under the foreseeable conditions.	Note: If unknown, record as date the fire was reported controlled to the dispatch office.
Fire Out Date	Date		Yes		The date, in YYYYMMDD format, when all observable combustion has ceased or there is no risk of the fire again becoming active and requiring additional control or management actions. All management activities directly relating to suppression (including mop-up), monitoring, or burning efforts have concluded; however, there may be secondary management efforts, such as burned area rehabilitation or hazard mitigation, still in process.	Note: If unknown, record as date the fire was reported as out to the dispatch office. This is the date on which the final fire size and shape will be established and reported.
Collection Date	Date		Yes		The date (YYYYMMDD) that the fire perimeter was collected.	Note: May be the same date as the fire out date. Example: 20100608
Collection Time	Time		Yes		The time, in 24 hour military format, of the fire perimeter collection.	Note: Time will be collected in conjunction with Collection Date. Example: 1330
Final Fire Reported Acre Quantity	Integer	9	Yes		Number of acres within the final fire perimeter of a specific, individual incident, including unburned and unburnable islands.	Note: These are the <u>Reported</u> acres, not the acres calculated by GIS or other means.

Data Element Name	Type	Size	Req'd?	Key*	Attribute Definition	Comments
					Acres will be reported to the nearest tenth (0.10) acre. The smallest fire size to be recorded will be 1/10 th acre (0.10 acre).	Example: 963.5
Appropriate Management Response (AMR) Code	Char	4	No		The code describing the appropriate management response to the fire. The AMR area designations may be established through a land use planning process or determined by funding, staffing, or incident priority. The management response to the fire incident as indicated at the time the incident is declared out. If management response changes during an incident, code the response in effect at the conclusion of the incident.	Note: See domain listing.
Map Method	Text	80	Yes		The method by which the polygon representing the final fire perimeter was collected. Use of domain listing is required. If more than one method was utilized, enter the appropriate code, then a comma, then the next code.	Note: See domain listing. More than one code may be used. Separate codes by a comma.
Comments	Text	255	No		Comments regarding the final fire perimeter, collection methods, or general notes about the incident.	
<i>The following attributes are common to all data standards.</i>						<i>Note: Accuracy_Feet has been modified to reflect the +/- 40 foot accuracy requirement.</i>
Create_Date	Date		Yes		This is a system generated attribute. As a new feature is added to the system its creation date will be collected and maintained. The date will be in the format of YYYYMMDD.	
CREATE_BY	Char	30	Yes		This is a system generated attribute. As a new feature is added to the system the UserID of the person creating the feature will be collected and maintained. The UserID will be the persons BLM login ID. This attribute will be deleted before providing the data to the	

Data Element Name	Type	Size	Req'd?	Key*	Attribute Definition	Comments
					public.	
MODIFY_DATE	Date		Yes		This is a system generated attribute. As a feature is edited or modified while in the system its modification date will be collected and maintained. The date will be in the format of YYYYMMDD.	
MODIFY_BY	Char	30	Yes		This is a system generated attribute. As a feature is edited or modified while in the system UserID of the person modifying the data will be collected and maintained. The UserID will be the persons BLM login ID. This attribute will be deleted before providing the data to the public.	
COORD_SRC_TYPE	Char	5	Yes		The name that identifies the general category for the origin of the location coordinate, representing a compilation of the state adopted source codes.	Note: See domain listing.
COORD_SRC_TYPE2	Char	5	No		The name that clarifies or provides more information for the COORD_SRC_TYPE.	Note: See domain listing.
DEF_FET_TYPE	Char	15	Yes		The name that identifies the high-level category for the actual physical or mapping characteristics (features) from which the arcs are derived.	Note: See domain listing.
ACCURACY_FT	Integer	2	Yes		The Accuracy Measurement defines how close, in feet, the actual ground location is to the spatial depiction in GIS. This value would typically be determined by one of three methods: 1) the map accuracy value, if a USGS map was used to define the boundary; 2) the expected spatial accuracy achieved with	Note: Spatial accuracy must be no more than forty (40) feet based on program guidance.

