Intro for LF OOH, January 29, 2025

Greetings everyone, today it’s my job and pleasure to introduce the presenters, and our topic. First the presenters:

Kelly is a recent graduate from Northern Michigan University with a B.S. in Ecology and minors in Earth Science and French. This summer she is heading out west to do field work and make the world a better place.

Silas is a senior at Northern Michigan University where he is pursuing a Bachelor’s degree in Fisheries and Wildlife Management. Additionally, he is a student trainee in forestry with the National Conservation Resource Service here in Marquette.

I met them through a group I co-lead called the Conservation Data Lab. Last fall when I asked these two to calculate historical annual acres burned for the national forests of US Forest Service Region 9, they quickly completed that, then asked, “what else can we do? Can we explore the entire Northeastern US and present about it?” They have both stretched themselves as Kelly was brand new to LANDFIRE and pretty new to GIS, and Silas took it upon himself to develop and implement new methods that you will see today.

You have probably figured out what the topic is today: exploring historical fire regimes for the northeastern US. This is a topic that constantly fascinates me because there was so much fire! And not so much today. That is not enough reason for us to present though.

With all of the changes to our ecosystems, and more change to come, why look to the past?

First, it helps to frame and understand not only how Indigenous peoples were managing ecosystems through strategic fire use, but also how we might manage better. Further, fire use was, and is a profound cultural practice. Loss of fire use is not only profound ecologically, but culturally. To illustrate this, I have pasted a map from Tulowiecki 2024, an amazing paper I highly recommend. The map Illustrates points where he found historical accounts of Indigenous management, draped on top of a witness tree map developed by Paciorek et al in 2016.

Second, the RAD or Resist, Adapt or Direct framework, noted in many places online and in this paper by Magness et al., 2022. With this framework managers need to decide if they will:

* Resist change, restoring or maintaining ecosystems, often based on historical norms
* Adapt, where managers allow change to occur as it will for the most part
* Direct, which is active management towards a desired new condition

I believe that looking at the past and present with LANDFIRE products are a great compliment to local knowledge and datasets and can help managers decide which path to take.

I am assuming that most of you know about LANDFIRE so I will skip a long speech here, but want to simply say that LANDFIRE allows us to understand our past and present ecosystems and processes. Kelly leaned into the LANDFIRE Biophysical Settings (BpS) data, which depicts which vegetation systems were dominant prior to European colonization and includes historical fire regime attributes. Silas couples this BpS data with LANDFIRE’s Existing Vegetation Type data for his work.

With that, Kelly, take it away!