Spring 5-2024

Framing Wildlife Conservation: Exploring Political Bias in States' Wildlife Action Plans

Ciara Nelson
University of Nebraska-Lincoln

Framing Wildlife Conservation: Exploring Political Bias in States' Wildlife Action Plans

by

Ciara Nelson

An Undergraduate Thesis

Presented to the Faculty of

The Environmental Studies Program at the University of Nebraska-Lincoln

In Partial Fulfillment of Requirements

For the Degree of Bachelor of Arts

Major: Environmental and Sustainability Studies

With the Emphasis of Policy, Advocacy, and Social Justice

Under the Supervision of Dr. Patrick Bitterman and Scott Kurz, M.S.

Lincoln, Nebraska

May 2024

Framing Wildlife Conservation: Exploring Political Bias in States' Wildlife Action Plans

Ciara Nelson, B.A.

University of Nebraska, 2024

Advisor: Dr. Patrick Bitterman

Reader: Scott Kurz

Abstract

Climate change affects regions of the United States differently due to factors such as the country's diverse physical landscapes, political environments, and population distributions. This variation leads to varying impacts on humans, wildlife, and ecosystems, with anthropogenic climate change—acknowledging humans as a significant contributor—being a point of contention, especially among some prominent politicians. The relationship between political party affiliation and climate change acknowledgment is evident, with recent political discourse highlighting differing views on the severity of climate change. This political framing influences how environmental policies are perceived and accepted, with the choice of language and framing playing a crucial role in policy adoption. Despite political differences, legislation addressing wildlife extinction and habitat degradation has been passed and adopted by both parties. (wildlife Action Plans (WAPs), falling under the Environmental Protection Agency (EPA) and receiving funding from both sides of Congress and the White House, have been adopted by all 50 states, showcasing bipartisan support for conservation efforts. This study focuses on WAPs in four states—South Dakota, Minnesota, Iowa, and Colorado—and analyzes their effectiveness in addressing climate change through a conservation framework aimed at preserving natural ecosystems. These states exhibit both similar and contrasting physical geographies and have a range of political affiliations at the state and federal levels. The analysis compares WAPs to the Sustainable Development Goal Number 15 (SDG 15). The study also uses a content analysis of WAP proposals from the mentioned states, by categorizing frequent words into framing themes such as environmental effects, economic development, conflict/strategy, community balance, and technical/policy background and uncertainty. Overall, the absence of specific party-related terms in these plans raises questions about their practicality, even though the results indicate a general acceptance of climate change's environmental impacts. This study highlights the complexity of addressing climate change through conservation policies, influenced by political dynamics, framing strategies, and the practical implementation of conservation efforts at state and federal levels.

Keywords: political framing, environmental policy, framing, political bias, polarization, climate change legislation

Framing Wildlife Conservation: Exploring Political Bias in States' Wildlife Action Plans

Climate change impacts regions of the United States differently because of the country's varying physical landscapes, political atmospheres, and population distributions. Humans, wildlife, and ecosystems are impacted by climate change at varying degrees. The adverse effects of climate change influence the wildlife and plants that live in terrestrial and aquatic ecosystems which are not as equipped as humans are to deal with the impacts. States are challenged with the task of finding a solution that will protect their native and natural ecosystems through resource availability while at the same time, allowing development and prosperity for their people and economies. The federal government uses the State and Tribal Wildlife Fund program that promotes and allows states to submit Wildlife Action or Conservation Plans to receive funding for their efforts in protecting native ecosystems. These plans are public documents that are published by states after approval and further guide the state departments on wildlife conservation. Although these action plans have the same end goal, to protect the native animals of the respective state, there can be political bias in these policy-making decisions.

Anthropocentric climate change, or the understanding that humans are a central and primary factor in contributing to climate change, has been disputed by some prominent Republican politicians (Montanaro, 2023). This began with a distrust in science dating back to the 1990s as research from Gallup and Krugman show. In 1975, Gallup conducted a poll about trust in science and technology. Their results came back with almost no variation between political parties or the general public. In 1990, the same poll had the same results. However, in 2021, the same poll was conducted with only 45% of Republicans saying they have confidence in science. Democrats answered with 79% having confidence and all US adults responded with 64% confidence in science. There is a discussion that the change happened in 2008, when advancements in technology dramatically increased, especially in renewable energy sectors. This

is also when the belief that environmental protection leads to negative economic impacts (Krugman, 2022; Jones, 2024).

There is a clear split between party identification and trust in science with the opinions about climate change having equally clear lines and mistrust. The science behind climate change and the contributors to global warming have become political footballs and are the basis and inspiration of this study. These beliefs and distrust of science eventually became prevalent in policies; Republican-led states have been reluctant to adopt environmental legislation because of this distrust (Krugman, 2022). This study aims to evaluate these biases and understand the approaches and lenses states use for wildlife conservation and their importance for state ecosystems. This paper begins by examining the history of environmental legislation and specifically, Wildlife Action Plans. The methods, results, discussion, and conclusion further support the importance of state WAPs with discussions concerning word usage between states. Further research suggestions and reflections conclude the paper.

Four state Wildlife Action Plans were analyzed based on their approach to addressing conservation efforts through the understanding that climate change is an influencing factor in animals and land loss. The four states chosen were South Dakota, Minnesota, Iowa, and Colorado. These states have similar and contrasting physical geography and also have a range of political party control at state and federal voting levels. These states also have similar wildlife but also state-specific wildlife that will provide variation to compare the WAP. Prominent politicians in these states have also publicly stated climate change beliefs and opinions ranging from the non-existence of climate change to the implementation of carbon taxes and credits ("Noem Joins Lawsuit Challenging Social Cost of Climate Change," 2021; Coltrain & Coltrain, 2023; Steve Karnowski, 2022). Interest in this study is based on understanding the words that are polarizing in climate legislation and finding the words that can help foster bipartisan

environmental policies. One expected limitation of this study is the small sample size of the states I am using. However, this is a basis for understanding Wildlife Action Plans and provides a starting point for further research.

The analysis of these plans was based on Sustainable Development Goal 15 published by the United Nations (UN). This goal's focal point is "life on land" and addresses the following, "Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss" (UN). A content analysis was based on key terms in this Sustainable Development Goal and compared the frequency of these terms in the action plans. Further analysis will be based on political communication framing and sentiment analysis to determine more specific tones and approaches to wildlife conservation.