Data Element Name	Type	Size	Req'd?	Key*	Attribute Definition	Comments												
					<p>GPS; or 3) the measurement of that accuracy as noted in the <i>National Standard for Spatial Data Accuracy (NSSDA)</i>¹ which is a data usability standard issued by the Federal Geographic Data Committee (FGDC).</p> <p>Default: -1</p> <p>A value of -1 indicates that the accuracy is unknown or that no reliable estimate can be made. Below is an example table of accuracy measurements. (Attempting to list all values in a domain table would produce an infinite list.)</p> <table border="1" data-bbox="932 657 1436 906"> <thead> <tr> <th colspan="2">Accuracy Measurement Example Table</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>+/- 1 Feet</td> </tr> <tr> <td>10</td> <td>+/- 10 Feet</td> </tr> <tr> <td>15</td> <td>+/- 15 Feet</td> </tr> <tr> <td>20</td> <td>+/- 20 Feet</td> </tr> <tr> <td>40</td> <td>+/- 40 Feet</td> </tr> </tbody> </table> <p>¹ Federal Geographic Data Committee. 1998. <u>Geospatial Positioning Accuracy Standards Part 3: National Standard for Spatial Data Accuracy</u>, FGDC-STD-007.3-1998</p>	Accuracy Measurement Example Table		1	+/- 1 Feet	10	+/- 10 Feet	15	+/- 15 Feet	20	+/- 20 Feet	40	+/- 40 Feet	
Accuracy Measurement Example Table																		
1	+/- 1 Feet																	
10	+/- 10 Feet																	
15	+/- 15 Feet																	
20	+/- 20 Feet																	
40	+/- 40 Feet																	

BUSINESS RULES

Rules under which data is used and modified (See H 1283-1, Data Administration and Management Handbook, Chapter 8 – Documenting Business Rules).

1. Unit Identifier

1. A Unit Identifier is designated only for 1) government (federal, state, tribe, and local) units, and 2) certain non-government organizations approved by NWCG. Non-government organizations must meet the following criteria: a) a wildland fire cooperator, and b) provides a nationally available pool of resources to wildland fire efforts.
2. Any specific unit identifier can only be assigned to one distinct organizational unit.
3. An organizational unit can have only one distinct unit identifier.
4. An organizational unit whose jurisdiction crosses state boundaries should use the state code of the state within which the main office is physically located.

Business Rule Source and Description

Guidance Directive (NWCG)
NWCG Data Administration Working Group

Type of Business Rule

Standard (Mandatory)

Current Implementation

Manual Process

2. Local Identifier

- A number or code that uniquely identifies an incident report for a particular reporting unit and a particular calendar year.
1. Every fire must be assigned a LOCAL INCIDENT IDENTIFIER.
 2. A LOCAL INCIDENT IDENTIFIER must be assigned to only one fire for a particular local fire management organization and within a particular calendar year.
 3. As needed, leading zeroes should be added to the LOCAL INCIDENT IDENTIFIER to fulfill the 6-character minimum length when fire report data is exchanged (exported).

Business Rule Source and Description

Guidance Directive
NWCG Data Administration Working Group

Type of Business Rule

Standard (Mandatory)

Current Implementation

Manual Process

3. Fire Code

A standardized code used by the federal wildland fire agencies/bureau assigned to effectively track and compile cost information for emergency suppression expenditures. The Fire Code is incorporated into each agency's accounting code structure.

1. A Fire Code will be established for every fire incident that is to incur costs. Agencies may group multiple fire incidents, using one Fire Code for the group. For example, the U.S. Forest Service groups all non-billable fires in size class A, B, C, and D under a single Fire Code. The BLM assigns all fires a unique Fire Code.
2. The same Fire Code will be used by all five federal agencies for their costs related to a specific fire.
3. The same Fire Code will be used for emergency stabilization costs as used by the relating fire.

Business Rule Source and Description

Guidance Directive
NWCG Data Administration Working Group

Type of Business Rule

Standard (Mandatory)

Current Implementation

Manual Process

4. Fire Type

A general, high-level code and description of the types of incidents and planned events to which the interagency wildland fire community responds.

1. An event must have one and only one Event Kind.
2. The Event Kind designations should be mutually exclusive.
3. The system of record identified above will be used as the source for valid values for this data standard.
4. The change procedures for this data standard must be followed when adding, modifying, deleting, or archiving the metadata definition or the standard data value list (NWCG data standard change procedures).
5. The Event Kind Code cannot be the same as any of the Event Category Codes.

