The northern Great Plains, historically ran on a frequent, low-intensity regime 1, but currently run on an infrequent, high-intensity regime 2,3. Prior to Euro-American settlement, indigenous peoples used fire to promote new growth of grasses, remove old grasses, manage game, and other cultural reasons4–6. Fire introduces disturbance on to a landscape that helps promote heterogeneity, as well as remove invasive plant species, woody plant species, as well as increase forage quality7,8. Although, fire is a positive to the land, many landowners see fire as a negative, often suppressing fire in the upper great plains, leaving it largely unburned9. Reintroducing prescribed fire has proven to be difficult but can limit and reduce wildland fuel that can lead to uncontrollable wildfires, controlling woody invasion, and non-native species, enriching habitat and forage quality for both wildlife and livestock. Greatly enhancing native species diversity and heterogeneity in grasslands10.

Societal or social norms tend to highlight the attitude many community members display11, as they often have “feelings or moral obligation to perform or refrain from specific action”12. Social science can help managers identify and evaluate management plans based off social and ecological tradeoffs 13, make decisions that are better for humans the environment alike. Zube (1987) explains how human perception about the landscapes are often formulated in our cognitive mind. Introducing the idea that humans’ value different aspects of the land in their mind more so than of reason. Combing these social and ecological components, could help shift management decisions14. In the northern great plains, these societal or social norms often play a larger role, as they change decision making process in these smaller ranching communities15,16. These social pressures often weigh on government and private agencies as well, often limiting how often they choose fire as a management tool, on federal, state, and private lands17–20. Ranching communities in the southern Great Plains, recognized a problem in the lack of disturbance causing a decline in biodiversity and livestock production, and formed a prescribed burning association to address the problem and bring disturbance back to the landscape21. SHIFT TO NGP. Bendel et al. 2020 introduced us to the transtheoretical model of behavior change, this model includes 5 stages of change, ND landowners seem to be in the first two stages (Pre-contemplation and Contemplation), as they were found to have a split between results of if fire was beneficial or not. One of the largest drivers of decision making for landowners and ranchers is being a good steward, People develop stewardship for landscapes, as these are a basic component of our natural and cultural heritage; they contribute to the formation of local cultures and provide ecosystem services both for the benefit of individual and societal wellbeing22. In North America, working landscapes partnerships foster effective stewardship and conservation of land through active human presence and management23. Landscape stewardship comprises all ‘efforts to create, nurture and enable responsibility in landowners and resource users to manage and protect land and its natural and cultural heritage’ CITATION. ‘Stewardship’ is not only a management approach but perhaps even more, an ethic that emphasizes responsibility, collaboration, participation and communication in the planning and management of land resoruces24. Stewards often manage environmental features, especially those important for wildlife and sustains these for future generations CITATION.

Social barriers include societal norms and attitudes, liability, and education, knowledge and training. Whereas physical barriers include labor, equipment, money or government restrictions10,25. These barriers tend to include a range of social, informational, practical, and regulatory concerns, and can range from inside their local community (microsystem), other potential fire practioners (exosystem), and other members of the state or country (macrosystem), if a negative attitude is present, it can limit the use of fire on their property25.