I theorize there will be similar frequencies for less polarizing words such as "protect," "biodiversity," and "ecosystems" and a recurring understanding of the economic and historical benefits of conserving wildlife. However, I think there will be a higher frequency for words such as "sustainable" or "restore" in Minnesota and Colorado's action plans because they have Democratic-led executive and legislative branches in their states, and these are words associated with recent climate legislation. South Dakota and Iowa, Republican-led states, will use words associated with conservation, the economy, and social implications comparatively more because they are more acceptable terms, important aspects of the Republican party, and not associated with climate change directly. I expect there will be a more positive outlook for the future of Colorado and Minnesota because they are more progressive states, especially Colorado. I also anticipate the tone of Iowa's plan to be more negative and skeptical because of the impact and focus of agriculture versus natural prairie or wetlands.

1 Literature Review

1.1 Party Politics and Environmental Legislation

The relationship between party affiliation and the acknowledgment of climate change is fairly evident, especially after recent political news headlines and comments, with the severity of climate change stated as "not a threat," "a conspiracy theory" or "fake science" by prominent Republican Congressmen and Governors (Dale, 2023; Lakhani & Milman, 2022). The adoption of environmental policy is also divided by political parties. For example, when former President Trump withdrew the United States from the Paris Agreement because it was harmful to our economy. Alternatively, President Biden and former President Obama were actively involved in contributing to collective action to end climate change through this agreement and others (Peltier & Sengupta, 2021). The media portrayal of this hardline divide between parties concerning environmental action and policy is concerning especially when the general public has a relatively high climate understanding (Montanaro, 2023). At a state level, some Republican-led legislatures do not support climate action, and Democratic-led ones are passing and adopting positive environmental plans (Forchtner, 2019). However, this study argues that although climate change has become a politicized topic and caused division in the country, some prominent Republican-led states are still combating climate change effects. The states are doing this through mitigation and conservation practices with different political framings of climate change topics (Rolfe-Redding et al., 2011; Forchtner, 2019).

Political framing, and especially environmental framing, have taken local cultures and economic concerns into consideration in their efforts to convince people to either support or disapprove of new policies. Framing can also lead to mobilization or interest in the topic at hand and further dictate and influence interactions. Journalists also use frames to make topics easier to

understand for broader audiences. For example, there are specific frames associated with science policy. These are "social progress, economic development/competitiveness, morality/ethics, scientific/technical uncertainty, Pandora's Box/catastrophe, or public accountability/governance, and/or conflict/strategy" (Hedding, 2017). Understanding the framing of specific environmental policies in certain party-controlled areas could help us understand what approaches are more accepted by one party over another. Previous research in environmental policy framing has focused on news articles for specific regions or the overall message of one policy. There is a gap in the research with comparative framing for environmental policies by state in the US and comparing those frames to the political parties that created the policies. This paper aims to look at specific state policies and understand the framing of each one and how that connects to the political parties controlling the state.

When making environmental policies, the framing and wording of the titles and content play a large role in the acceptance and further passing of the law (Forchtner, 2019). This is related to the party in control of the legislative body and further, the people the legislative body controls. Party identification, being either Republican or Democrat, closely predicts the framing of environmental policy and the concern for climate change as an issue (Forchtner, 2019). Principal leaders in the fight to reduce anthropocentric climate change such as Al Gore, have been prominent Democratic politicians. The Republican Party largely takes the opposite approach with only 38% of the party politicians publicly stating that they believe climate change is happening despite the causal factors. Within the Republican Party some factors further influence belief in climate change such as religious affiliation, trust in science, and social networks. Republicans who identify as Evangelical, have low trust in science or have limited social networks are more likely to not believe climate change is happening and have further

disbelief in the anthropocentric role in accelerating natural climate change (Rolfe-Redding et al., 2011; Forchtner, 2019).

Despite this basis of party politics, however, there is still legislation passed and widely adopted by both parties. At the federal level, The Clean Air Act and the Clean Water Act were passed with bipartisan efforts from both the Senate and House of Representatives. The Clean Air Act was passed in compliance with the Montreal Protocol in 1980 but underwent considerable amendments in 1990 with similar acceptance and bipartisanship with the "nay" votes having no relationship to the parties (*U.S. SENATE: U.S. Senate Roll Call Votes 101st Congress - 2nd Session*). The same applies to the passage of The Clean Water Act passed in 1972 (*U.S. SENATE: U.S. Senate Roll Call Votes 104th Congress - 1st Session*). These are environmental policies that address climate-related topics from preservation to pollution that were not limited to party politics.

Recent research explains how the race to the bottom, or large companies competing with each other to lower regulations, plays an innermost role in the importance and existence of federal environmental policies (Fredriksson & Millimet, 2002). This also prevents decentralization, or the delegation of responsibilities to states from the federal government. Overall, the concept of environmental legislation is negatively perceived by businesses because of its impact on the economy. Those who favor a more decentralized government are opposed to environmental policy from the federal government because they view that states have that responsibility. The same applies to the creation of the Environmental Protection Agency (EPA) through bipartisan support so the U.S. will have an agency to uphold and maintain new environmental laws and regulations across the country. the creation of the EPA was a process of centralization and gave the federal government power over states and businesses (Fredriksson & Millimet, 2002). However, this has led to Republicans at federal and state levels undermining the

Clean Air Act, and the Clean Water Act. Additionally, the party has further motivated states and the federal government to actively work to further defund the EPA. This is happening by pushing governments not to have regulations on coal miners and oil producers and by preventing funds from going towards regenerative agriculture or renewable energy (Castor, 2022). The Republican-controlled courts of states and the Supreme Court have also blocked environmental legislation by limiting the power of states to regulate carbon emissions and conduct Environmental Impact Statements (EIS) (Davenport, 2024).

Wildlife Action Plans are conservation policies approved by the EPA. They are funded by the federal government through the US Fish and Wildlife Service. These plans have been approved and adopted by all 50 states regardless of party control (*State Wildlife Action Plans; Association of Fish & Wildlife Agencies*). These policies have the potential to make a difference in environmental protection, like the Clean Air and Water Acts, despite party politics being a prevalent factor in acceptance of the plan. Because wildlife is directly involved and impacted by climate change, I hypothesize that republican states will not use polarized words such as "global warming," "climate change," and "sustainability" in their Wildlife Action Plans. For example, in 2015, Rick Scott, then governor of Florida, banned those words from being used in his administration and I propose this may be similar in other Republican-led state policies (Times-Union, 2015). This hypothesis is also based on the use of these words in progressive, typically Democratic-proposed, environmental legislation.