Business Rule Source and Description

Guidance Directive
NWCG Data Administration Working Group

Type of Business Rule

Standard (Mandatory)

Current Implementation

Manual Process

5. Final Fire Reported Acre Quantity

The value placed in the Final Fire Acre Quantity field shall be equal to the number of acres reported on the Fire Report. This shall not be the GIS acres as calculated, unless the GIS acres are considered to be the most accurate acreage. In any case, the Final Fire acres must match what is recorded on the Fire Report. The minimum reported size shall be one-tenth acre (0.10 acre).

Business Rule Source and Description

Guidance Directive NWCG Data Administration Working Group	
Type of Business Rule	Current Implementation
Standard (Mandatory)	Manual Process

6. Final Fire Perimeter File Naming Convention (WFDSS Standard)

Prior to sending final fire perimeters to NWCG, the State Office GIS staff will coordinate with the data repository managers at NWCG to ensure proper file naming before file transfer. At a minimum, the following naming convention will be utilized:

Final Fire Perimeter file naming convention:

Unit ID (or agency/region/geographic area)_FireName_FinalFirePerimeter_creator_effectivedate.zip

Example:

MTMCC_SwampCreek_FinalFirePerimeter_Gunther_20100604.zip

The State Office GIS specialist will coordinate with the state data steward to ensure that each set of data uploaded to NWCG meets the naming convention standard. If multiple fires are uploaded, the GIS specialist shall coordinate with the receiving agency to ensure proper data transfer

Business Rule Source and Description

Guidance Directive NWCG Data Administration Working Group & WFDSS data standard	
Type of Business Rule	Current Implementation
Standard (Mandatory)	Manual Process

OTHER MATERIAL

Other supporting material that aids in the understanding or use of the data standard.

This standard was developed by NWCG and approved February 16, 2006. The 2010 Wildland Fire Decision Support System (WFDSS) data standard was incorporated in this standard in anticipation of the national adoption of the WFDSS data standard. The layer description from the NWCG states, "Fire History polygons represent final mapped wildland fire perimeters. This data is maintained at the unit level to track the area affected by fire. In the coverage format, polygon perimeters are stored via a regions feature class due to overlapping fire perimeters."

DOMAINS SPECIFIC TO THIS DATA STANDARD

Link to domains specific to this data standard:

[FirePerimeter_domains_v1_0.docx](#)

APPENDIX A: DOI DATA CATEGORIES

Data Subject Areas and Information classes are categories of information that support a DOI line of business. According to the DOI Data Standardization Handbook, one or more categories must be identified for a data standard. Any changes to these categories and their definitions would be made through the DOI Data Advisory Committee (DAC).

Subject Area: A collection of data classifications representing broad categories of information that support a line of business.

Information Class: A logical grouping of entities that are subcategories of the subject areas.

Only the Subject Areas and Information Classes that are appropriate to this data standard are included in this listing. For the full list of Subject Areas and their Information Classes please see http://web.blm.gov/data_mgt/guidelines/DOI_SubjectArea_InfoClass.doc.

This standard proposal covers the following DOI Subject Areas and Information Classes:	
GEOSPATIAL AND GEOGRAPHY	<i>Information about data that includes a terrestrial coordinate system or geographic reference. This includes geospatial data sets, mapping, imagery, coverage's, elevations, and features.</i>
<ul style="list-style-type: none"> Location 	<i>Information about an identifiable place of existence. A geographic or spatial identification assigned to a region or feature based on a specific coordinate system, or by other precise information such as a street address, a postal address, a descriptive location, a legal land definition, etc. Location data types primarily consist of Vector data.</i>
<ul style="list-style-type: none"> Map 	<i>A graphic depiction on a flat surface of the physical features of the whole or a part of the earth or other body, or of the heavens, using shapes to represent objects and symbols to describe their nature. Maps generally use a specified projection and indicate the direction of orientation.</i>
<ul style="list-style-type: none"> Spatial Data Set 	<i>A collection of spatial data and its related descriptive data, organized for efficient storage and retrieval. A simple data set might be a single file with many records, each of which references the same set of fields. A more robust spatial data set includes data about the spatial locations and shapes of geographic features, recorded as points, lines, areas, pixels, grid cells, or TIN (Triangulated Irregular Network) sample points, as well as their attributes.</i>
INCIDENT (applicable to dispatch offices as polygon is developed)	<i>Information about situations that require the response of emergency personnel and organizations and results in the recording of information about the situation.</i>
<ul style="list-style-type: none"> Occurrence 	<i>Information about an individual event that results in a response by authorities and the recording of information about the incident.</i>
<ul style="list-style-type: none"> Response 	<i>Information about the actions taken to respond to an incident. These actions include, but are not limited to, providing mobile telecommunications, operational support, power generation, search and rescue, law enforcement actions, fire suppression, investigation, and medical life saving actions.</i>

