

Spatial Fire Planning Implementation Guide

Interagency, Wildland Fire Research, Development, and Application (WFM RD&A)
Program

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Overview

This guide outlines the Spatial Fire Planning process and how it can be implemented successfully to assist with incident decision-making and reporting.

What is Spatial Fire Planning (SFP)

Spatial Fire Planning (SFP) is a geospatial-centric planning process that allows wildland fire community members to manage National Environmental Policy Act (NEPA) approved guidance from Land, Resource, and Fire Management Plans (LRMP/FMP) as well as other guidance related to local values of interest in a spatial context.

By visually depicting the spatial extent to which fire planning language and guidance applies, SFP simplifies the incident decision-making process and ensures that fire management decisions are anchored to Land, Resource, and Fire Management Plans.

SFP – Past Management

From its inception in 2009 to the decommissioning of the classic version of the application in 2025, the Wildland Fire Decision Support System (WFDSS) allowed users to manage fire planning language and associated shapes through one of two planning methods:

- The Fire Management Unit (FMU) Planning Process: Introduced in 2009 with the release of the WFDSS application.
- The Spatial Fire Planning (SFP) Process: Introduced in 2014.

Regardless of the planning process selected by the user, other unit shapes and management requirements were managed at the administrative or local unit level, and strategic objectives and Fire Management Units (FMU) were managed at a national scale. Updating strategic objectives and FMUs was a complex and time intensive process as data management responsibilities were split between the field, agency leads, the WFM RD&A data team, and the WFDSS development team. Managing fire planning language and shapes within the WFDSS application required custom code development and restricted data to use within the system.

SFP - New Management

Advances in technology over the past decade have opened up opportunities for the fire community to make major shifts in how fire planning data are stored, managed, and used. Through discussions with WFDSS users, fire planning subject matter experts, and geospatial data subject matter experts; and in collaboration with the NWCG Fire Planning Committee (IFPC), and the NWCG Geospatial Subcommittee (GSC); WFM RD&A staff have developed a collection of new SFP data services and a SFP data editing application within the NIFC ArcGIS Online Organization (NIFC AGOL Org) for use in the 2025 fire season and onward.

Processes such as entering and managing fire planning language, which had been previously done through WFDSS, are now to be completed through the data editing application hosted on the NIFC ArcGIS Online Organization. Agency fire planning and geospatial personnel will now own and manage the fire planning language and data in the new SFP data services, and WFDSS will consume the data needed for wildland fire decision support.

This shift in data management has major advantages in terms of efficiency, data usability, and maintenance. Advantages include:

- **Less Operations and Maintenance (O&M)** - The WFDSS application will not need to maintain a SFP module, leading to more rapid development of core decision support capability and reduced maintenance cost over time.
- **Improved Data Accessibility** - Fire planning shapes and language hosted within the SFP data services on the NIFC AGOL Org will be accessible to users outside of WFDSS, including those who need to view fire planning information in mobile applications, Story Maps, Spatial Fire Management Plans, wildland fire applications, and in desktop GIS software.
- **Direct User Access to Language and Data** - WFM RD&A staff will not be “between” users and their data, allowing users to make changes more quickly following shifts in land and resource management plan direction or agency policy.
- **Better Governance Options** - Decoupling the SFP data from the WFDSS application paves the way for the transfer of data stewardship to a larger enterprise entity if deemed advantageous in the future.
- **Improved Consistency** - The approach to managing fire planning data and shapes will be consistent across all types of fire planning shapes.

New SFP Management Process

Shape Types

In the new Spatial Fire Planning process, fire planning language can be tied to one of four shape types.

