



Wildland Fire Decision Support System (WFSS)

Fire Management Unit (FMU) and Strategic Objective Shape (SO) Geospatial Data Standard

Updated July 9, 2015

Overview:

At version 4.7 WFSS enabled the Spatial Fire Planning Process (SFP); an optional process that can spatially describe an administrative unit's strategic objective and management requirements. Using the SFP, units can visually display language from their Land, Resource, and/or Fire Management Plans on a map display as shapes. The visual depiction of these data allow for greater data control because data managers can upload, manage, and associate shapes to represent their unit's planning direction, and make changes as needed throughout the year. For more information and direction on the SFP Process see the [WFSS Spatial Fire Planning Guide](#).

If an administrative unit decides to move from the FMU Process to the SFP Process they may need to create a new data set to represent the strategic objectives from their plan. This new data set and the shapes it contains are referred to as Strategic Objective Shapes. The shapefile containing these shapes must follow the data standards outlined in this document.

Note: This data standard pertains to **both** Fire Management Unit shapefiles and Strategic Objective Shape shapefiles.

Definitions:

Strategic Objectives

WFSS Definition: *These are broad statements, specified in land and resource management and fire management plans that identify changes in water, soil, air, or vegetation from the present to proposed conditions but can also describe an existing resource condition that should be maintained. Objectives deal with large areas over long time periods and project intended outcomes of management activities that contribute to the maintenance or achievement of desired conditions.*

Strategic Objective Shapes

WFSS Definition: *The strategic objective shape layer is intended to spatially represent the strategic objectives of the landscape and the unit boundary shape; it allows you to utilize shapes other than FMUs to visually depict their fire management direction.*

FMP Fire Management Units (FMUs)

NWCG Definition: *A land management area definable by objectives, management constraints, topographic features, access, values to be protected, political boundaries, fuel types, major fire regime groups, etc. that set it apart from the characteristics of an adjacent FMU. The FMU may have dominant management objectives and pre-selected strategies assigned to accomplish these objectives.*

Fire Management Plan (FMP)

Guidance for Implementation of Federal Wildland Fire Management Policy (Feb 2009) Definition: *A plan that identifies and integrates all wildland fire management and related activities within the context of approved land/resource management plans. It defines a program to manage wildland fires (wildfire and prescribed fire). The plan is supplemented by operational plans, including but not limited to preparedness plans, preplanned dispatch plans, prescribed fire burn plans and prevention plans. Fire Management Plan's assure that wildland fire management goals and components are coordinated.*

Land/Resource Management Plan (L/RMP)

Guidance for Implementation of Federal Wildland Fire Management Policy (Feb 2009) Definition: *A document prepared with public participation and approved by an agency administrator that provides general guidance and direction for land and resource management activities for an administrative area. The L/RMP identifies the need for fire's role in a particular area and for a specific benefit. The objectives in the L/RMP provide the basis for the development of fire management objectives and the fire management program in the designated area.*

GIS Data Layer Specifications:

Data Source	Best available source with a target of NMAAS 1:24,000 (1:63,360 for Alaska)
Data Format	Shapefile or Geodatabase
Feature Type	Polygon
Geographic Coordinate System	GCS_North_American_1983
Datum	North American Datum 1983
Prime Meridian	Greenwich
Units	Decimal Degrees
Positional Accuracy	The Spatial data standard for the following spatial features will be based on the Federal Geographic Data Committee (FGDC), National Standard for Spatial Data Accuracy (NSSDA); Reference document FGDC-STD-007.3-1998 for both horizontal and vertical accuracy.
Metadata	FGDC compliant, Layer Level

Rules:

- Polygons may be non-contiguous (two or more spatially defined locations that are not adjacent).
 - In cases where non-contiguous polygons share a 'CODE', the polygons must be singlepart and not multipart. To learn more about multipart versus singlepart polygons [click here](#).
- The 'CODE' attribute must be a unique value for every FMU/Strategic Objective associated to a single unit.
- Standard GIS topology is enforced. Shapefiles should be free from slivers, gaps, and overlaps. Boundaries may be matched to a base unit layer (i.e. Forest/Park Boundary).
- Polygons cannot be overlapping – one area on the ground has one and only one FMU/Strategic Objective.
- The FMU Code entered in the application by the WFDSS Data Manager must match the 'CODE' in the FMU/Strategic Objective shapefile attribute table. The Data Manager and GIS Specialist must use the exact same Code in WFDSS and the shapefile attribute table. See page 4 for examples.
 - *Note: If the spatial data are loaded before the manager enters the FMU codes in the WFDSS Data Management tab, the FMU codes are populated from the 'CODE' attribute field in the shapefile as part of the loading of the data. To ensure that the data match; only these codes should be used by the manager.*

Business Data Specifications:

This section identifies the business data that is needed in the attribute table for the GIS data layer.