NATURAL AND CULTURAL RESOURCE	<i>Information about the natural and ecological resources, cultural resources, archaeological, and paleontology resources, and national heritage resources of the nation.</i>
<ul style="list-style-type: none"> • Energy and Natural Resource Production 	<i>Information about the actual or estimated volume and quality of resources and energy produced and/or sold from a natural resource deposit, their transportation and disposition, and the allocation of the volumes to the land.</i>
<ul style="list-style-type: none"> • Monitoring and Forecasting 	<i>Information related to the continuous or repeated observation, measurement, surveying, and evaluation of activities or conditions for defined purposes, according to prearranged schedules, and using comparable methods for sensing and data collection. This includes information on forecasting, which is the estimation or prediction of future outcomes, events, or conditions based on existing data and facts, often using predictive models.</i>
PROTECTION	<i>Information about activities that protect something or someone from exposure, injury, damage, or destruction.</i>
<ul style="list-style-type: none"> • Endangered Species Protection 	<i>Information about all activities performed to protect plants and animals that are in danger of extinction throughout all or a significant portion of its range, in accordance with the Endangered Species Act of 1973.</i>
<ul style="list-style-type: none"> • Habitat Protection 	<i>Information about all activities performed to protect the environment in which an organism or biological population lives and grows.</i>
<ul style="list-style-type: none"> • Property Protection 	<i>Information about all activities performed to ensure the security of civilian and government property.</i>
<ul style="list-style-type: none"> • Wildlife Protection 	<i>Information about all activities performed to protect mammals, birds, fishes, reptiles, and amphibians living in a natural environment, including both game and non-game species that are neither human nor domesticated.</i>
RISK MANAGEMENT	<i>Information pertaining to the processes of analyzing exposure to risk and determining appropriate measures.</i>
<ul style="list-style-type: none"> • Contingency Planning 	<i>Information about the actions required to plan for, respond to, and mitigate damaging events.</i>
SCIENCE AND INNOVATION	<i>Information about any domain of knowledge accumulated by scientific study and organized by general principles; includes scientific research and innovation when goal is the creation of new scientific and/or technological knowledge.</i>
<ul style="list-style-type: none"> • Biological Science 	<i>Information related to the branch of science that deals with the science of life and life processes, including the study of structure, origin, evolution, and distribution of living organisms.</i>
<ul style="list-style-type: none"> • Environmental Science 	<i>Information related to the science of the interactions between the physical, chemical, and biological components of the environment, including their effects on all types of organisms.</i>

APPENDIX B: LOGICAL DATA MODEL

Data Dictionary

This lists entities and attributes (in alphabetical order, not hierarchical or chronological order) in the logical data model shown above.

Entity Name	Entity Description	Logical Data Element Name	Type	Size	Req'd ?	Definition
Final Fire Perimeter						
	This data set represents the final perimeter (the linear feature that encloses and encircles a fire, thus creating a polygon) recorded for a wildland fire incident.					
	Feature_ID	Feature ID	Int		Yes	The system generated, designed primary key that will uniquely identify a single occurrence of the entity.
	FIRE_NWCGID_CODE	NWCG Unit Identifier	Char	6	Yes	A code used within the interagency wildland fire community to uniquely identify a particular organizational unit within the government or a non-government organization recognized by NWCG as a wildland fire cooperator.
	FIRE_YEAR_DATE	Fire Year	Char	4	Yes	The calendar year during which the fire started; year the fire was confirmed to exist or was reported as discovered.
	FIRE_LOCAL_NUMBER	Local Fire Number (Identifier)	Char	6	Yes	A number or code that uniquely identifies an incident report for a particular reporting unit and a particular calendar year. Uniquely identifies the incident at the local level.
	FIRE_INCIDENT_NAME	Incident Name	Char	75	Yes	Incident Name is optional for a wildland fire incident; however, if a wildland fire is named, Incident Name must be two or more alpha-numeric characters in length. This is the name assigned to an incident.
	FIRE_CODE_TEXT	Fire Code Text	Char	4	No	A standardized code assigned by the federal wildland fire agencies/bureaus to effectively track and compile cost information for emergency fire suppression expenditures. The Fire Code is incorporated into each agency's accounting code structure.
	FIRE_TYPE_CODE	Fire Type Code	Char	2	Yes	A general, high-level code and description of the types of incidents and planned events to which the interagency wildland fire community responds. Use of domain list is required.

