

Is The Wildland Fire Decision Support System (WFDSS) of Value to CO Water Utilities?

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5/29/15

What is WFDSS?

The Wildland Fire Decision Support System provides a scalable decision support tool that helps agency administrators and wildland fire managers make informed decisions for all unplanned ignitions

WFDSS

- Documents strategic decisions for incidents,
- Provides decision support for incidents,
- Is linear, scalable, progressive, and responsive to fire complexity,
- Is map oriented, graphically displayed, with minimal reliance on large text input requirements,
- Is Internet-based to provide risk, decision, and information sharing - simply and efficiently,
- Is applicable to all wildland fires as a single process

Expectations of the Water Utilities

- What are your WFDSS output expectations?
- What types and what quantity of data would be considered?

Limitations of WFDSS

- Only used by the Federal Fire Agencies
- Data needs to be strategic in nature NOT tactical
- WFDSS is used for active fire management NOT post-fire effects
- Local data must be uploaded and maintained by someone with a WFDSS Data Manager Role
- Size limit on shapes that can be loaded
- Output Values Inventory information is very basic
- Data is viewable to anyone with a Viewer access

Different Types of Shapes in WFDSS

WFDSS shapes are of three types:

- Unit-level shapes include FMU, Strategic Objective, Management Requirement and Other Unit Shapes,
- Incident shapes include Planning Areas, Fire Perimeters, Management Action Points, Objective Shapes, and Points of Interest.
- Analysis Shapes include Ignitions, Landscape Masks, and Barriers.

Example of a Point of Interest



Wildland Fire
Decision Support System

National Preparedness Level: 1

Incident: Glenwood Canyon

Brenda Wilmore on Training

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Map Info

Layers

- Base Layers
- Incident
 - Planning Areas
 - * Fire Perimeters
 - * Mgmt Action Po
 - * Objective Shapes
 - * Points of Interest
 - plantation
 - Rec Path TH
 - Point of Origin
- Analysis
- Fire Environment and Safety
- Disturbance History
- Fire Weather and Danger
- Boundaries
- Designated Areas
- Infrastructure
- Natural and Cultural Resources
- * Unit Fire Planning

Bookmarks Messages (0)

Select Tool: Click to select or deselect a shape. Selected shapes are shown in yellow.

Scale = 1 : 175K

Example of a Unit Shape


The screenshot displays a GIS application interface. On the left is a 'Layers' panel with a tree view. The 'Base Layers' section includes USGS Topos, USGS Imagery, USGS Topo Imagery, Google Maps, Google Physical (selected), WFDSS Topos, and U.S. States. The 'Incident' section is expanded and includes Analysis, Fire Environment and Safety, Disturbance History, Fire Weather and Danger, Boundaries, Designated Areas, Infrastructure, Natural and Cultural Resources, and * Unit Fire Planning (checked). Under '* Unit Fire Planning', 'COPSF' is checked, and 'Other Unit Shapes' is expanded to show Hazards, Structures, and Value. The 'Value' section is further expanded, showing 'Inholdings - MtnZn' and 'Inholdings - PPeak' (checked). A blue oval highlights the 'Inholdings - PPeak' layer. At the bottom of the layers panel are navigation icons (pan, pan with hand, pan with arrow) and a 'Layer Transparency' slider. The main map area shows a topographic view of a mountainous region with roads labeled 347, 325, 324, 323, 79, 67, 300, 75, 67, 74, 73, 312, and 105. A prominent purple unit shape is overlaid on the map, following a complex path through the terrain. Other smaller pinkish-red shapes are scattered across the map. A 'Pan Tool' instruction is visible at the top of the map area: 'Pan Tool: Drag to pan. Shift-click, drag, and release to zoom. Double-click to re-center and zoom.' A red diamond marker is located near 'Mt. Herma' on the map.

Values Inventory Including Unit Shapes


Point of Origin Spatial Inventory

Incident Name Latitude Longitude Radius
PSICC refresh 39.08321 N 104.930 W 1 mi

Spatial Fire Planning Inventory

 Category	Value	Data Source	Currency	Coverage
Aqua Retardant Avoidance	1,366 acres	USFS Enterprise Data Warehouse	4/17/2014	National (USFS Units only)

Values Inventory

 Category	Value	Data Source	Currency	Coverage
BLM Oil / Gas Leases	1,351 acres	BLM/NOC	06/04/2012	Western United States
Building Clusters: El Paso, CO	0	US Counties / FGDC Cadastral Subcomm.		Available counties
COPSF - Value / Inholdings - PPeak	12 acres	COPSF		Unit
County: El Paso, CO	2,011 acres	HSIP 2011, US Census Bureau TIGER data	07/01/2010	National
Est Ground Evac Time: 1-2 Hrs	719 acres	National Park Service NIFC	11/01/2012	CONUS
Est Ground Evac Time: 2-4 Hrs	685 acres	National Park Service NIFC	11/01/2012	CONUS
Jurisdictional Agency: USFS	1,990 acres	Various	09/05/2013	National
Oil and Gas Pipelines	2.3 miles	HSIP Gold 2013	2013	National

Coverage of Values Queried that Produced No Results

A Unit Shape Description

Other Shapes for Unit COWRF

*Label Category Description

File to Upload

Include in Values

[Show History](#) [Import/Export Other Shapes](#)

Values	<u>Label</u>	<u>Category</u>	<u>Description</u>
<input type="radio"/> <input checked="" type="checkbox"/>	<input type="text" value="Hardscrabble"/>	<input type="text" value="Timber Resource"/>	<input type="text" value="Protect forest production areas on Hardscrabble Mtn."/>
<input type="radio"/> <input checked="" type="checkbox"/>	<input type="text" value="Glenwood Canyon"/>	<input type="text" value="Transportation"/>	<input type="text" value="protect I-70 transportation improvements through Glenwood Canyon"/>

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Considerations with Unit Shapes

Considerations for Uploading Unit Shapes

Before selecting unit shapes to upload consider the following:

- Review national data sets within WFDSS before determining what to upload as a unit shape.
- Start by uploading four to five shapes you will use this fire season. These shapes could represent areas outlined in your Fire Management Plan (FMP), Land and Resource Management Plan (LRMP), special management areas, or other areas that may not be included in your FMU shapes.
- Include the values reports for all layers for those shapes with values that you would like displayed in STFB, NTFB, or Planning Area Values Inventory (VI) tables or FSPro Values at Risk (VAR) tables. The values information may be helpful in developing and documenting a decision.
- Unit shapes are visible on all maps within WFDSS and for anyone with a WFDSS account.
- After you upload a unit shape, you cannot view the shapefile attributes, however, you can enter descriptive information about the shape in the Label section (20 characters), Category section (20 characters), and Description section (128 characters.) It is helpful to include the name of the person uploading the shapefile in the description. The Label is associated with the shape on the map and the Category builds the folder structure for the unit shapes in the Layerswitcher.

In Summary

- Wildfire management NOT post-fire effects
- Strategic data NOT tactical data
- Responsibility for data quality, entry and maintenance
- Sensitive information?

Options

- Be at the table when the WFDSS decision is being developed
- Compile the water utility data as a separate decision support guide (what, where, susceptible to what damage)
- Assign a point of contact to gather all of the data across the state. That contact will be responsible for working with the WFDSS GIS shop to get data loaded in the most efficient/useable manner
- Prioritize the data
 - Damage by direct flame contact
 - Potential damage by suppression actions
 - Watershed damage (Forests to Faucets)