

Fire Needs Assessment Explained: Your (Practical) Landscape Management Tool

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WHAT IS A FIRE NEEDS ASSESSMENT?

A Fire Needs Assessment (FNA) is a plan that provides a framework for determining where fire may (or may not) be needed on the landscape. It helps people answer the question "*What is the possible current role of fire in your landscape?*" In a broad sense, FNAs can help managers restore fire-adapted ecosystems, prioritize locations for using prescribed fire, reduce fire risk, and identify gaps in local capacity.

FIRE NEEDS ASSESSMENT TOOLBOX...

NOW WHAT? Senior Spatial Ecologist, Sarah Hagen built a Fire Needs Assessment website for land managers, GIS staff, conservation staff and anyone else involved in fire management who may need guidance on conducting FNAs on the land they manage. The site was designed to be a step-by-step, hands-on tool for conducting a Fire Needs Assessment.

Users learn:

- How to identify historical vegetation types
- How to align vegetation types with Biophysical Settings (BpS)
- How to explore historical fire return intervals.

The site guides users through assessing current vegetation using LANDFIRE's Existing Vegetation Type (EVT) layer and adjusting fire intervals to reflect current



Prescribed burn on Willamette Confluence Preserve in Oregon. © Jason Houston, TNC.

conditions. Using ArcGIS Pro, we show how to mask the BpS raster, join fields, and examine how BpS, EVT, and fire intervals interact. Finally, we outline how to extract and analyze this data in Excel to summarize metrics like EVT acres burned per year and weighted fire return intervals and bring it back into ArcGIS Pro for visualization.

WHY SHOULD YOU CONSIDER A FNA?

Fire needs assessments allow anyone with a little time and interest to create a useful tool for visualizing the role of ecologically beneficial fire (both past and present) on the landscape.

“FNAs provide baseline data for managers to think both about their management objectives within the context of historical and current fire scenarios.”

A bonus is the ability of a FNA to pinpoint where fire might be needed to improve a landscape. In short, While not a prescription for reintroducing beneficial fire, these preliminary FNAs can provide a starting point for understanding (and visualizing) the role of current and historical fire regimes. Providing this foundation for understanding FNAs is key to building a shared understanding of fire regimes and informing collaborative, landscape-scale decisions.

HAVE FNAs INFORMED ACTUAL FIRE MANAGEMENT STRATEGIES?

Check out the "Next Steps" tab on the FNA website to see where people have conducted FNAs across the country.



Sarah Hagen,
Senior Spatial
Ecologist, TNC

The University of Minnesota: Led by the Forest Stewards Guild and Minnesota Prescribed Fire Council, this FNA combines ecological data with spatial analysis to identify fire needs across Minnesota. It

highlights where fire is ecologically necessary but underused, reveals barriers to utilizing prescribed fire, and includes an interactive dashboard where users can explore fire needs by county, watershed, and land type.

Illinois: The Illinois Prescribed Fire Council's 2016 FNA quantifies the ecological need for fire across the state's

natural areas. Using fire return interval data for 27 habitat types, it estimates that over 1.5 million acres require regular burning, yet only 6% are treated annually.

We look forward to hearing how the LANDFIRE community is using this new support website. Please get in touch!

CHECK OUT THE FNA WEBSITE:

https://landfire-tnc.github.io/LANDFIRE_FNA/

Contact Sarah Hagen: shagen@tnc.org

HAVE QUESTIONS? LANDFIRE is here to help:

- [Visit the LANDFIRE Fuels webpages](#)
- [Check out the LANDFIRE's fuel-related videos on YouTube](#)
- Ask the [LANDFIRE Helpdesk](#)
- [Subscribe to one of our regular newsletters \(3-min read!\)](#)



check out the FNA website