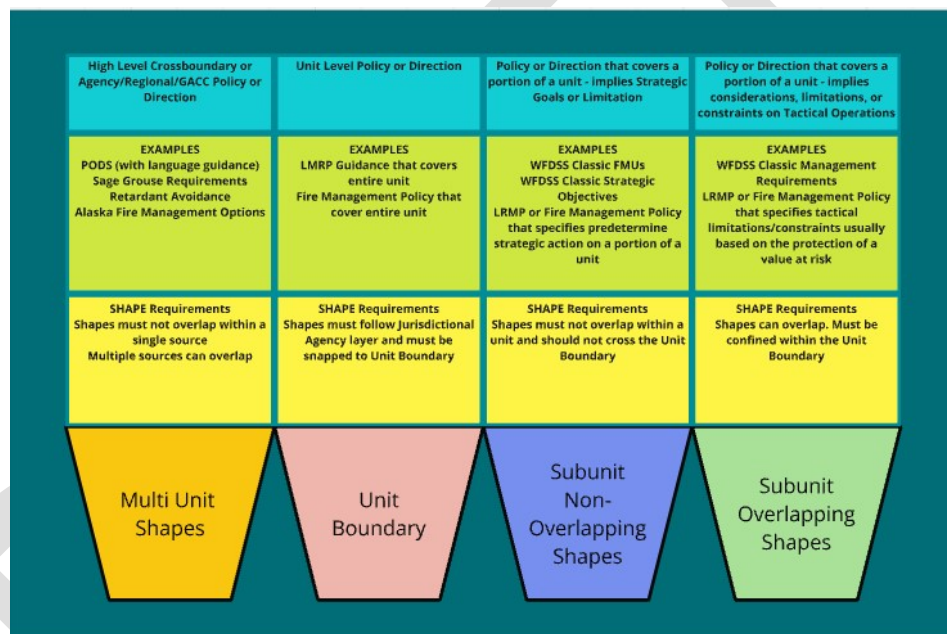
Unit Boundaries (UB): A set of shapes that reflect the administrative boundary of a jurisdictional unit such as a National Forest, National Park, or BLM District. Language tied to these shapes is intended to apply everywhere on the unit. WFDSS called these shapes the “Unit Outline” and applied fire planning language as “Unit Wide Objectives” to these polygons. In the new Spatial Fire Planning data services, Unit Boundary shapes are compiled from the merged extent of sub-unit, non-overlapping shapes and sub-unit, overlapping shapes associated with a unit.

Sub-Unit, Non-Overlapping Shapes (SUNOS): A set of non-overlapping shapes contained within a jurisdictional unit boundary that represent land where fire planning language applies but does not overlap. Examples include situations where one set of language applies to WUI areas, and another set of language applies to backcountry areas. WFDSS called these shapes “FMU” or “Strategic Objective” shapes.

Sub-Unit, Overlapping Shapes (SUOS): A set of shapes that are within a jurisdictional unit boundary that can overlap each other and the other types of shapes (UB, SUNOS). Examples

include fire planning language that applies to specific pieces of ground, such as a nesting habitat or a specific value at risk, but do not change the prevailing fire management language associated with a sub-unit, non-overlapping shape or unit boundary shape. WFDSS called these shapes, management requirement shapes.

Multi-Unit, Non-Overlapping Shapes (MUNOS): These shapes represent multi-unit management direction, where the boundaries in which the direction applies crosses jurisdictional unit boundaries, but do not overlap each other. Examples include statewide fire management agreements like the Alaska Interagency Fire Management Plan, Potential Operation Delineations (PODs), or direction from multi-unit land/resource management plan amendments. WFDSS implemented this by adding specific layers like the Alaska Fire Management Options and BLM Sage Grouse Management Requirements layers. Rather than managing these as individual layers, this new SFP process will grant permissions to appropriate personnel who can manage these regional or multi-unit shapes to ensure that data is accurate and current.



Roles and Responsibilities

There are four essential roles within the new SFP process:

SFP Viewers – A group of users that only need access to national-level, organizationally-shared, non-editable, sync-enabled views of SFP data to facilitate organizational web mapping needs. A NIFC AGOL account is needed for this role.

SFP Data Managers – A group of users that are responsible for adding and editing SFP language and shape attribution (categories, labels, descriptions) within the SFP Experience Builder application. They are also responsible for performing quality assurance and quality control (QA/QC) on the SFP language and shape attributions they added or manipulated. This role is equivalent to the Data Manager role within WFDSS. To obtain this role, a user must have a NIFC AGOL account with at least [Data Editor](#) access. Typically, a local fire planner would serve in this capacity.

SFP Shape Editors – A group of highly skilled GIS users that are responsible for adding, editing, and deactivating SFP shapes. They are also responsible for performing quality assurance and quality control (QA/QC) on the spatial data they added or manipulated. The QA/QC process includes identifying gaps, overlaps, and slivers in the SFP shapes. SFP Editors must have a NIFC AGOL account with at least [Data Editor](#) access and must have experience with ArcGIS Pro and editing services using an Offline Copy. Typically, a fire GIS person would serve in this role.

