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Woody Expansion is a National Rangeland Crisis

The title of this article is the take-home message received from Dr. Dirac Twidwell, University of Nebraska-Lincoln, at the Nebraska Grazing Conference. Woody encroachment puts pressure on working rangelands by decreasing livestock production and increasing wildfire risk, as well as harming grassland biodiversity and increasing threats to animal species living in this biome. Dr. Twidwell presented some staggering data that is flat out scary, but wide-scale conservation efforts are becoming a focus across the Great Plains.

Research shows that since 1999, woody plants have increased on more than 108 million acres in the western United States. This equates to an area 2.3 times the state of Nebraska! New monitoring technology confirms that the rates of grassland lost to woody encroachment now approaches the rate of conversion to agriculture cultivation. It doesn't matter if your concerns may be directed towards livestock, wildlife, water resources, wildfire prevention, social programs linked to land trusts or other interests; the loss of the grassland biome needs widespread focus and collaborative efforts, across the Great Plains, to make impact.

Much of the context of this article comes from an excellent new resource called "*Reducing Woody Encroachment in Grasslands*". The guide boils down grasslands management into evaluating and managing Risk and Vulnerability. Vulnerability is further divided into three components: Sensitivity, Exposure and Adaptive Capacity. Simply defined, sensitivity can be described as the relative ease that woody plants can establish and spread in grasslands. Exposure is directly related to a seed source, as woody plant encroachment cannot occur when grasslands are not exposed to seed sources. For example, a female Eastern Redcedar tree can produce more than 1.5 million seeds per year! Adaptative capacity is the ability to increase the potential to adapt to a threat or problem. All these components need to be evaluated to develop a plan.

The take-away message was that what's been done in the past 50-100 years is not working, so a new strategy needs to be implemented. This was likened to preventative medical care, versus addressing serious medical conditions in the ER. Currently, time, attention and financial resources are often devoted to the visual problem - mature woody trees/brush stands. Many cost-share programs do not help, until a certain percent coverage threshold is reached. The mindset shift we were challenged with, was to address the issue before it becomes a problem. Most notably this means managing the seedbank in the dispersal and woody plant recruitment stages (*there are excellent charts to illustrate this in the guide*). Additionally, the methods of control need to shift from higher cost, higher labor, higher disruption tactics; to more easily manageable, lower cost and available tools; such as controlled burns and spot spraying.

Last time I mentioned that I'm now ready to cut down my cedar windbreak, but a better approach might be to intensively manage the first 100 - 200 yards out from woody areas. Seriously managing core grass areas, the size of a football field or two away from the woody plants, prevents additional encroachment and then allows you to continually work to "push back" the woody core where seed/ sprout production occurs. This will never be a "one and done" approach! Tackling a seedling in a healthy grass stand is a much less daunting task than looking into a bare cover, wooded forest that used to be productive grass.

I'd welcome continued discussion with anyone who shares this widespread concern. There are focused efforts in place, like the Great Plains Grassland Initiative, and resources

abound. The publication mentioned above can be found on the Meadowlark District website or https://www.wlfw.org/assets/greatPlainsMaterials/E-1054WoodyEncroachment.pdf. Although lengthy, the following YouTube link provides additional information presented by Dr. Twidwell and Jeremy Maestas from NRCS: https://youtu.be/SWOlDh9Pibw