Data Element Name	Data Abbreviation/Attribute Name	Description	Req.	Length	Data Type	Example	Data Standard Reference	Discussion Points
Land /Resource Mgmt. Plan or FMP FMU Code/ Name Or Strategic Obj. Code	CODE	A user designated alpha/ numeric code (or name) assigned to the L/RMP or FMP Units.	Yes	32	String (Text)	GEN	User Designated <i>See page 4 - two example CODEs</i>	<ul style="list-style-type: none"> FMU Codes must be alpha-numeric and cannot contain commas. The following special characters are permissible: Space # & () - . / _
Unit Identifier	UNIT_ID	A particular organizational unit	Yes	7	String (Text)	NMGNF	NWCG: Unit Identifier	<ul style="list-style-type: none"> Unit ID attribute values should not be hyphenated
Land /Resource Mgmt. Plan or FMP FMU Code/ Name Or Strategic Obj. description	DESC_	L/RMP or FMP Unit (FMU) Description or Name	No	128	String (Text)	General Forest	User Designated <i>See page 4 - two example DESCs</i>	<ul style="list-style-type: none"> The relationship between DESC and CODE must be one-to-one (<i>i.e. a CODE can have one and only one DESC</i>)
Land Owner Category	AGENCY	Abbreviated name of agency	Yes	7	String (Text)	USFWS	NWCG: Land Owner Kind & Category	<ul style="list-style-type: none"> The following abbreviations should be used to represent the federal wildland fire management agencies: BIA, BLM, NPS, USFS, USFWS

Naming convention for FMP Unit (FMU) shapefile for national submission:

- FMU/SO shapefiles should be named using the naming convention below.
- Before sending, zip all the files associated with the shapefile (.shp,.shx,.dbf,.prj,.xml,.sbx,.sbn).
 - o The files should be zipped (*.zip) with naming convention described below.
- The result should show the shapefile and the .zip file having the same name.

File naming convention:

Fire Management Unit Shapefile:

Unit ID (or agency/region/geographic area) _FMU_ 'creator name' _date

Example:

NMGNF_FMU_Butler_20090402
or FS_R3_FMU_Butler_20090402

Strategic Objective Shapes Shapefile:

Unit ID (or agency/region/geographic area) _StrategicObj_ 'creator name' _date

Example:

NMGNF_StrategicObj_Butler_20090402
or FS_R3_StrategicObj_Butler_20090402

FAQs:

1. Can the DESC_ be the FMU/SO common name?

Yes, the DESC_ can be the FMU/SO common name, a geographic descriptor, or related to the dominant fire management objectives for that area, whatever is the easiest to reference the fire management objectives from the fire management plan to the particular polygon so long as it is 128 characters or less.

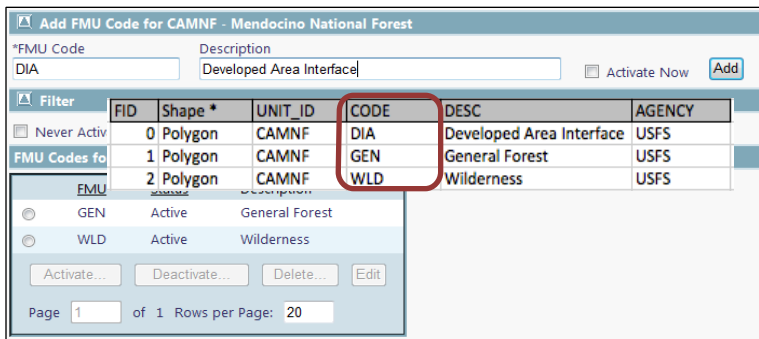
2. Is there a problem having additional attribute fields within the layer?

If additional attribute fields are included they will be discarded by the WFDSS GIS Specialist. Please truncate attribute tables to only include UNIT_ID, CODE, DESC_, and AGENCY.

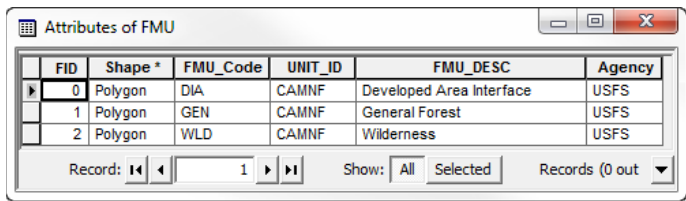
Example 1: FMU Code - using text for the FMU Code.

FMU codes are entered in WFDSS by users with the data manager role. This FMU Code must match the CODE field in the FMU/SO shapefile attribute table.

WFDSS Data Management Tab



FMU Shapefile Attribute Table



Data Posting/Updates:

The Interagency WFDSS GIS Team will be supporting the collection and processing of spatial data for WFDSS. FMU/SO shapefiles that are ready to be loaded in WFDSS should be sent to the appropriate agency representative. Please contact your agencies representative on the WFDSS GIS Team to determine how they would like you to submit the data (See - https://wfdss.usgs.gov/wfdss/WFDSS_WFDSS_GIS_Team.shtml)

Update Frequency:

The FMU update schedule is posted on the WFDSS website and can be found by clicking the link on the data page (see - https://wfdss.usgs.gov/wfdss/WFDSS_Data.shtml)