SFP Approvers – A group of users that are responsible for approving SFP shapes created, edited, or deactivated by SFP Shape Editors. SFP Approvers must have a NIFC AGOL account with at least [Data Editor](#) access. Typically, a national or regional fire planner would serve in this role.

Accessing the SPF Experience Builder and Services

The new Spatial Fire Planning data editing application and data services are hosted on the [NIFC ArcGIS Online Organization](#) (NIFC AGOL Org). To gain access, one must first login with their NIFC AGOL account credentials. If one does not have a NIFC AGOL account, one may be requested here: [NIFC Org New Account Request Form](#).

- For information on filling out the NIFC AGOL Org Account Request form, visit the [NIFC AGOL form topic](#).
- For questions regarding the NIFC AGOL Org, contact wildfireresponse@firenet.gov and allow 24 business hours for a response.
- If planning on serving as a SFP Data Manager, Shape Editor, or Approver, make sure you are assigned the Data Editor role within the NIFC AGOL Org at the very minimum. For more information on the available roles within the NIFC AGOL Org, read through the [Rules of Behavior and Publishing Guidelines](#).

Once a NIFC AGOL Org account is established, additional group access might be required depending on one's role in the SFP process. If a user plans to only reference national SFP data, no additional group access is needed (SFP Viewer). If a user plans to contribute to the development, management, and/or approval of SFP shapes and language, additional group access is needed (SFP Data Manager, SFP Editor, SFP Approver). The table below outlines the roles assigned to each AGOL group. Its important to understand the roles needed, before requesting access to a SFP AGOL group.

		NIFC AGOL Org - SFP Groups			
		SFP Viewer (Any NIFC AGOL Org Member)	Spatial Fire Planning - Data Manager Group	Spatial Fire Planning - Shape Editor Group	Spatial Fire Planning - Approver Group
Roles	View National SFP Data	x	x	x	x
	Add/Edit Language		x	x	x
	Approve Language		x	x	x
	Add/Edit Shape Categories (CO/SA)		x	x	x
	Add/Edit Shape Labels		x	x	x
	Add/Edit Shape Descriptions		x	x	x
	Create New Shapes			x	x
	Edit Existing Shapes			x	x


	Deactivate Shapes			x	x
	Approve Shapes				x

To request access to the correct SFP AGOL group(s), utilize the links in the table below. Groups exist for both the training and production versions of the SFP process. Once navigated to a particular group's home page, select 'Join Group' on the right side of the browser window. It is recommended that those requesting Data Manager, Shape Editor, or Approver privileges have experience with editing data in feature services. WFM RD&A or approved agency staff will review the access request and will approve if deemed appropriate. Please allow 24 business hours for a response.

SFP AGOL Group	Training Access Links	Production Access Links
SFP Viewer	No Access Request Needed Once NIFC Org Account Established	
Spatial Fire Planning - Data Manager Group	https://nifc.maps.arcgis.com/home/group.html?id=475acae405ab4ba49352f7c96e6823b4	https://nifc.maps.arcgis.com/home/group.html?id=1002df3ef04a4e11b3a23c2dbb0a535f
Spatial Fire Planning - Shape Editor Group	https://nifc.maps.arcgis.com/home/group.html?id=1e9bf27e2ada4351a1fc1446f9fe8ba3	https://nifc.maps.arcgis.com/home/group.html?id=cb3f8a75c87040e48cf8de3c5826a1f6
Spatial Fire Planning - Approver Group	https://nifc.maps.arcgis.com/home/group.html?id=fe1976e098e141369b5ce64cf72e7dc4	https://nifc.maps.arcgis.com/home/group.html?id=41cf07868234418585eeb366f517cd7f

Spatial Fire Planning - Data Manager Group

OverviewContentMembers



NIFC AGOL Group for fire planners and fire management providing Spatial Fire Planning information, including fire planning language and shape categorization

Owner

Once proper group access is granted, one can navigate to the training and production SFP data services and editing applications using the table below:

