Notes on potential Discussion points

3.1 Agency relationships

**“In general, I personally use/trust resources from this organization”**

Objective of this question: Gain a baseline understanding about respondents’ familiarity with and attitude towards various sources of information or management action

* Results
  + All potential sources of information have a generally high degree of trust among respondents.
  + County extension is the most-used source of management information
  + BLM is the least used
* Discussion/ SL
  + What information is out there regarding Rx fire with these organizations?
    - Why do they trust it?
  + Liffmann et al. 2000
    - County extension offices are often trusted by ranchers and could possibly be the ones to connect ranches and scientists
  + Shindler and Toman et al. 2003
    - People trust other resources more than they trust the FS
  + Roche et al.
    - Found that the majority of their respondents trusted industry-related organizations over govt agencies.
    - In our case this shows why PF is trusted but what about county extension
  + Weir et al.
    - States that most PBA’s use resources and assistance from agencies including NRCS and Pheasants Forever, very few used state wildlife agency

**“I associate/trust this organization with Rx fire activity or information”**

Objective of this question: Determine which actors and/or information sources are considered most reliable by respondents when it comes to Rx fire

* Trust in agency doing Rx fire is key variable that shaped public acceptance (McCaffrey 2006, Shindler & Toman 2003)
* Results
  + US Forest Service is most associated with Rx fire but is the least trusted.
  + Pheasants Forever is most trusted with Rx fire. *Open questions*: Use or information?
* Discussion/ SL
  + McCaffrey 2006
    - Found that the public gives greater trust to environmental groups (Pheasants Forever, TNS, etc.) over commodity groups or the bureaucracy (govt)
  + Shindler and Toman 2003
    - Results found that roughly 50% of citizens trusted the FS to conduct a burn
    - Over a 4 year period the level of trust decreased
    - Majority of respondents disagreed wit the statement that the FS builds trust with landowners
    - Public acceptance of fire may be limiting trust in agencies like the FS, increasing public acceptance might increase trust
  + Danies and Walker 2001 and
    - Trust in agencies have been found to be lost or not built at all when efforts to gain input from citizens is not genuine or do not amount to anything

Several case studies have found trust to be a strong predictor of respondents’ approval of government agencies to make proper decisions about the use of various treatments, such as prescribed burning and mechanical fuel reduction (Vogt et al. 2005; Winter et al. 2004)

3.2.1. Perceptions of public grazingland management

**“I personally believe the following about public grazingland management”**

Objective of this question: What do respondents generally think about how National Grasslands are managed, and specifically about how much Rx fire there ought to be?

* What does “management” entail on National Grasslands? Much more than Rx fire… Water, fence, invasive species… anything published or available from USFS?
  + Managing grasslands helps prevent another dust bowl and in return “serving the people and caring for the land” (Terry West)
* Results
  + General attitude seems positive/respectful
  + There is a belief not only that best available science should prevail, but it appears to outrank user needs/preferences
  + Disagreement that Rx fire use ought to be increased.
* Discussion/ SL
  + Augustine et al. 2018
    - Fire and many management techniques are hard on grasslands due to land conversion and fragmentation, as well as different management techniques
    - Coordination and cooperation between landowners and FS (grasslands)
  + Symstad and Leis
    - Disconnect between landowners and feelings on woody encroachment
      * Lack of information
  + Lack of trust with the FS on grasslands can cause disagreements with management plans including fire. So even if they think science should prevail, with a lack of trust in place they disagree that it should be fire
  + Lachapelle and McCool 2012.
    - Since risk is socially constructed and often politically negotiated, technical approaches to risk management often fail because experts and the public disagree on the nature of the risk (Kunreuther and Slovic 1996).
    - Thus, a process that allows and encourages the framing of risk from a social, political, and technical perspective is more likely to garner broad support and trust. If one government agency or special interest group dominates the framing of risk and the actions to reduce it, the public will likely be unwilling to trust the process or outcome.
    - Lack of transparency and communication limits trust, respondents argued that they were only putting out information that supported their view
  + Vaske et al.
    - Perceived similarity frequently predicts social trust; people who perceive that they share similar views as the managing agency tend to trust the agency more than those who do not (e.g., Siegrist et al. 2000; Cvetkovich and Winter 2003; Poortinga and Pidgeon 2003; Walls et al. 2004).