1.2 Wildlife Conservation Action Plans

To address wildlife extinction and habitat degradation, conservation efforts began at both state and federal levels. Conservation in the sense of landscapes, wildlife, and plants in the United States was born during former President Theodore Roosevelt's administration in the early

1900s. Roosevelt identified conservation efforts as a central object of national policy during his terms. Roosevelt took forested lands out of the Public Domain sector and converted them into Forest Reserves. Roosevelt was trying to prevent the logging companies from exploiting the natural resources because, at the current trajectory in time, there were only enough trees to last the next 60 years. These actions were met with strong opposition from Westerners who felt they were entitled to the land and wanted to use the resources those lands provided. These sections of land are now known as National Forests and receive more recreational use than National Parks (*Grey Towers- Conservation*). National Forests have a total of 193 million acres across the U.S. and are made up of 154 national forests (Hoover & Riddle, 2023). Comparatively, the more popular term, National Park, has 85 million acres with 63 designated national parks. These acres also include National Battlefields, Monuments, and Historical Sites (U.S. National Park Service, n.d.).

Furthermore, at this time in the 1900s, numerous other factors were pushing for conservation. Americans were facing an identity crisis concerning "pioneer life"; anti-urbanism and anti-modernism were a common mindset among the elite; the people in urban areas wanted vacation destinations with aesthetically pleasing attractions; the introduction of nature in teaching techniques and literature; the increased popularity of big game sports; and increased awareness around natural resource depletion. There were also fewer divisions between science and religion, highly educated scientists were respected, and cultures had multi-class understandings, or having those of the same culture in the low, upper, and high-class society. During the 1850s and 1920s, the basis of conservation legislation started for wildlife populations with the creation and institution of Arbor Day and Bird Day. These were both created in Nebraska at the state level (*Conservation Collection: Materials from the Prints and Photographs Division*).

To address endangered and threatened native wildlife and ecosystems across the country, the federal government created numerous programs that provide funding for these conservation efforts. Specific wildlife and landscape funding comes from the US Fish and Wildlife Service which distributes conservation funding from State and Tribal Wildlife Grants program. States must propose Wildlife (conservation) Action Plans (WAPs) to receive this funding upon approval from the federal board (*State Wildlife Action Plans; Association of Fish & Wildlife Agencies*). These plans approach the effects of climate change from a conservation viewpoint that is more issue-specific. They also provide less political division from partisanship through the use of framing certain descriptive words that are more appropriate for their party alignment.

In 2005, a fund was set aside for wildlife conservation efforts and is refunded every 10 years by Congress. This fund is controlled by the US Fish and Wildlife Service and further funded by the State and Tribal Grants program which both receive their funding from Congress. The program starts by having states submit their action plans with interpretations, implementations, and explanations established by the agency through the mission, vision, values, and goals. These plans vary by state on the process of creation, but the state government oversees the process, nonetheless. A board further reviews the proposed plans and either approves or denies funding for the state. If the funds are granted, the state then must use them toward the proposed conservation efforts in their approved plans. Once approved and funded, each state releases its plan to the public. The basis of all plans is based on the following guiding principles.

- **The Mission**:
  - To advocate for the roles, responsibilities, and authorities of our member agencies to manage fish and wildlife as public trust resources for current and future generations.
- **The Vision**:
  - Providing conservation leadership for a sustainable, publicly supported future for fish and wildlife.
- **The Values**:
  - Community: We prioritize collegiality, cooperation, trust, and mutual support.
  - Inclusiveness: We foster a culture that welcomes diverse people and ideas.

- o   Respect: We treat people with dignity, kindness, and fairness.
- o   Integrity: We are honest, reliable, and ethical.
- o   Collaboration: We work together to achieve shared goals and priorities.
- o   Excellence: We commit ourselves to exemplary work.
- **The Goals**:
  - o   *Advocate* for funding, laws, regulations, and policies that fulfill the missions and capabilities of our members.
  - o   Increase participation, *relevancy*, diversity, and inclusiveness in fish and wildlife conservation and nature-based recreation.
  - o   Provide leadership in developing fish and wildlife *conservation science* and its application in decision and policy-making.
  - o   Attain comprehensive and dedicated *funding* for fish and wildlife conservation.
  - o   Provide communication, training, and c*apacity-building* to support member fish and wildlife agencies.
  - o   Improve fiscal and *operational excellence* of the Association.
  - (*State Wildlife Action Plans; Association of Fish & Wildlife Agencies*)

Overall, the state action plans strive to provide actionable items for agencies and

departments to better protect wildlife and plants, especially those that are threatened or

endangered. The wildlife plan was formulated as a policy framework that would work across the

aisle to create a bipartisan approach to conservation. Although these plans are reviewed by the

federal agency, there is still space for partisan approaches, framings, and beliefs to be prevalent.

The recent framing of climate change as a political topic instead of a science-based issue poses a

problem for the types of plans such as State Wildlife Action Plans. This is why it is important to

understand the evolution of these plans and further explore them comparatively concerning

political framing.

2. Research Questions and Hypotheses:

This study explored environmental policy framing, political party bias, and the importance of

conservation in Wildlife Action Plans and was guided by the research questions and hypotheses

listed below.

- RQ1: Are there similar frequencies for less polarizing words such as "protect,"

  "biodiversity," and "ecosystems" across all states?

- Hypothesis 1: There will not be differences in usage by states for words such as "protect," "biodiversity," and "ecosystem" because they are used in SDG 15 and are not heavily used in environmental policy debates.

- RQ2: Is there a higher frequency of words such as "sustainable" or "restore" in Democratic-led states? Or what words are more associated with those states?

  - Hypothesis 2: There will be a higher frequency for words such as "sustainable" or "restore" in Minnesota and Colorado's action plans because they have Democratic-led executive and legislative branches in their states, and these are words associated with recent climate legislation.

- RQ3: Is there a focus on economic and societal change because of conservation in the Republican-led states?

  - Hypothesis 2: South Dakota and Iowa, Republican-led states, will use framing categories associated with conservation, the economy, and negative social implications of changing comparatively more because they are more acceptable terms, important aspects of the Republican party, and not associated with climate change directly.