Item Name	Item Type	Item Description	NIFC AGOL Group Access	Item Description URL	Rest Endpoint	Service Settings
ISFPS Hub	Hub Site	A landing page for all SFP content.	Viewer, Data Manager, Shape Editor, Approver	https://isfps-nifc.hub.arcgis.com/		
SFP Training App	Experience Builder	An experience builder application used to view SFP language and shapes; edit SFP language; edit SFP shape categories, labels, and descriptions; and approve SFP shapes in the training environment.	Viewer, Data Manager, Shape Editor, Approver	https://experience.arcgis.com/experience/89f3059160dc4c969d22b57613b7853f		
Training_WFMRDA_SFP_ReadOnly_View	Feature Service View	A read only feature service that depicts SFP shapes and language available in the training environment.	Viewer, Data Manager, Shape Editor, Approver	https://nifc.maps.arcgis.com/home/item.html?id=3dde4d27b0034d2596cdc821f0d99f28	https://services3.arcgis.com/T4QMspbflg3qTGWY/arcgis/rest/services/Testing_WFMRDA_SFP_ReadOnly_View/FeatureServer	Edit Disabled Sync Enabled
Training_WFMRDA_SFP_EditLanguage_View	Feature Service View	An edit feature service that allows users to edit SFP language available in the training environment. It is referenced within the SFP Training App.	Data Manager, Shape Editor, Approver	https://nifc.maps.arcgis.com/home/item.html?id=176f17efa15043008990f7f428bfb8a5	https://services3.arcgis.com/T4QMspbflg3qTGWY/arcgis/rest/services/Testing_WFMRDA_SFP_Edit_View/FeatureServer	Edit Enabled Sync Disabled

Testing_WFMRDA_SFP_EditShapeAttributes_View	Feature Service View	An edit feature service that allows users to edit SFP shape categories, labels, and descriptions available in the training environment. It is referenced within the SFP Training App.	Data Manager, Shape Editor, Approver	https://nifc.maps.arcgis.com/home/item.html?id=64de22b49c334300b75a38d4356954b8	https://services3.arcgis.com/T4QMspbflg3qTGWY/arcgis/rest/services/Testing_WFMRDA_SFP_Edit_View/FeatureServer	Edit Enabled Sync Disabled
Testing_WFMRDA_SFP_EditShapeGeometry_View	Feature Service View	An edit feature service that allows users to edit SFP geometry available in the training environment. It should be referenced within ArcGIS Pro.	Shape Editor, Approver			Edit Enabled Sync Enabled
SFP Production App	Experience Builder	An experience builder application used to view SFP language and shapes; edit SFP language; edit SFP shape categories, labels, and descriptions; and approve SFP shapes in the production environment.	Viewer, Data Manager, Shape Editor, Approver			
SFP_ReadOnly_View	Feature Service View	A read only feature service that depicts SFP shapes and language available in the production environment.	Viewer, Data Manager, Shape Editor, Approver			Edit Disabled Sync Enabled
SFP_EditLanguage_View	Feature Service View	An edit feature service that allows users to edit SFP language available in the production environment. It is referenced within the SFP Production App.	Data Manager, Shape Editor, Approver			Edit Enabled Sync Disabled
SFP_EditShapeAttributes_View	Feature Service View	An edit feature service that allows users to edit SFP shape categories, labels, and descriptions available in the production environment. It is referenced within the SFP Production App.	Data Manager, Shape Editor, Approver			Edit Enabled - Attributes Only Sync Disabled
SFP_EditShapeGeometry_View	Feature Service View	An edit feature service that allows users to edit SFP geometry available in the production environment. It should be referenced within ArcGIS Pro.	Shape Editor, Approver			Edit Enabled - Attributes and Geometry Sync Enabled

Training and Production Interfaces

In the new SFP process, two application environments are available to users:

- **The training environment** which serves as a place in which users can familiarize themselves with SFP data and the editing process. SFP data stored within the training environment is not operational and is for training purposes only.
- **The production environment** which serves as the fully functional system in which live SFP data is stored, managed, and shared with end-users and wildland fire applications for operational use.

Data Service Components

The four categories of SFP views (ReadOnly, EditLanguage, EditShapeAttributes, EditShapeGeometry) have the same underlying data components, a polygon layer titled FirePlanningShapes, and a one-to-many relationship table titled FirePlanningLanguage.

