



Public Utilities Commission – Assessing Wildfire Risk

July 30, 2020

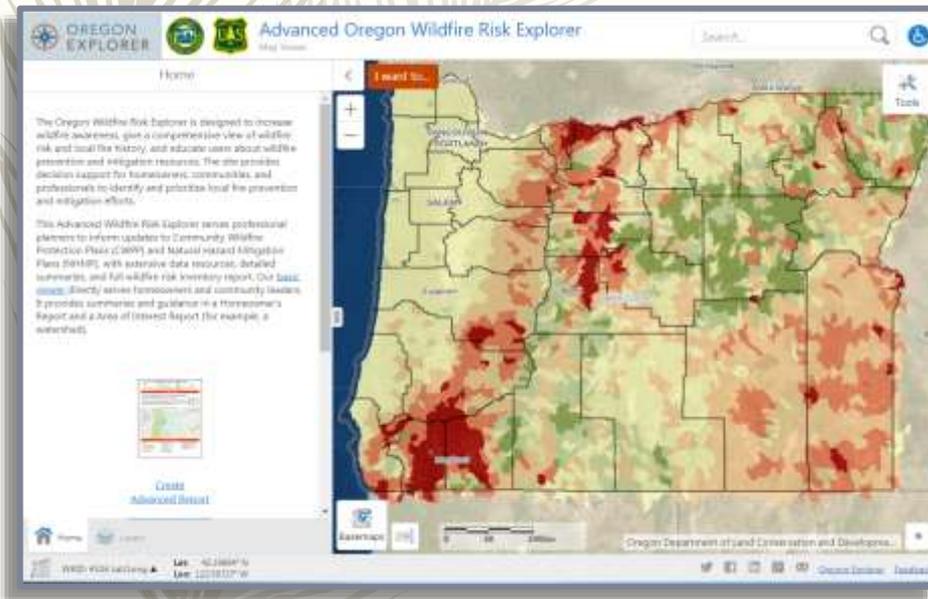


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- 🔥 A PNW Partnership
- 🔥 Wildfire Risk Assessment
- 🔥 Highly Valued Asset: Infrastructure
- 🔥 Wildfire Risk Vs Wildfire Danger





RISK ASSESSMENT: A PNW PARTNERSHIP

- Multi-agency assessment, funded and managed by USFS
- ODF convened Statewide Steering Committee for Oregon Wildfire Risk Explorer
- Delivers the best available wildfire risk information to all agency and entity partners, homeowners, communities, and local managers and planners
- Supports landscape level wildfire risk planning and decision support, all lands, shared stewardship





WILDFIRE RISK ASSESSMENT

 Risk Assessment determines the **exposure and susceptibility of valued resources and assets** given the probability of fire occurring and the potential impact at various fire intensities. It is a snapshot in time. Each resource and asset where we have mapped data is assessed, and then all are combined to find overall risk.

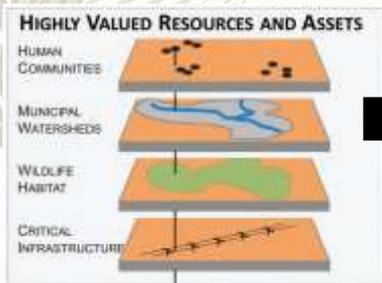
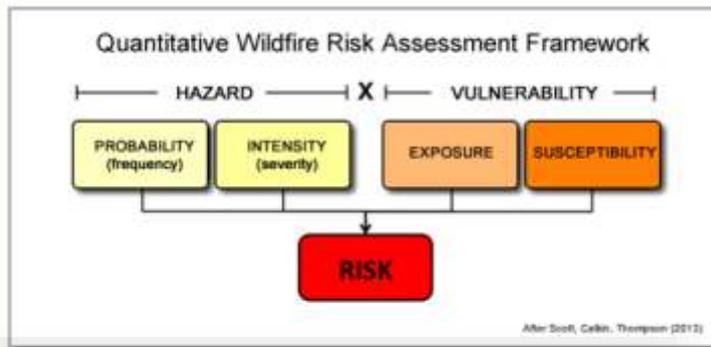
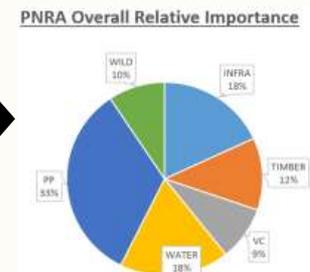
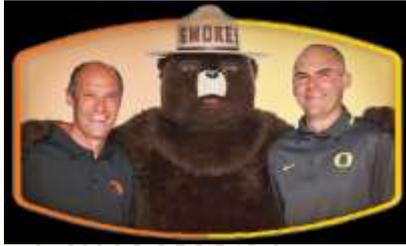


Table 6. Response functions for the Infrastructure HVRA to highlight electric transmission lines.