- RQ4: What is the tone or framing of conservation of each state and how does that contribute to word usage of political parties?

  - Hypothesis 4: There will be a more positive outlook for the future of Colorado and Minnesota because they are more progressive states, especially Colorado. The tone of Iowa's plan will be more negative and skeptical because of the impact and focus of agriculture versus natural prairie or wetlands.

3. Methods

For this study, a content analysis was used to analyze the frequencies of descriptive words in the Wildlife Action Plans from Colorado, Iowa, Minnesota, and South Dakota (COPW, 2015; IADNR, 2015; MNDNR, 2016; SDGFP, 2014). These documents vary in length but range from 206 (Iowa) to 583 pages (South Dakota). Minnesota's plan is 240 pages and Colorado's is 459 pages long. The documents were analyzed in RStudio using the TidyText package, considering the context and frequency of words, and determining the relevance and importance of the most used words. The topmost common words across all four states were analyzed in comparison to one another based on frequency and uniqueness. The most frequent words were also compared between states based on political party affiliation. The basis for a Democratic or Republican state is based on the presidential election results from 2020 with Minnesota and Colorado being Democratic and South Dakota and Iowa being Republican ("Presidential Election Results and Electoral Map 2020," n.d.).

Words from Sustainable Development Goal 15 (SDG 15) published by the United Nations Intergovernmental Panel on Climate Change (UN IPCC) will be searched for in the documents based on frequency and existence. Different tenses of the words will also be included in the frequency count, i.e. manage includes management, managed, managing, and manager. The goal is to "Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss" (UN). This process helped determine how influential the SDG is on the Wildlife Action Plans. The non-existence of words was also noted. The words from the SDG that were searched for in the documents are listed in Table 1.

Protect	Restore	Sustainable	Promote
Ecosystem	Manage	Combat	Halt
Reverse	Degradation	Biodiversity	Loss

**Table 1**: list of words searched for in each state's WAP based on SDG 15.

Based on previous studies, the most frequent words of each WAP were sorted into categories of "environmental effects," "economic development," "conflict/strategy" "balance for the community" "technical/policy background" and "technical/policy uncertainty" (Hedding, 2017). The premise for the categorization of these terms is taken from Hedding and has been applied to this study. The usage of certain categories over others helped conclude attitudes toward the environment and its role in the state's plan. The category definitions are as follows:

- Environmental effects- words that focus on environmental impacts and risks.
- Economic development- words focused on the economic benefits of more conservation.
- Community balance- words focused on the effects of conservation on the community, including a focus on a balance of environmental and economic considerations for the good of the community.
- Conflict/strategy- words focused on who is "winning" or "losing" the debate, or a battle of more or less conservation.
- Background- words focused on the history of conservation in the state or data backgrounds.
- Uncertainty- words focused on the unknowns of conservation or change in the state. (2017)

The final analysis was done using the "NRC" database in TidyText. Each document was analyzed using the sentiments of "positive," "negative," "trust," and "fear" and the top words of each of these sentiment categories were recorded. These sentiments were used to determine prevalent sentiment in one state over another. The sentiments are different but also similar enough to determine consistent word usage. The top sentiment words in each state were compared to one another to determine overlap and uniqueness. Overlap only between states of the same political party was also noted.

After performing multiple types of analysis of these documents, consistent differences and similarities helped determine answers to the hypothesis and research questions. The usage of similar and different words, the usage of framing categories, and the usage of sentiments helped determine attitudes toward wildlife conservation based on political party affiliation.

4. Results

Top Words by State
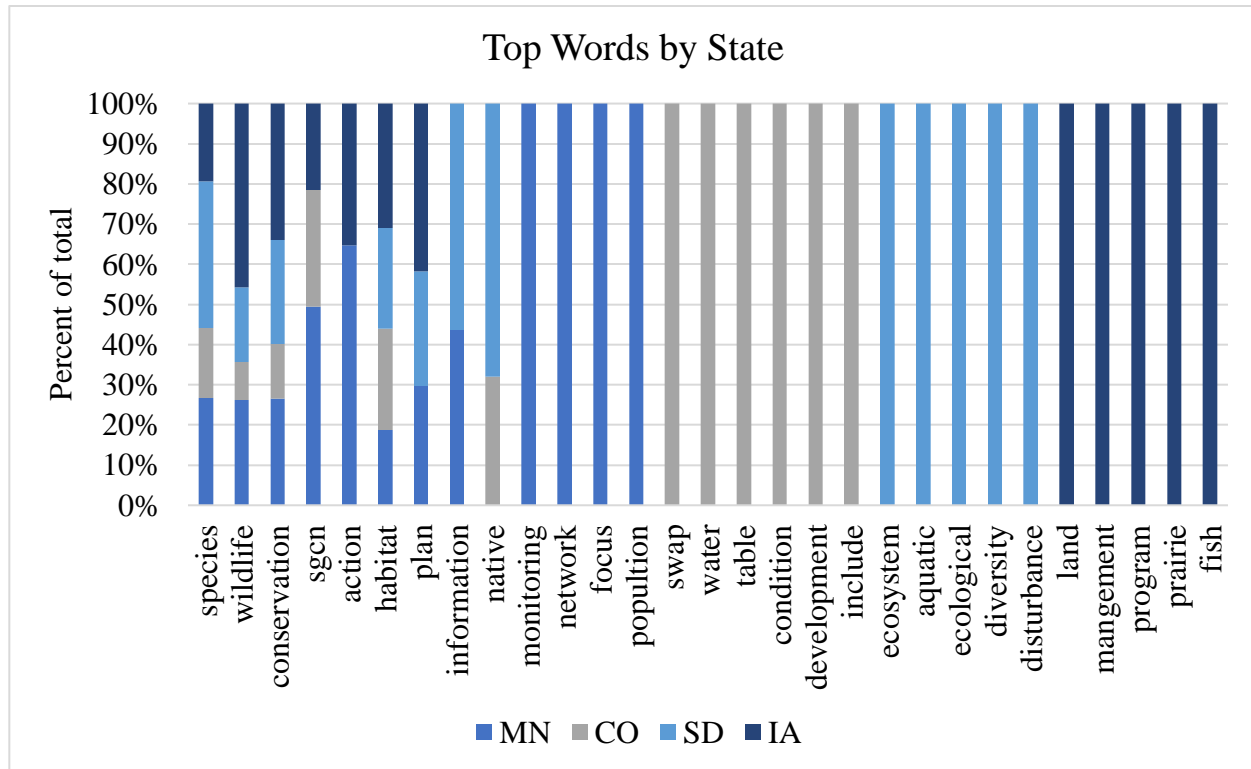
4.1 Top Word Usage in States