3.2.2. Contributions to management decision-making

**“This environmental concern is important to me”**

Objective of this question: Identify potentially appealing co-benefits of Rx fire among survey respondents

* *Targeted benefits*: The desired outcome for which a management action was taken. Presumably beef production for survey respondents.
* Concept of *co-benefits*: when a management action produces additional beneficial outcomes (Molina et al. 2024)
  + SL for each option in the figure as a potential co-benefit, or shown to be a co-benefit elsewhere
  + Discuss potential for co-benefits as incentives
* Results
  + Ranchers mostly appear to value open rangeland (SL?)
    - They value increasing plant diversity, woody plant control, and restoring prairie/grassland
    - Don't seem to care about reducing wildfire risk
  + Low potential among respondents for voluntary adoption based on co-benefits?
* Discussion/ SL
  + Brunson and Huntsinger – Ranchers are found to value open spaces
    - They found that open spaces and wildlife habitat protection were as important food and fiber production as reasons for protecting ag land (American Farmland Trust 2001).
  + Holechek et al. 2003
    - Belief that an increase in fire could harm forage production in years to follow because of drought
  + Beef Production
    - Animal distribution
      * Spend roughly 75% of time grazing time in recently burned areas (Fuhlendorf and Engle 2004) allowing greater forage utilization than unburned areas
    - Livestock parasite management
      * Reduction of ticks (polito et al. 2013), horn flies (scasta et al. 2012), and face flies
    - Annual burning showed maximized cattle gains when rain was plentiful, but reduced cattle gains drastically when in drought
      * Patch burn grazing reduces this risk, because you continuously have unburned fields with forage
      * *Check out recent*

**“This consideration affects my management decisionmaking”**

Objective of this question: Identify personal, identity-based motivations that might inspire consideration or adoption of new practices (\*cough\* Rx fire) if they fed these motivations

* Stewardship is clearly a major motivator.
  + What does stewardship means to farmers/ranchers? SL (eg Morton et al. 2010)
  + SL on how Rx fire is perceived (by landowners) and/or presented (by advocates/agencies)
* Results
  + Stewardship and what previous generations taught are the biggest motivators
  + Scientific research and how neighbors manage their land are the least
* Discussion/ SL
  + Bendel et al.
    - Found that majority of their participants valued scientific research most
    - Opposite to what this study found
  + Roche et al
    - respondents valued “conserving natural resources” over economic return
  + What does stewardship means to farmers/ranchers? SL (eg Morton et al. 2010)
    - See intro outline on stewardship
    - Coon et al. Landowners have a feeling of responsibility for environmental concerns, links to the concept of environmental stewardship

3.3. Attitudes about prescribed fire

**“Members of my community generally believe the following about Rx fire”**

Objective of this question: Determine perceptions about Rx fire in the broader community

* Results
  + General perception that folks think fire is risky: to property, public safety, and forage.
  + Disagreement that Rx fire is bad for wildlife, little negativity around smoke.
* Discussion/ SL
  + Why does community opinion limit individuals?
  + Why are community perceptions important to individual actors?
    - USFWS – Previous generations thought processes and management plans
  + Harmful to property, people, and forage
    - Property – Bendel et al. 2020 believed there was negative effects of fire when on neighboring property
    - People -
    - Forage - Participants in Harr et al. study outlined that fire did not directly benefit ranching operations as it benefitted wildlife, and oftentimes destroyed food for their cattle
  + McCaffrey 2006
    - Smoke will be there no matter what, don’t have many feelings against smoke
  + Coon
    - Landowners have a feeling of moral obligation to their neighbors

**“I personally believe the following”**

Objective of this question: Determine personal attitudes towards Rx fire and its use

* Results
  + Ambivalence/indeterminate attitudes towards limited burning
  + Slight disagreement that Rx fire ought to be used frequently, or that it is beneficial.
  + Strong evidence respondents are NOT willing or prepared to burn in their own
* Discussion/ SL
  + *McCaffrey 2006*
    - *Only hear about the bad fires, talk about the good (went according to plan), so when a bad one happens it doesn’t seem as common (*Maybe put with agency acceptance?)
  + Precontemplation/ contemplation stage? (Bendel et al.) - talked abount in intro?
  + Clark et al. 2022a
    - Studies found that most respondents don't find fire beneficial either
  + PBA’s (In the great plains)
    - 22% of people write their own burns plans
    - 50% get assistance or already written burn plans from agencies like NRCS or Pheasants Forever
    - Small percentage get burn plans from state wildlife agencies or private consultants

**Management Implications**

-Using county extension to get the word out for prescribed burning (use the most resources from them)

- Partner with PF?

- Augustine et al.

- Management incentives (cost- share) for landowners to use heavy grazing, prescribed fire, etc.)

- Shifts low diverse CRP lands towards diverse and enhanced grasslands

- Need coordination and cooperation between landowners and grassland