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

Brenda Wilmore
Rocky Mountain Region
Fire Use Specialist
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
Example of a Unit Shape
Values Inventory Including Unit Shapes

### Point of Origin Spatial Inventory
- **PSICC refresh**: 39.08321 N 104.930 W 1 mi

### Spatial Fire Planning Inventory

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
<th>Data Source</th>
<th>Currency</th>
<th>Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aqua Retardant Avoidance</td>
<td>1,366</td>
<td>USFS Enterprise Data Warehouse</td>
<td>4/17/2014</td>
<td>National (USFS Units only)</td>
</tr>
</tbody>
</table>

### Values Inventory

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

Coverage of Values Queried that Produced No Results
A Unit Shape Description

<table>
<thead>
<tr>
<th>Values</th>
<th>Label</th>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hardscrabble</td>
<td>Timber Resource</td>
<td>Protect forest production areas on Hardscrabble Mtn.</td>
</tr>
<tr>
<td></td>
<td>Glenwood Canyon</td>
<td>Transportation</td>
<td>protect I-70 transportation improvements through Glenwood Canyon</td>
</tr>
</tbody>
</table>
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 FSPPro 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)