All four states used the words "species," "wildlife," "conservation," and "habitat." These words were all at least in the top 6 most frequent words as seen in Figure 1. Another word that was commonly used was "SGCN" which stands for "species of greatest conservation need." These are words associated with the purpose of the Wildlife Action Plans and were expected to be common across all states. (COPW, 2015; IADNR, 2015; MNDNR, 2016; SDGFP, 2014). When examining the top words of each state, there were also words only used in 3 of 4 states or 2 of the 4 but were not politically similar. This overlap can be seen in Figure 2. The exact word frequencies for each state can be found in the Appendix along with other graphics.

Figure 1 (above): Top 15 words of each state compared to each other to show overlap and uniqueness; displayed as percentages compared to one another.

Figure 2 (right): Shows the overlap of the top 15 words of each state's WAP in comparison to other states.

Each state also has words unique to itself. These words show how each state has a different focus and approach to wildlife conservation. These unique words are displayed in Table 2. South Dakota used the term "coas" which is an acronym for "conservation opportunity areas." These terms were found using the top 50 most commonly used words across each WAP. 34% of the top 50 words in Minnesota were unique, 44% in Colorado, 26% in South Dakota, and 20% in Iowa.

Of the top 50 words used to find uniqueness, words were also common between politically similar states. Table 3 shows the most common words between Colorado and Minnesota as Democratic states and words used only in South Dakota and Iowa as Republican-led state words. There was only one word that was shared between the Democratic-led states and 5 words were only found in the top words of the Republican-led states.
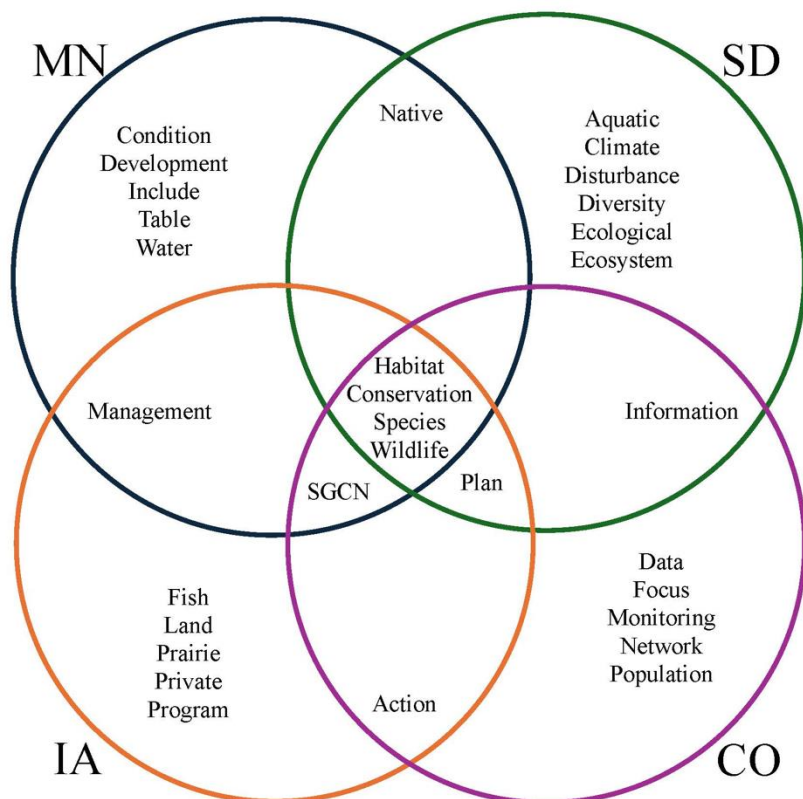
Democratic	Republican
include	aquatic
	level
	wetland
	public
	fish

Table 3: Words only used in Democratic or Republican states. Words were taken from the top 50 most occurring words in Minnesota, Colorado, South Dakota, and Iowa's Wildlife Action Plans.

MN	CO	SD	IA
network	table	ecosystem	private
focus	threats	disturbance	acres
list	shrublands	site	recreation
biological	streams	terrestrial	review
objective	tier	historical	federal
survey	mountain	landscape	protection
staff	plains	plant	committee
mapped	significant	grazing	distribution
score	including	specific	national
projects	pine	process	inventory
stressors	found	coas	
identified	occur	precipitation	
increase	types		
approach	stands		
partners	woodlands		
based	elevations		
measures	juniper		
	support		
	cover		
	lower		
	sagebrush		
	shrub		

Table 2: Unique words from each state based on a list of the top 50 words used in the WAPs.

