

# Fire Subteam GIS Update

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## **Outline:**

- I. Geography of GRSG, Habitat Quality, and Resilience
- II. Land Ownership and Landuse Including Transportation
- III. Fire Risk Assessment
- IV. Previous/Existing Fire Prevention Practices
- V. Characterize Current Fire Suppression Resources
- VI. Existing Human-made Firebreaks
- VII. Natural Firebreaks
- VIII. Strategic Placement of New Firebreaks
- IX. Suggestions for Enhanced Fire Suppression

## **I. Geography of GRSG, Habitat Quality, and Resilience**

To assess priority areas and strategic approaches we need to identify and map key parameters about the geography of GRSG. This first step focuses on habitat/biology and resilience (soil temperature and moisture).

### **A. GRSG populations, naming/ lumping core areas, and management areas**

*Map: Populations, Core Area Names, BLM Districts, and Management Zones*

### **B. Habitat quality – Sagebrush and other vegetation**

*Map: Sagebrush, Core Areas, and Elevation Threshold (3500-ft for north aspects; 4500-ft for south)*

### **C. Habitat quality – Invasive plants**

*Map: Percent cover of invasives based in ILAP Data*

### **D. Habitat quality - Resilience based on soil temperature, moisture, and depth**

Data: General Soil Map (GSM)[STATSGO], Detailed Surveys (SSURGO) with digital elevation, precipitation (PRISM), Temperature

Since detailed soil surveys are not available for all the cores areas we are filling in the gaps with coarser scale soil mapping and digital elevation/precipitation/air temperature

*Map: Soil temperature/moisture regimes based on detailed soil surveys*

### **E. Habitat quality - Suitable geomorphology of GRSG Habitat**

Generate slope from 10-m digital elevation and rank slopes in to classes

*Map: Slope and GRSG Habitat Suitability*

### **F. Habitat quality – Recent fire history**

Use fire perimeters for the last 10-years and the last 20-years to show the extent and number of years fires have burned in those time periods. My reading of the literature is that it takes 20-years (minimum) to restore habitat but Theresa wanted to use 10-years for disturbance.

*Map: Extent of fires in the last 10-years and the number of years of fire in a given area (fire frequency)*

*Map: Extent of fires in the last 20-years and the number of years of fire in a given area (fire frequency)*

## **II. Land Ownership and Landuse including Transportation**

The second step in assessing priority areas and areas for strategic resource use is to look at land ownership

### **A. Land Ownership**

Land ownership will determine resources available for fire suppression

Data: Surface Ownership from BLM and DSL Inventory of State Lands

*Map: Surface land ownership and ODFW Core Area*

### **B. Landuse**

1. Human Geography

Data: PSU Population and USGS Geographic Names Database City limits from ODOT

## 2. Landuse

Data: National Land Cover Database (NLCD)  
LANDFIRE,  
National Agricultural Statistics Service (NASS)

*Map: Landuse/landcover for 2006 from NLCD*

## 3. Special Management Areas that Impact Fire Suppression

- BLM Grazing Allotments
- Wilderness from Wilderness.net,
- BLM Wilderness Study Areas
- Research Natural Areas
- BLM ROW
- Archeological Sites/Cultural Resources

## **C. Transportation**

Data: Roads from ODOT, BLM, and TNC  
[Railroads from ODOT]

Roads from BLM GTRN, Census, and TNC with core areas. The roads compiled by TNC from BLM (GTRN dataset) and TIGER have a large number of roads with no information to classify them or inconsistent information. We will verify paved roads and major gravel roads with aerial photography (USDA NAIP Imagery)

## **III. Fire Risk Assessment**

### **A. Burn potential and fire-intensity from FSIM**

*Maps:*

## **IV. Previous/Existing Fire Prevention Practices**

1. BLM Land Treatments – fire, chemical, mechanical

We have GIS data for these categories from the BLM but no private land information.

## **V. Characterize Current Fire Suppression Resources**

1. Incorporate ODF information about equipment and RFPAs
2. Incorporate information about BLM offices, fire stations, and landing strips. Fire stations and landing strips will be obtained from the USGS Geographic Names Information System (GNIS) and from State of Oregon GEO Office.
3. Resources in surrounding states.
4. Calculate distance to paved roads and distance to gravel roads using buffers

Data: ODF has a fire weather zone GIS database that might help identify high risk areas; Land ownership data will be used to look for Air National Guard sites; The National Hydrography Dataset will be used to identify perennial waterbodies

## **VI. Existing Human-made Firebreaks**

1. Roads and railroads (and powerlines?)

The roads layer being developed will be used to look at paved roads and major gravel roads that might be relevant

2. Existing firebreaks

Were we going to get Info from BLM. This overlaps with and perhaps should be combined with **IV. 1** from above

## **VII. Natural Firebreaks**

1. Non-soil areas and wetlands

Data: LANDFIRE,GSM, SSURGO

LANDFIRE as well as soil data (GSM – 1:250k and SSURGO ~1:24k) has information about non-soil areas like playas, lava flows, rock outcrops, pits, dumps

There's major wetland complexes between the Warner and Beatys core areas. Lakes are also firebreaks

### **VIII. Strategic Placement of New Firebreaks**

#### 1. Integrate:

- Risk of Fire (IV)

- GRSG Habitat Quality and Resilience (II)

- Existing Human-made Firebreaks (VII)

- Current Fire Suppression Resources (VI)

### **IX. Suggestions for Enhanced Fire Suppression**

Gaps in: **V. Characterize Current Fire Suppression Resources** will be examined

Digital elevation data will be used to identify flat areas on BLM land that might be suitable for new air fields

Roads in high value SG habitat with low resilience and contiguous blocks of sagebrush will be identified as potential firebreaks

Core areas with or surrounded by significant weeds (particularly cheatgrass) will be identified as potentially deserving attention