Sub-HVRA	FIL1	FIL2	FIL3	FIL4	FIL5	FIL6	Share of RI ¹	Acres
Trans-Line- High voltage	10	0	0	-10	-50	-70	40.88%	905,585
Trans-Line- Low voltage	-10	-20	-50	-70	-80	-90	16.79%	743,872
Roadroads	-10	-20	-30	-40	-50	-50	16.57%	612,073
Interstates	0	-5	-10	-15	-20	-30	4.74%	175,191
State Highways	0	-5	-10	-15	-20	-30	12.98%	958,745
Communication Sites/Cell Towers	-10	-30	-60	-80	-100	-100	3.65%	80,924
Seed Orchards	-50	-60	-100	-100	-100	-100	0.02%	2,704
Sawmills	-10	-20	-30	-40	-60	-80	0.10%	1,448
Ski Areas	0	-10	-20	-40	-60	-60	0.44%	16,175
Recreation High Developed	-10	-30	-70	-90	-100	-100	1.93%	26,793
Recreation Low Developed	-10	-30	-70	-90	-100	-100	1.17%	129,686
Historic Structures	-30	-50	-70	-100	-100	-100	0.73%	8,140

Within-HVRA relative importance





Courtesy Keep Oregon Green

FOR OREGON COMMUNITIES

-  Delivers the best available wildfire risk information to homeowners, communities, and local managers and planners
-  Guidance and educational resources for creating defensible space
-  Connects landowners with local fire prevention professionals
-  Supports community leaders in wildfire prevention outreach and education through professional presentation and education tools
-  Empowers WUI communities to become Fire Adapted Communities





3.4.1 Infrastructure

3.4.1.1 Electric Transmission Lines

Electrical transmission lines mapped for PNRA are shown in Figure 9. We selected "in service" transmission lines from the Homeland Security Infrastructure Program (HSIP) database, converted to 30-m raster, and expanded out 3 pixels on either side to capture the area impacted by wildfire. High voltage (≥ 230 kV) electric transmission lines respond favorably to fire in FIL 1, where low intensity fires are thought to have a fuel treatment effect. High voltage lines have a neutral response in FILs 2-3, but an increasingly negative response in FILs 4-6 (Table 6). Low voltage lines (230 kV) are thought to be mostly wooden poles, and therefore, respond negatively to fires of increasing intensity.

Due to the number of acres mapped on the landscape and their importance to infrastructure, electric transmission lines received 58 percent of the share of the Infrastructure HVRA importance. The share of HVRA importance is based on relative importance per unit area and mapped extent.

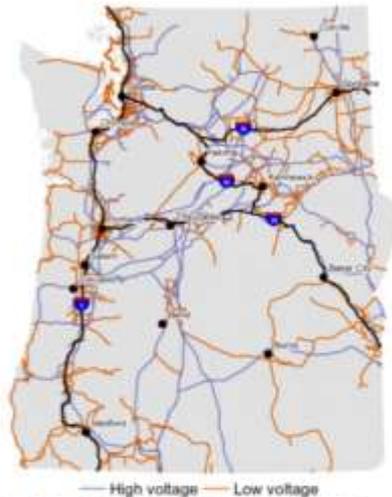


Figure 9. Map of electric transmission lines in the PNRA analysis area

Table 6. Response functions for the Infrastructure HVRA to highlight electric transmission lines.

Sub-HVRA	FIL1	FIL2	FIL3	FIL4	FIL5	FIL6	Share of RI*	Acres
Trans-Line- High voltage	10	0	0	-10	-50	-70	40.86%	905,585
Trans-Line- Low voltage	-10	-20	-50	-70	-80	-90	16.79%	743,972
Railroads	-10	-20	-30	-40	-50	-50	16.57%	612,073
Interstates	0	-5	-10	-15	-20	-30	4.74%	175,191
State Highways	0	-5	-10	-15	-20	-30	12.98%	958,745
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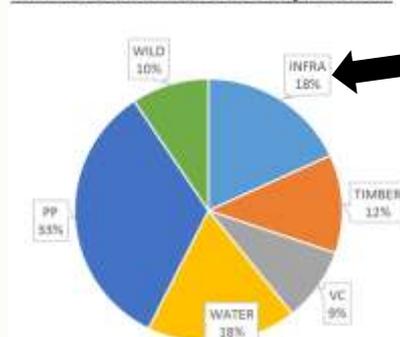
*Within-HVRA relative importance.

HIGHLY VALUED ASSET: INFRASTRUCTURE

- The risk assessment modeled wildfire risk on buffered in-service high and low voltage transmission lines from Homeland Security Infrastructure Program (HSIP) database
- At very low flame lengths, high voltage lines responded favorably to fire – low intensity fires are thought to have a fuel treatment effect. There is an increasing negative effect at higher fire intensities.