4.2 Comparison to SDG 15

In comparison to SDG 15, each word from Table 1, found in the methods, was searched for in the states' Wildlife Action Plans. The results are found in Figure 2 with specific frequencies found in the Appendix. No state used the words "combat" and "halt." Iowa was the only state to use the term "reverse." South Dakota used the word "ecosystem" substantially more than any other state. Iowa similarly used "protect" more than any other state. Exact frequencies can be found in the Appendix.
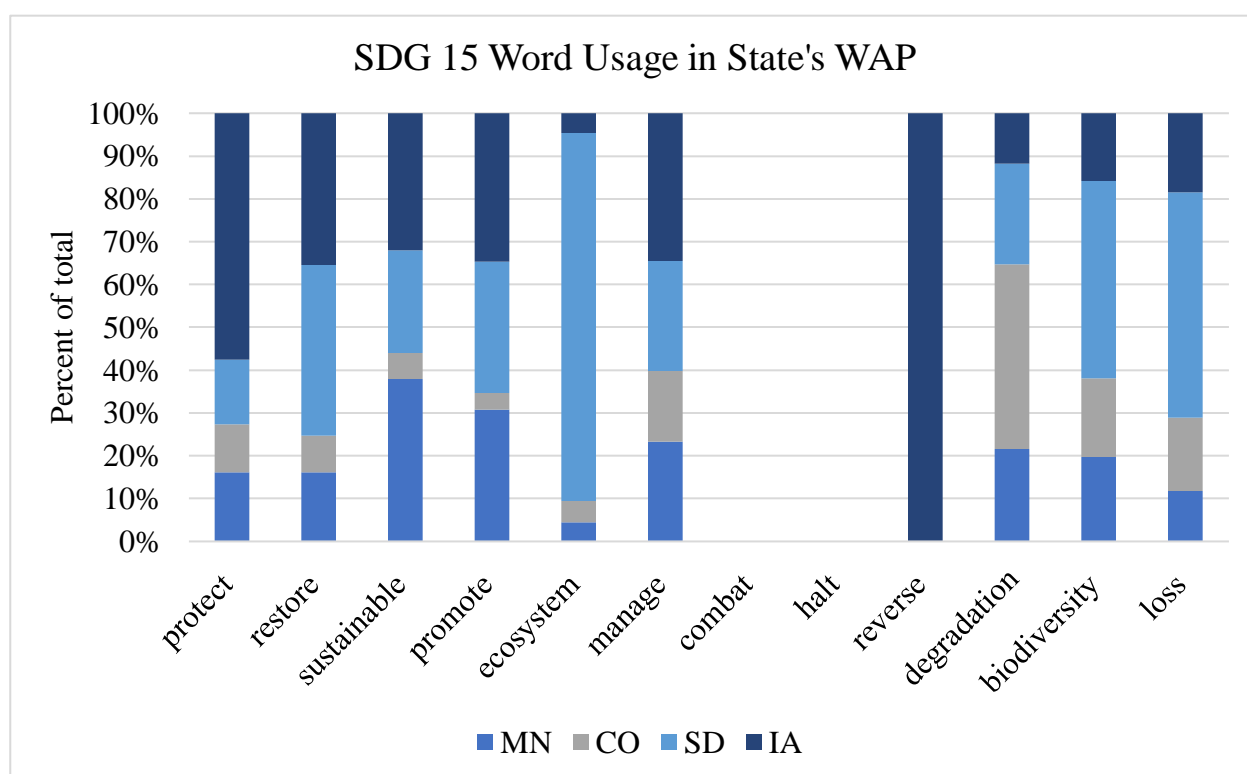

Figure 3: Word usage of terms from SDG 15 in states' WAPs shown as precents in comparison to one another.

4.3 Environmental Framing Category Usage

The top words used in each state were placed into categories of environmental effects, economic development, community balance, conflict/strategy, background, and uncertainty. The

top 15 words of each state were used to determine common frames. The results are displayed in Table 4. Environmental effects were the most used category across all four states. However, when looking at the unique words of each state's top 50 words, the results differed. Table 5 shows the usage of framing categories of each state's unique words. Minnesota predominately used the background framing category. Colorado and South Dakota used the Environmental framing category. Iowa used the economic development framing category.

MN	CO	SD	IA
species	species	species	wildlife
wildlife	habitat	conservation	conservation
conservation	conservation	ecosystem	species
sgcn	sgcn	wildlife	habitat
action	wildlife	aquatic	plan
habitat	swap	habitat	land
plan	water	ecological	management
information	table	diversity	program
monitoring	condition	information	prairie
network	native	native	actions
focus	development	disturbance	fish
population	include	plan	sgcn
data	management	climate	private
management	threats	change	acres
list	actions	conditions	monitoring

Key:
- environmental
- economic
- community
- conflict
- background
- uncertainty

Table 4: Top 15 words of each state color-coded to framing categories as shown in the key to the right.

MN	CO	SD	IA
network	table	ecosystem	private
focus	threats	disturbance	acres
list	shrublands	site	recreation
biological	streams	terrestrial	review
objective	tier	historical	federal
survey	mountain	landscape	protection
staff	plains	plant	committee
mapped	significant	grazing	distribution
score	including	specific	national
projects	pine	process	inventory
stressors	found	coas	
identified	occur	precipitation	
increase	types		
approach	stands		
partners	woodlands		
based	elevations		
measures	juniper		
	support		
	cover		
	lower		
	sagebrush		
	shrub		

environmental	
economic	
community	
conflict	
background	
uncertainty	

Table 5: Unique words of the top 50 most used words in each state's WAP categorized by framing categories. Color-coded key to the right of the table.

4.4 Sentiment Usage in State's WAPs

Each state's WAP was compared to the "NRC" database which has defined sentiments for words. The sentiment categories were "trust," "fear," "positive," and "negative." A list of words was generated with frequencies and the top 15 of each state were used in the results. The following figures show the top 15 words of each state, according to sentiment and the

comparison of word usage between states. Additional figures and tables can be found in the appendix with specific frequencies.

Each sentiment category has words that are unique to each state. The overlap of trust words was 60% with 40% of words being unique to one state. Iowa had the most unique trust words with 5. Fear words had 52% overlap with 48% uniqueness to states. South Dakota and Minnesota both had 5 unique words. For the positive sentiment, there were 15 shared words, or 56% with Colorado having 4 unique words. Overlap for the negative sentiment was the lowest with 47%. Iowa had the most unique words with 7.
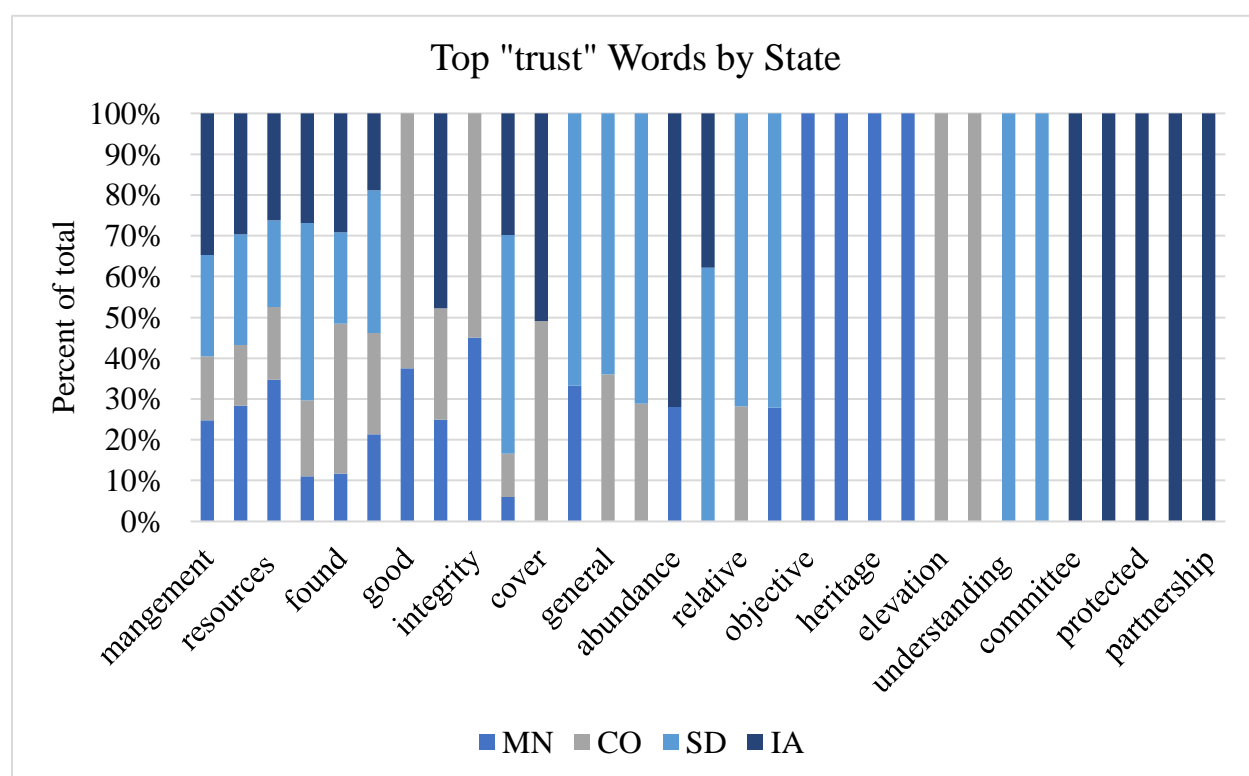