The FirePlanningShapes layer includes the spatial extents in which fire planning language/guidance apply. The dataset includes the four standard SFP shape types.

- Unit Boundaries (UB)
- Sub-Unit, Non-Overlapping Shapes (SUNOS)
- Sub-Unit, Overlapping Shapes (SUOS)
- Multi-Unit, Non-Overlapping Shapes (MUNOS)

The FirePlanningLanguage table includes approved guidance from Land, Resource, and Fire Management Plans as well as other guidance related to local values of interest. This table is a one-to-many relationship table, which allows for the depiction of complex spatial relationships. In this case, this one-to-many relationship allows users to track when many pieces of language are assigned to a single SFP shape. The shapes available within the FirePlanningShapes layer are linked to language records in the FirePlanningLanguage table through the GlobalID and fsglobalid fields.



Editing Spatial Fire Planning Data

Utilizing the Esri software suite, users can edit SFP shapes and languages. The editing process is different depending on the SFP data component in need of edits. This section will review the three classes of editing that can be performed:

Edit SFP Language

All edits to SFP Language must be performed within the SFP data editing application (Experience Builder). To edit SPFm

Edit SFP Shape Attributes

Edit SFP Shape Geometry

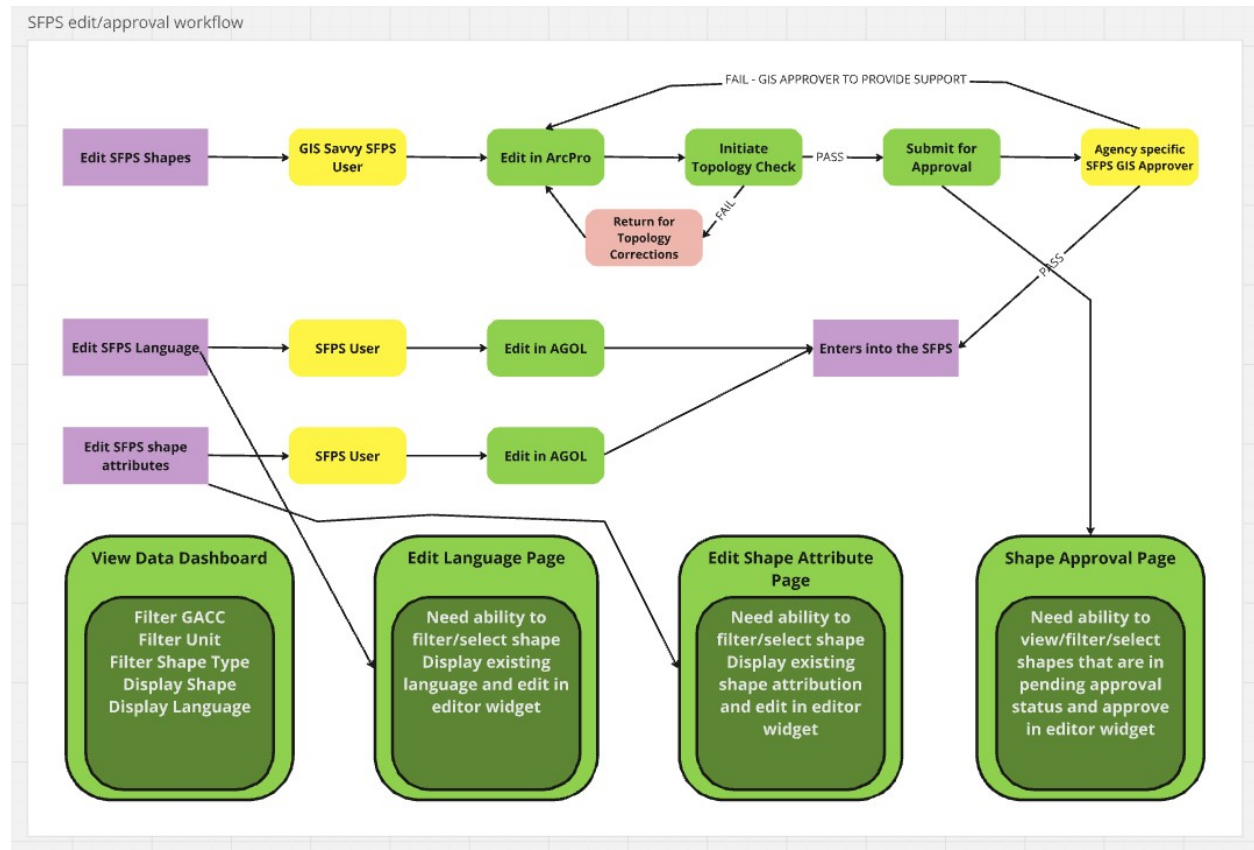
Through the new SFP process, those assigned the SFP Editor or Approver role are able to create new SFP shapes or edit the geometry of existing shapes. All geometry edits must be performed by an experienced GIS user within the ArcGIS Pro desktop GIS application.

