**Survey Design + Citations & thoughts 11/5**

\*\*\* Before jumping into questions:

1) I want to present the definition of ‘Prescribed fire’ as it is used by the research team for clarity of the survey respondent throughout the survey

2) the Likert Scale will be presented as a 5-point scale (-2, neutral midpoint, +2), with defined ends, without categorical naming, and will include two nondirectional categories of ‘Don’t know’ and ‘Not applicable’.

Example:

Fall is the best season.

Disagree -2 -1 0 +1 +2 Agree DK NA

3) I have things lettered/numbered so I can reference them in the theory on the final page – the order and content can totally be moved around. I would like to start with operational characteristics to quickly include or eliminate respondents based on the responses in that category. I would like to end on the demographic section.

**1) OPERATIONAL CHARACTERISTICS:** This section is designed to obtain information about your operation

**a) What county is your operation primarily in?** (Fill in the Blank)

I) Confirmation of proximity to study location DGP

II) Eastern respondents more likely to be fire friendly than Western (Per Phase 1)

**b) Do you own or lease the majority of the land you manage?** (Fill in the Blank)

I) Ownership

**c) How many acres do you manage?** (Fill in the Blank)

I) Kreuter 2008 – land size

**d) Using percentages of your revenue, describe your operation by land use activity (Fill in the blanks)**

% from grazing % from cropping % from wildlife production

% from mineral sales % from Other – Please describe

I) Confirmation of target group

**2) LAND MANAGEMENT:**

**a-d) How often have you conducted the following land management activities in the past five years?** (Likert)

Herbicide Application, Mechanical, Grazing, Prescribed Fire

**e) Rank the following land management activities in the order of your use preference with 1 being of greatest preference and 4 being of least preference.** (Ranking)

Herbicide Application Mechanical (stuff) Grazing Prescribed Fire

**f) Have you used fire to clear wetlands or sloughs?** \*\*\*STRUCTURE?

I) Referenced as a common practice by landowners per phase 1 interviews

II) Experience/willingness to use fire for non-rangeland/prairie management purposes – these landowners may feel less emotionally turned off by fire

**g) I manage my lands based on what previous generations taught me.** (Likert scale)

**h) I base my management decisions based on how my neighbors manage their land.** (Likert scale)

**I) The advice of professionals (e.g. NRCS rangeland management specialist) in my area influences my management decisions.** (Likert scale)

I) NRCS selected as they were the most frequently referenced agency that landowners contacted (per phase one)

**J) Scientific research (University publications) influences my management decisions.** (Likert scale)

I) Does any of what we are doing actually make it to the people?

**K) My ranch management plan includes the use of prescribed fire.** (Y/N)

I) TPB - Intention

**3) ENVIRONMENTAL ATTITUDES:**

**a) Being a good steward of the land is important to my land management decisions.** (Likert Scale)

I) Question used in Morton et al. 2010

**b-f) How important to you are the following environmental concerns?** (Likert Scale)

* Restoring prairies and grasslands
* Increasing vegetation heterogeneity
* Controlling invasive species
* Reducing wildfire hazards
* Protecting wildlife habitat

**4) PRESCRIBED FIRE:**

**a) I believe that prescribed fire is a beneficial tool for managing rangelands.** (Likert scale)

I) TBP- behavioral beliefs

**b) I am in favor of the use of prescribed fire** (Likert scale)

I) TBP - attitude

**c) I believe that prescribed fire should be used when needed.** (Likert scale)

I) TBP – behavioral beliefs

**d) I believe that prescribed fire should be used rarely, if at all.** (Likert scale)

I) TBP – behavioral beliefs

**e) I am concerned about using prescribed fire because I don’t have safety training.**

I) TBP – control beliefs

**f) I am prepared to use prescribed fire if I chose to.**

I) TBP – perceived behavioral control

**i) My friends and family would support my use of prescribed fire to manage my lands.**

I) TBP – normative beliefs

**j) My neighbors would support my use of prescribed fire to manage my lands.**

I) TBP – normative beliefs

**k) I would support my neighbors use of prescribed fire to manage their lands// I am worried about my neighbors using prescribed fire to manage their lands.**

I) TPB – normative beliefs

**l) People in my community use prescribed fire to manage their lands.**

I) TBP – Subjective norm (descriptive)

**m) In general, people in my community support the use of prescribed fire.**

I) TBP – subjective norm (injunctive)

**n) I am concerned about applying prescribed fire because of a lack of labor.**

I) TPB – Control

**o) I am concerned about applying prescribed fire because of a lack of the needed equipment.**

I) TPB - Control

**p) Local Governmental officials support the use of prescribed fire in my community.**

I) TPB – normative beliefs

**q) Burn restrictions, such as burn bans, have limited my ability to use prescribed fire in the past.** (Likert)

I) TBP – Actual behavioral control

**r – x) How concerned are you regarding the following potential effects of using prescribed fire?** (Likert)

* Property damage in the case of an escape
* Legal Liability in the case of an escape
* Risks to human safety
* Impact of smoke
* Loss of Forage
* Soil erosion
* Impact on wildlife