Figure 4: Top 15 "trust" words by state in comparison to each other. Percentages are shown as a comparison to other state's usage.
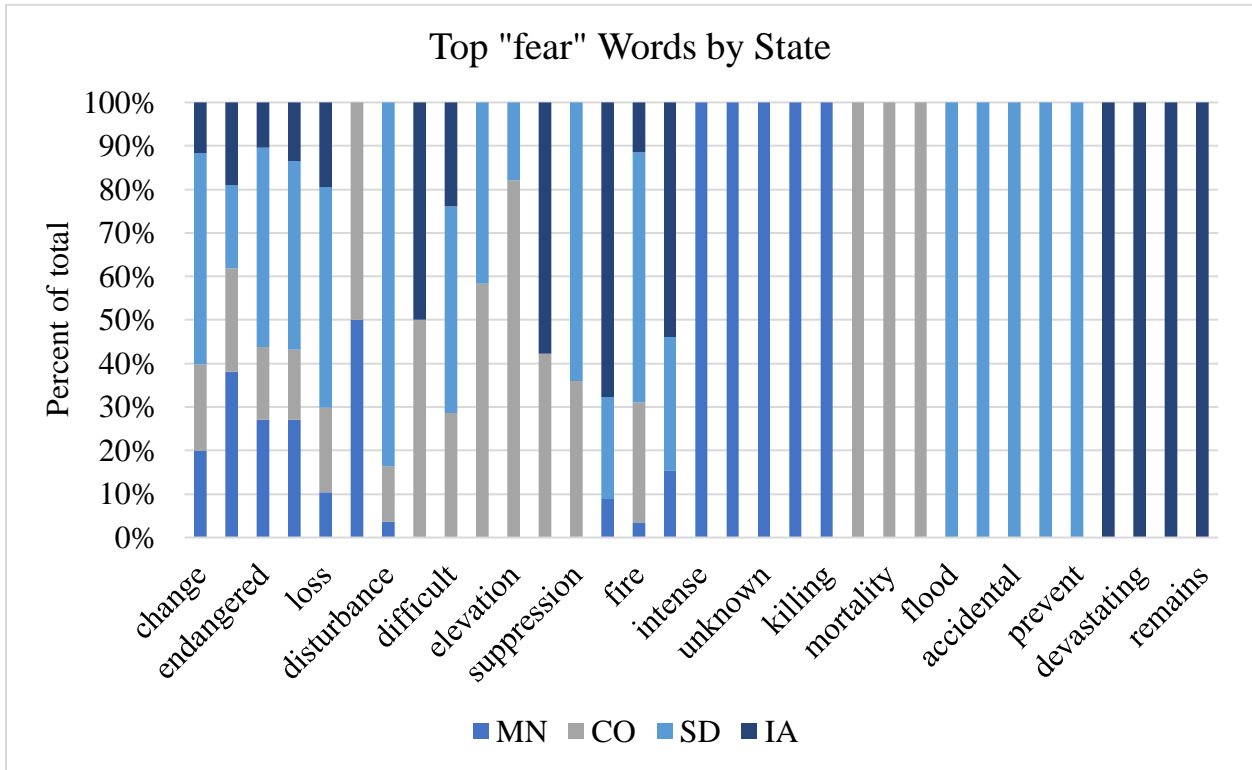
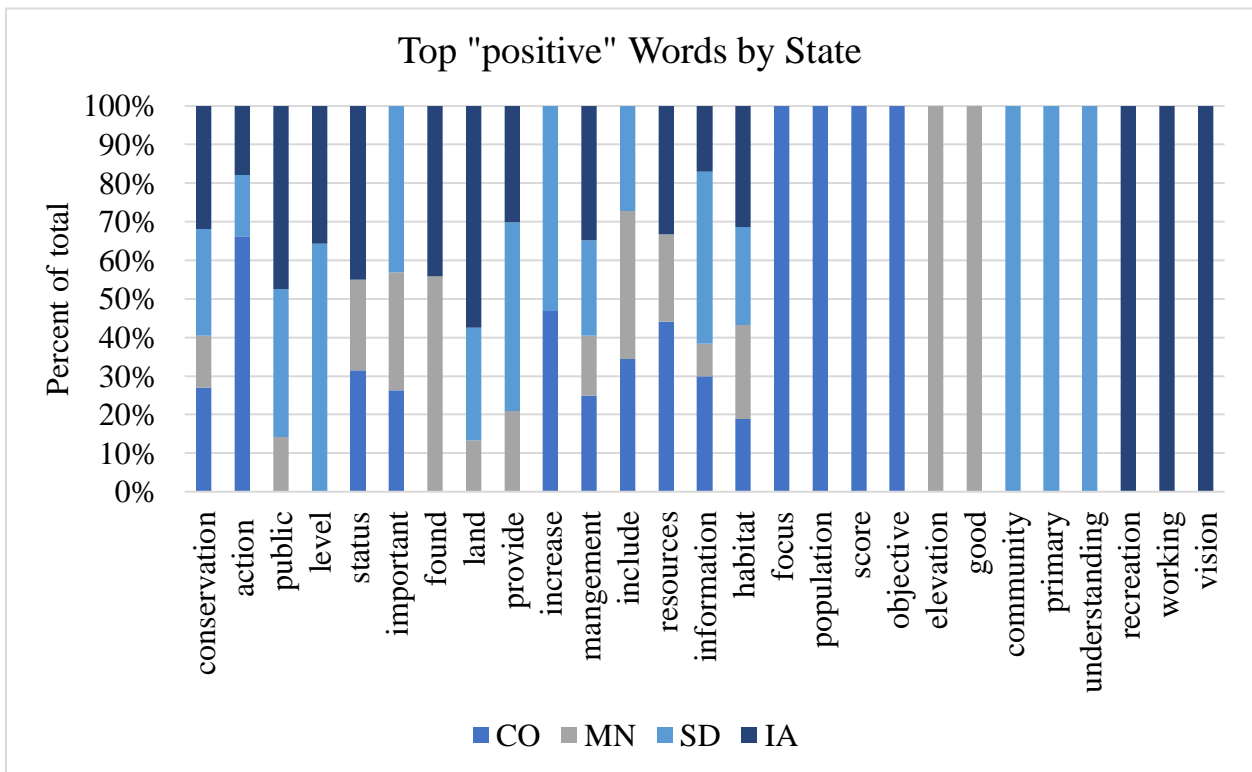**Figure 5**: Top 15 "fear" words by state in comparison to each other by percentages.

