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Working grasslands why should we care? Did you know our Grasslands is one of the most threatened ecosystems on the planet. Hi, I'm Johnathon Neuharth today I want to discuss wildlife habitat, the importance of our grasslands, and how we can maintain and protect them.

How grasslands formed? Grasslands formed because they were too dry to become a rainforest and too wet to be a desert. Erosion from the mountains to the east and west of the plains carried sediment down into the plains creating the Great Plains. In the past with intensive grazing by the buffalo, droughts, and prairie fires the presence of trees was limited before the Europeans came. With these processes happening our Grasslands were formed, some might think grasslands seem boring, but once you spend time in them you can see and feel all the life, beauty, and diversity it holds.

When Lewis and Clark came to this area in the early 1800s, they came into a sea of grasses by stories of cities of gold. Not mineral gold, but a wealth of fertile soil and abundant wildlife. Grasses covered the landscape from horizon to horizon, and some were as tall as a person.

Grassland habitats can be, in some spots, every bit as diverse and complex as a rainforest. Every plant and animal have a purpose. We may not understand the importance of it, but it's there for some reason. Prairie Chickens have a legendary dance during their mating season you won't ever forget if you get to experience it. And many of the Native American Tribes believe that the Meadowlark's song is to bring good luck so whenever I hear or see one, I like to think something good is coming my way.

So, What is Happening? There are two main threats, the conversion to cropland and woody encroachment. Both sadly are man-made. The conversion to cropland is an intentional problem and the woody encroachment is not intentional, however, early settlers believed the grasslands needed to be improved so trees were introduced which created a future and current problem.

Our grassland birds are our Canary in the Coalmine danger indicators. Grassland birds have continued to decline since the 1970s, a graph showed me. And it's not just our grassland birds that are affected, many other animals are too including our pollinators, but why should we care? Well, over 100,000 species provide free pollination services: bats, bees, birds, butterflies to name a few. The value of their ecosystem services is \$4-\$6 billion per year. About 1/3 of human food comes from plants pollinated by wild pollinators.

Tilling and converting our grasslands to cropland use has been an issue since the homesteaders arrived. Have you ever driven down the road and seen blow dirt in the ditch along the fence lines? Sadly, this is still happening today. Over plowing the land destroying all the deep-rooted grasses and soil structure led to the "black blizzards" of the dust bowl. The dust bowl taught the country a hard lesson: Soil Health Matters! Recently the WWF says that – "Humans have been responsible for the loss of 50% of all topsoil."

As a direct result of the dust bowl, our government along with our President, Franklin D. Roosevelt started the Soil Erosion Service in 1933 now called NRCS (Natural Resource Conservation Service) to help farmers implement new techniques to help prevent erosion.

High crop prices encouraged farmers to take their land out of government programs and back into their cropping. There is no law against breaking grasslands, and no unified plan for protecting the region's plant and animal populations. If the government offers you \$50 per acre for CRP for example, but you can rent the land for cropping for \$75 per acre, chances are the grassland will lose out. This tells us that crop markets are an important driver in the loss of our grasslands.

Secondly the other nemesis to the grasslands is Woody Encroachment. Grasses and trees do not co-exist on large scales, long term the woody areas will win and take over the grass. Which will affect forage production for the animals, wild and domestic as well as lose its diversity in plants.

With more fire fuel in woody transitions, it is at higher risk for extreme wildfire behavior. Woody encroachment is becoming a global threat to the grasslands.

To give you an idea of how fast woody encroachment can take over think about this. A tree reaches seed bearing age at about 6 years old or 5 foot tall and a mature eastern red cedar can produce more than 1.5 million seeds per year. In an encroached area about 90% of the seeds will grow within 200 yards of the source. This creates your contaminated acres which are creeping in on our intact grassland acres.

The Central Grasslands Roadmap has great partnerships, research, and policy work they plan to do over the next 10 years to help improve our grasslands. This initiative will benefit the grasslands all across North America to identify problems and help create strategies to help them. It's collaborative work like this that brings people together for the betterment of our environment working across borders of countries, states, and organizations.

Together we can make a difference for our grasslands.

In summary, we have discussed wildlife habitat and the importance of our grasslands, and how we can maintain, protect them.

Thank you! Do you have any questions?