- Infrastructure rated very high in relative importance among the assessment partners

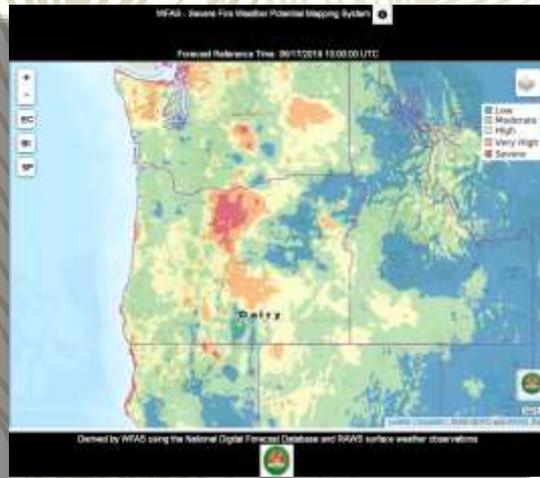
PNRA Overall Relative Importance





WILDFIRE RISK VS WILDFIRE DANGER

- 🔥 Fire danger is an estimate of the **daily potential for wildfire ignition, burning, and spread, based on current weather and fuel conditions**
- 🔥 Supports local planning and operations during fire season including preparedness, Public Regulated Use, Industrial Fire Precaution Levels
- 🔥 Thresholds are set by local managers from historical local fire weather and fire occurrence
- 🔥 **Local Districts** set local fire danger levels during fire season and are **our best resource for daily local conditions for preparedness and precautions**



<https://www.oregon.gov/ODF/AboutODF/Pages/MapOffices.aspx>

<https://www.oregon.gov/ODF/Fire/Pages/Restrictions.aspx>

<https://www.wrh.noaa.gov/mso/fireweather/nfdrs.php>

<https://m.wfas.net/>

SCALE AND USE



OWRE is characterizing the **fire environment** only, at a **landscape scale**. The data does not reflect access for emergency response, housing materials, characteristics of the home ignition zones, and many other considerations.



OWRE will not replace local data or “on the ground” knowledge of communities you may consider high risk. Continue to **use local Fire Department and ODF knowledge** to put together your CWPP concern areas. OWRE will provide a broader landscape context of the fire environment surrounding local communities identified as high risk.



Data layers are derived from a regional risk assessment across Oregon and Washington. OWRE will produce broad scale maps for your CWPP area as a whole, but **maps will contain some inaccuracies**, which are most prevalent at fine scales.

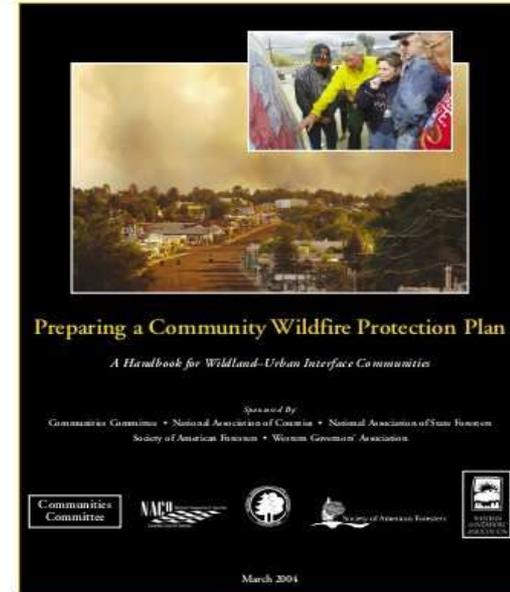


FOR ODF AND OUR PARTNERS

- 🔥 Support wildfire risk planning and decisions across all landscapes at all levels (all hands-all lands)
- 🔥 Builds local capacity for Community Wildfire Protection Plans
 - Advanced report with elements directly relevant to CWPP updates
 - Ability to sandbox with their own Area of Interest (AOI)
 - Ability to download data for their AOI and other known geographies
- 🔥 Integrates Wildfire into Oregon Explorer's family of natural resource information portals at OSU - Institute for Natural Resources.

OWRE provides spatial data layers that may be useful for CWPPs, including:

-  Hazard to Potential Structures
-  Overall wildfire risk
-  Wildfire risk to assets, people and property
-  Burn probability
-  Flame lengths under varying conditions
-  Potential impacts of wildfire to multiple assets of interest
-  Fire history and active fires
-  Land ownership
-  Vegetation type/ distribution
-  Estimated housing density
-  Other reference data
-  Community data at the County level can also be provided



OWRE advanced functions

-  Generate a customized report for a user-defined area.
-  Download data for a user-defined area to be used in GIS analyses.
-  Print maps of data layers depicting wildfire risk, fire history, values at risk, and other supporting data. Maps can include boundaries such as ODF protection districts, Rangeland Protection Associations, and other reference information.



OREGON EXPLORER WEB ADDRESSES

- Web Site: <http://oregonexplorer.info/topics/wildfire-risk?ptopic=62>
- Public Viewer:
http://tools.oregonexplorer.info/OE_HtmlViewer/index.html?viewer=wildfire
- Advanced Viewer:
http://tools.oregonexplorer.info/OE_HtmlViewer/index.html?viewer=wildfireplanning