I) TPB -

**5) LANDOWNER ASSOCIATIONS:**

**a) I have been/currently am a member of a landowner association.** (Y/N)

TPB - control

**b) If yes, for how long?** (Fill in the blank)

**c) If no, why not?** (Short answer)

**d) I am familiar with prescribed fire associations** (Y/N/DK)

\*Define prescribed fire associations

**e) I would be interested in more information about prescribed fire associations.** (Y/N)

**6) GRAZING ON PUBLIC LANDS:**

**a) I support grazing on public lands** (Likert Scale)

**b) What is your proximity to public grazing lands?** (Check Box)

* 0 to 15 miles
* 15 to 30 miles
* 30 to 60 miles
* 60 + miles

**c) Have you ever/ do you currently utilize public grazing lands?** (Y/N)

1) Target population of Forest Service

**d) What percent of your operation is conducted on public grazing lands?** (Fill in the Blank)

1) Interested in understanding how much people rely on the public lands as a portion of their operation

**e) Which public grazing lands have you utilized?** Select all that apply.

US Forest Service Bureau of Land Management US Fish & Wildlife Service

State/ School Trust Lands

1) Organizations have different management and collaboration styles

**f) Why did you select the public grazing manager of your choice?** Select all that apply.

Location Price Availability Tradition Conservation Attitude

Other – Please Describe

I) What influences the choice of public land to lease? It is a practical (Location/price/availability) choice or is it a

**g) I think that public grazing land managers do a good job managing the land.** (Likert scale)

**h) I think that public grazing land managers should manage the land as they see fit, including the use of fire.** (Likert scale)

I) are these both too on the nose?

**7) AGENCY INTERACTION**

**a) I regularly consult with natural resource agencies in my area to solve problems that arise on my operation.** (Y/N)

**b) Rank the following agencies that you work with in the order of most frequently (1) to least frequently (5).**

Bureau of Land Management County Extension NRCS US Fish & Wildlife Service

US Forest Service

1) NRCS was the most worked with (per Phase 1)

2) NRCS has the flexibility and potential to be more hands-on with assistance than other agencies (Wilbur et al 2021)

**c) I trust the Bureau of Land Management personnel who work in my area.** (Likert)

**d) I trust the County Extension personnel who work in my area.** (Likert)

**e) I trust the NRCS personnel who work in my area.** (Likert)

**f) I trust the US Fish & Wildlife Service personnel who work in my area.** (Likert)

**i) I trust the US Forest Service personnel who work in my area.** (Likert)

**j) I am confident that agency personnel near me can safely use prescribed fire if they chose do so.** (Likert Scale)

I) Hesitancy related to USFS Rx escape near Lemmon SD (Per phase 1)

II) Trust in agency doing Rx is key variable that shaped public acceptance (McCaffrey 2006, Shindler & Toman 2003)

**k) I attend workshops or other programing provided by natural resource agencies in my area.** (Likert Scale)

**l) Rank the following styles of agency programs based on the impact they have on your management decisions with 1 being of the greatest and 4 being the least.** (Ranking)

Classroom Presentations Townhall Conversations Demonstrations A combination

I) Respondents were interested in workshops that focused on prescribed fire, particularly those with local demonstrations/demonstration sites (Per phase 1)

II) The solution of increasing conceptual understanding is not impacting management or attitudes

**m) I have attended a workshop or program on prescribed fire use.** (Y/N)

I) TPB - Intention

**n) I would be interested in attending a workshop or program on prescribed fire use.** (Likert scale).

I) TPB – Intention (?)

**8) DEMOGRAPHICS**

**a) In which year were you born?** (Fill in the Blank)

1) Age has been shown to impact acceptance of Rx (Kreuter 2008)

**b) What is your gender?** (Fill in the Blank)

**c) Select the highest level of education you have completed:**

Some High School High School Bachelor’s Degree Master’s Degree

Ph.D or higher Trade School

**d) How many years of farming/ranching experience do you have?** (Fill in the Blank)

**e) Do you live on the property for which you provided answers?** (Y/N)

**f) If yes, how many years have you lived on a ranch?** (Fill in the Blank)

**g) If no, how many miles do you live from the property?** (Fill in the Blank)

* 0 to 15 miles
* 15 to 30 miles
* 30 to 60 miles
* 60 + miles

**h) About what percent of your annual income comes from your rural property?** (Fill in the blank)

**i) Please check the category that best describes your total household income in YEAR?**

* Less than $25,000
* $25,000 to $50,000
* $50,001 to $75,000
* $75,001 to $100,000
* $100,001 to $500, 000
* Greater than $500,000