To begin editing SFP Shapes:

1. Open ArcGIS Pro and sign into the NIFC Org (Projects -> Portals)
2. Add the 'Testing_WFMRDA_SFP_EditShape_View' feature class to the map (Adding Data -> From Path)
- 3.

Any shapes created must be free of topological errors and fully attributed.

Editing SFP Shapes



Editing Best Practices

Archival

Migration to the New SFP Services

To support a smooth transition, SFP data created and managed within WFDSS was transferred to the new SPF services as follows:

Dates of WFDSS Data acquisition to the SFPS

Fire Managment Units (FMUs)	Shapes: 09/05/2024 Language 01/06/2025
Strategic Objectives (SOs)	Shapes: 09/05/2024 Language 01/06/2025

Management Requirements (MR)	Shapes: 01/06/2025 Language 01/06/2025
Other Unit Shapes	Shapes: 01/06/2025 No Language

All information entered into the WFDSS Application prior to these dates have been incorporated into the Spatial Fire Planning Service

— **Fire Management Units (FMUs) and Strategic Objectives (SOs)**

- **Shapes:** All FMU and SO shapes added to WFDSS prior to 9/5/25 were incorporated as Sub-Unit, Non-Overlapping Shapes (SUNOS)
- **Language:** All FMU and SO language created in WFDSS prior to 1/6/26 were incorporated.

— **Management Requirements (MR)**

- **Shapes:** All MR shapes added to WFDSS prior to 1/6/25 were incorporated as Sub-Unit, Overlapping Shapes (SUNOS)
- **Language:** All MR language created in WFDSS prior to 1/6/26 were incorporated.

Transition Strategy - New to Spatial Fire Planning

1. Establish a working group to guide the SFP process.
2. Setting timelines for planning, review and implementation. This will be important to ensure the proper spatial data is loaded and ready for fire season.
3. Locate and review NEPA-compliant planning documents to guide creation of SFP shapes and associated text.
- 4.

Transition Strategy - Migrating Shapes in WFDSS to SFP Services

1. Locate NEPA-compliant planning documents to guide creation of SFP shapes and associated text.
- 2.

Data Management Timeframes/Considerations

Once a plan has been developed it will be important to ensure team members stay engaged throughout the entire process. Spatial Fire Planning allows monitoring so revision can be made to Strategic Objectives and Management Requirements so they remain valid and reflect current management direction and planning documents

Help and Training Resources

There are a number of avenues to obtain help with Spatial Fire Planning.

Agency Contacts

There may be agency-specific operating procedures and/or an agency designated individual to assist with Spatial Fire Planning. One of the best ways to find the answers is to visit {}.

WFM RD&A Contacts

If technical support is needed for the SFP editing services, contact the WFM RD&A team at {}.

Help Content

Up-to-date information on accessing, viewing, creating and updating spatial fire planning information can be found on the WFDSS NextGen Home Page, under [Spatial Fire Planning](#)

Recordings

Recorded demos and instructional videos related to Spatial Fire Planning can also be found on {}.

Training Materials

Training that can inform and give step-by-step instructions for working through Spatial Fire Planning process are located {}.

Definitions

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 Plans 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.

Strategic Objectives

WFDSS 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 on 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.

Questions:

- In the past MR were clipped to unit boundaries created from SO – this is no longer the case. What are we having people match to?
 - Add a note for best practices: use JA and clip to boundaries before submitting.
- Four most common SO are they default values anywhere?
 - Suppress all fires while considering cost, firefighter risk, and values at risk
 - Suppress all fires while considering and evaluating resource damage
 - Resource benefit optional – management of fire to meet resource objectives can be considered
 - Resource benefit promoted – management of fire to meet resource objectives is encouraged
 - Two new fields in SFP (COA, SA)
- For those that have FMUs getting transferred over, I assume we want to encourage folks to review against LMPR
- What are we transferring over (deactivated/shapes and language) Are we encouraging folks to retain a copy of shapes language?