Entity Name	Entity Description	Logical Data Element Name	Type	Size	Req'd ?	Definition
	FIRE_GENCAUSE_CODE	General Cause	Char	7	Yes	The declared cause of the fire as recorded by the dispatch office. Value must be "Human" or "Natural."
	FIRE_SPECCAUSE_CODE	Specific Cause	Char	12	Yes	The specific cause of the fire as recorded by the dispatch office. Enter Unknown if not known. Use of domain list is required.
	FIRE_DISCOVER_DATE	Fire Discovery Date	Date		Yes	The date the fire was confirmed to exist or was reported as discovered in YYYYMMDD format.
	FIRE_CONTAIN_DATE	Fire Containment Date	Date		Yes	The date that the wildfire was declared contained in YYYYMMDD format.
	FIRE_CONTROL_DATE	Fire Control Date	Date		No	The date that the wildfire was declared under control in YYYYMMDD format.
	FIRE_OUT_DATE	Fire Out Date	Date		Yes	The date when all observable combustion has ceased or there is no risk of the fire again becoming active, thus requiring additional management action.
	FIRE_COLLECT_DATE	Collection Date	Date		Yes	The date (YYYYMMDD) that the fire perimeter was collected.
	FIRE_COLLECT_TIME	Collection Time	Time		Yes	The time, in 24 hour military format, of the fire perimeter collection.
	FINAL_FIRE_ACRE_QUANTITY	Final Fire Reported Acre Quantity	Int	9	Yes	Number of acres within the final fire perimeter of a specific, individual incident.
	FIRE_AMR_CODE	Appropriate Management Response (AMR) Code	Char	4	Yes	The code describing the Appropriate Management Response to the fire.
	FIRE_MAP_METHOD_NAME	Map Method	Text	80	Yes	The method by which the polygon representing the final fire perimeter was collected.
	COMMENTS	Comments	Text	255	No	Comments regarding the final fire perimeter.

Data Element Name	Type	Size	Req'd?	Key*	Attribute Definition	Comments
<i>The following attributes are common to all data standards.</i>						<i>Note: Accuracy_Feet has been modified to reflect the +/- 40 foot accuracy requirement.</i>
Create_Date	Date		Yes		This is a system generated attribute. As a new feature is added to the system its creation date will be collected and maintained. The date will be in the format of YYYYMMDD.	
CREATE_BY	Char	30	Yes		This is a system generated attribute. As a new feature is added to the system the UserID of the person creating the feature will be collected and maintained. The UserID will be the persons BLM login ID. This attribute will be deleted before providing the data to the public.	
MODIFY_DATE	Date		Yes		This is a system generated attribute. As a feature is edited or modified while in the system its modification date will be collected and maintained. The date will be in the format of YYYYMMDD.	
MODIFY_BY	Char	30	Yes		This is a system generated attribute. As a feature is edited or modified while in the system UserID of the person modifying the data will be collected and maintained. The UserID will be the persons BLM login ID. This attribute will be deleted before providing the data to the public.	
COORD_SRC_TYPE	Char	5	Yes		The name that identifies the general category for the origin of the location coordinate, representing a compilation of the state adopted source codes.	Note: See domain listing.
COORD_SRC_TYPE2	Char	5	No		The name that clarifies or provides more information for the COORD_SRC_TYPE.	Note: See domain listing.
DEF_FET_TYPE	Char	15	Yes		The name that identifies the high-level category for the actual physical or mapping characteristics (features) from which the arcs	Note: See domain listing.

Data Element Name	Type	Size	Req'd?	Key*	Attribute Definition	Comments
					are derived.	
ACCURACY_FT	Integer	2	Yes		The Accuracy Measurement defines how close, in feet, the actual ground location is to the spatial depiction in GIS.	Note: spatial accuracy must be no more than forty (40) feet based on program guidance.