Meet Megan Sebasky: Connecting Users and Mappers

Megan Sebasky, Northeast Region's ([USFS Region 9](#)) LANDFIRE Coordinator, has been with the WI DNR since March of 2017. Prior to this position, she was an environmental consultant on a wide variety of topics (see [Megan's website](#)). Her passion for ecology and GIS led to a focus on habitat modeling, among other geospatial and ecological research challenges, including current projects with spatial fire ecology.

During the period of her LF contract, Megan will be putting a combination of GIS and communications skills to good use. [Contact Megan](#).

How did you become involved with LANDFIRE?

It's a great story, but space is limited, so here's the condensed version: in 2013, at the Ecological Society of America's annual conference in Minneapolis, I attended a presentation by a guy with a big gray beard, Randy Swaty, who brilliantly elucidated this thing called LANDFIRE (LF). During his talk, Randy remarked that those who were interested could "talk more about this over beers later." He made good on that offer and, over the course of years, Randy became a trusted colleague and friend, expanding my network and opportunities. One such opportunity was a newly created Northeast LF Coordinator position. Randy introduced me to Jed Meunier, a fire ecologist with the Wisconsin DNR who was helping launch the coordinator position. It was a great match for my interest and skills. The NE LF Coordinator position is supported by a State and Private Forestry grant to the Great Lakes Forest Fire Compact, which was initiated by several individuals who recognized the importance of a LF representative for this region.

What does the NE Region LF Coordinator do?

Generally, the goal is to address various concerns about LF in the [northeast](#) U.S. including increasing data quality and communication/understanding between LF and its stakeholders there. A large part of the job is figuring out effective strategies to work towards these goals.

So far, I've been learning the nuances of the LF program, including the datasets and the people involved, both in terms of LF and fire managers and other stakeholders in the Northeast, and figuring out how to most effectively improve data inputs and understanding. We have a great opportunity to provide valuable input into the first Remap process and many of my activities have been centered on Remap timelines. I was able to help with submission of vegetation plot, disturbance polygon, and LiDAR [data from nine states](#). The LANDFIRE Business Leads, mappers, and The Nature Conservancy team have been extremely supportive of my position and have helped immensely with learning the ropes and understanding opportunities and limitations.

I am also engaged in several longer-term projects that will feed into data improvements. An example is the work I am conducting with my lab at the WI DNR reconstructing historical disturbances in peatland systems in the Hiawatha National Forest in upper Michigan. Peatland fires are arguably the most expensive fires to manage, yet we understand little about them; they are notoriously difficult to map, and currently LF does not classify subsurface fuels. The focus of this project is to assess vegetation

departure and fire needs in the forest, but will also contribute basic data to inform LF's fire regime data for this ecosystem.

Another project I am beginning is assessing LF fuels data throughout the Northeast to identify limitations and opportunities with LANDFIRE data. The goal is to provide LF with data to develop a MoD-FIS system for the Northeast and a Canadian fuels dataset for the Great Lakes Region, therefore expanding the tools and utility of fuels data. I'm also helping with a LF Remap process project in the North Atlantic Region, collaborating with the Joint Fire Science Program and others to provide feedback on mapping. I am supporting other efforts as well, including analyzing vegetation departure in the Central Appalachians, and developing wildfire risk assessment methodologies.

Stephanie Kovach, Jennifer Lois, Megan Sebasky, and Jed Meunier (WI DNR) with a charred red pine stump in the Hiawatha NF.

If you're interested in keeping up with what I'm up to, check out the Google forum I created for LF in the Northeast, and please post questions and comments there! I also provide updates through the Northeast Regional Strategy Committee's monthly calls and newsletters, and through a growing list of contacts.

### *Where do you see the greatest need for the tools and data in the Northeast? In other words, who wants what?*

From where I sit, the buzz words right now are "risk assessment." Recently, the US Forest Service added a requirement that all Forests complete a risk assessment. Region 9 (Eastern) will start this process in 2018. State agencies also need guidance regarding risk assessment-type work.

While the risk assessment process and input datasets widely vary, the most commonly used LF dataset that I have seen is surface fuels. However, this shouldn't be thought of as one standalone dataset -- it is dependent on LF existing vegetation and other LF datasets, and the relationships between them can be modified using the LF Total Fuels Change Tool. Through the fuels investigation I am embarking upon, I am learning where and how this tool can be used to more accurately classify fuels, where the current fuel model system and mapping is inadequate in our region, and how we can address these issues. The Huron Manistee National Forest has already been using the LF total fuels change tool, and I am working with Persephone Whelan, the West Zone Fire Management Officer there, to learn more from those efforts.

What do you think is the greatest strength of the LF program?

LF provides the only wall-to-wall spatial data – the only data of their kind – for the entire country, using consistent methods related to fire, fuel, and historical ecosystems as well as the tools and guidance to modify the data based on local knowledge. Importantly, LF acts as a springboard to facilitate conversations about complex ecological systems, and often prompts questions that we may not have considered before. For example, what did fire regimes in forested peatlands look like pre-
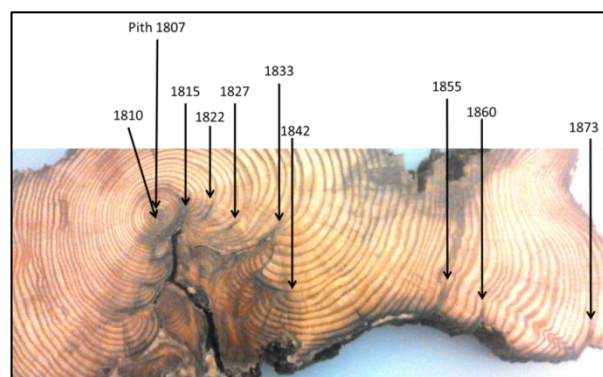
Reconstructing fire history using red pine stumps to ultimately inform BpSs. (Photo: Jed Meunier)

European settlement? My lab at the Wisconsin DNR, led by Jed Meunier, is investigating historical fire regimes throughout the different ecoregions of Wisconsin, using dendrochronology to date fire scars primarily from old red pine stumps that are hundreds of years old but still exist in the forest today. A historical understanding of fire is giving us a better idea about basic fire regime characteristics (e.g. size, severity, timing) that relate to current forest management and wildfire preparedness as well as mapping of these systems.

Megan Sebasky, Randy Swaty, and Persephone Whelan at Huron Manistee National Forest

Megan's recommendations for further reading...

Check out the ["LANDFIRE in the Northeast" Google Forum](#) for updates on LF projects and information relevant to the Northeast, and please provide any feedback you have. I am hoping to make that resource more of a discussion forum where we can share ideas and collaborate in various capacities.

One of the best resources I have read on LF background, methodologies, and appropriate use is the guide by Don Helmbrecht and Kori Blankenship, [Modifying LANDFIRE Geospatial Data for Local Applications](#). While it can seem overwhelming at first, the document does a good job of breaking down complex processes. LF certainly requires leg work by the user, so, plan a time to make some coffee, turn off the e-mail, and read through this guide!

Read about Jed Meunier's work on his [Research Gate](#) page.
[Participate in the Google forum](#)
[Contact Megan](#)