You should never put in your spatial fire planning anything that would conflict with what's allowed in your LRMP. That is an absolute. But if your LRMP says you have a range of options based on the values at risk and hazards present, nothing precludes taking time to look at your ground, thinking about the values at risk and hazards present in an area and selecting a likely (or default) course of action for that area, so long as it is within the range of options analyzed in your LRMP. It does not commit you to a specific course of action for a fire (unless your LRMP designated something specific) it just helps to keep recommendations from pre-fire planning available when you have an ignition.

Wes' Content

Spatial Fire Planning offers a clean and simple way to manage incidents and decision-making in WFDSS. It provides a visual representation of planning concerns for line officers, fire managers, or resource specialists assisting with incident decision-making. Units can visually display language from their Land, Resource, and 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.

Spatial Fire Planning provides an intuitive and robust method of developing, storing and delivering Land, Resource and Fire Management plan direction in a spatial platform. The visual depiction of these data allows 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. Spatial Fire Planning data is used in WFDSS to provide direction and intent for strategic planning and decision-making.

Advances in technology, especially the adoption of the ArcGIS Online (AGOL) platform by federal agencies involved in wildland fire management, have opened up opportunities to make a major shift in how Fire Planning Data are stored, managed, and used. This shift has major advantages in terms of efficiency, data usability, and maintenance.

After discussions with WFDSS users, fire planning subject matter experts, and geospatial data subject matter experts, the WFM RD&A, and National Wildfire Coordinating Group Interagency Fire Planning Committee (IFPC), and NWCG Geospatial Subcommittee (GSC) propose that a data service for fire planning shapes and language will be established in the NIFC ArcGIS Online Organization. Processes such as entering and managing fire planning language, which is currently done through the Data Management tab in WFDSS, will be supported instead by an ArcGIS Online Web Application. Agency fire planning and geospatial personnel will own and manage the fire planning language and data in these services, and WFDSS will consume the data needed for wildland fire decision support from the services hosted in ArcGIS Online. The WFM RD&A and WFDSS Next-Gen contractor will provide technical support for the operation of the ArcGIS online data services and web application.

Advantages include:

Simpler Access

Fire planners and GIS personnel will not need a WFDSS login/password in order to create or update fire planning shapes and language.

Less O&M

The WFDSS application will not need to develop and maintain a module, leading to more rapid development of core decision support capability and reduced maintenance cost over time.

Improved Data Accessibility

Fire planning shapes and language within the AGOL web application will be accessible to users outside of WFDSS, including those who need to view fire planning information in mobile applications, Story Maps, Spatial Fire Management Plans, in wildland fire applications such as Interagency Fuel Treatment Decision Support System (IFTDSS), and in desktop GIS software.

Direct User Access to Language and Data

The WFM RD&A will not be “between” users and their data, allowing users to make changes more quickly following shifts in land and resource management plan direction, or agency policy.

Simpler Data Processing

GIS personnel will be able to manage the geospatial components of fire planning data using standard desktop software, which is much more powerful than the tools available through web editing.

Better Governance Options

It could be advantageous to have governance and/or maintenance of the data services and tools assumed by an interagency body other than the WFM RD&A and the WFDSS contractor, such as the NWCG GSC or a Wildland Fire Information and Technology (WFIT) effort like the Data Management Program. Separating the data services and app out from WFDSS makes this much easier to do than if the data services and tools were embedded within WFDSS.

Improved Consistency

The approach to managing fire planning data and shapes will be consistent across all types of fire planning shapes. There will be fewer limitations on complex shapes, since the ArcGIS Online platform uses newer technology than the current generation of WFDSS, and gets regular updates to stay up to date with advances in technology.

Maximum Flexibility

Agencies have differing levels of GIS staffing, skills, and capabilities for managing data. In some cases they have made different investments in software and tools. Separating the data services from the application allows agencies flexibility, and doesn't force agencies or units to adopt specific technologies or approaches. Both a web application or GIS software (such as ArcGIS Pro) can be used for managing data.