Figure 6: Top 15 "positive" words by state in comparison to each other by percentages.
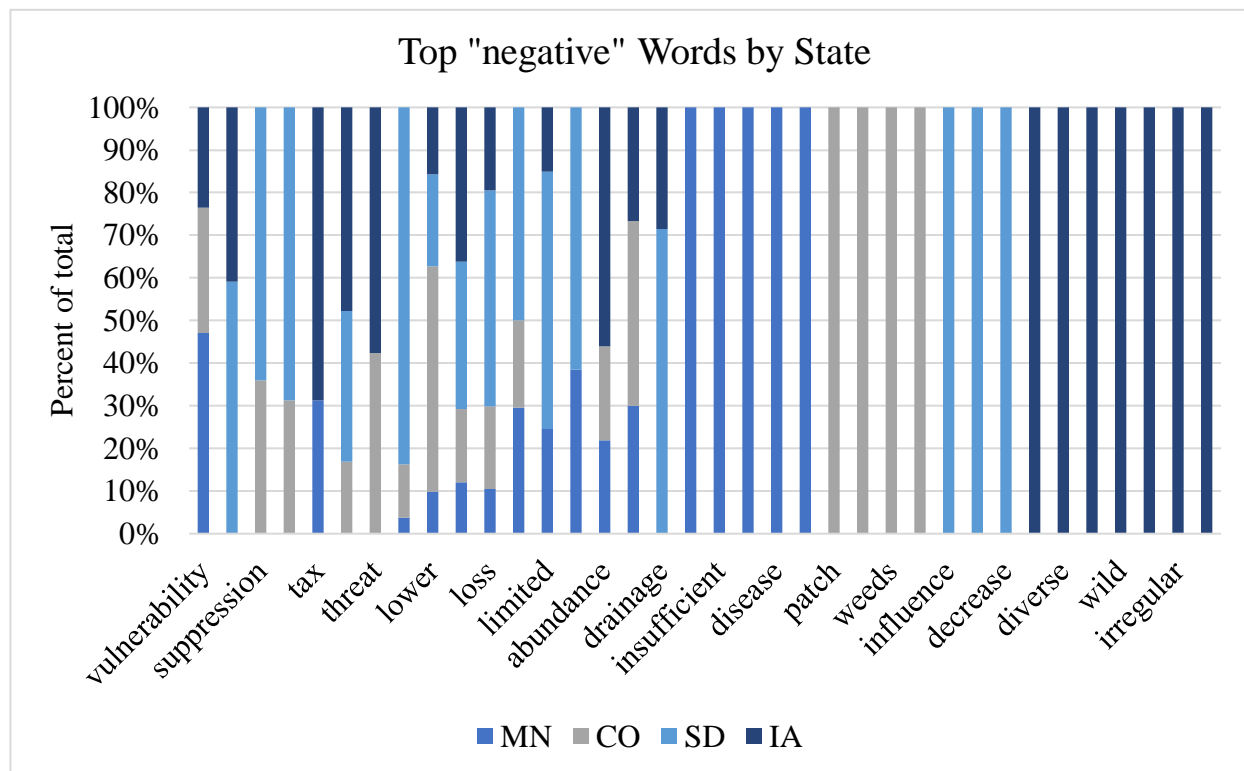
Figure 7: Top 15 "negative" words by state in comparison to each other by percentages.

4.5 Summary of Results and Research Questions

The overlap of words based on political party was minimal with few words only existing in two of the politically same states. However, the unique words of each state yielded more results when looking at framing categories and sentiment. The framing categories were more distinguishable in the unique word uses of each state and also showed which states used a certain sentiment over another. The usage of words from SDG 15 was minimal, especially in frequency, but in comparison to each other, usage was somewhat consistent. The extreme usage of "ecosystem" in South Dakota does support my hypothesis to an extent.

For the first research question, the results showed limited results in the top word usage in comparison to SDG15. However, when looking for the SDG15 words specifically, they were all used. However, Iowa and South Dakota had comparatively higher usage for "protect" and

"ecosystem" as noted earlier. Overall, these words were used but were not a part of the top words being used.

For research question two, there were no differences in frequency in the usage of "sustainable" or "restore" based on political party control in the states. Colorado, a Democratic state, used both of the words the least. South Dakota uses "restore" the most. Minnesota used "sustainable" the most but was only different from South Dakota by 3 and Iowa by 7. There were also minimal words associated with the two Democratic states. Of the top 50 words from Colorado and Minnesota, only one word was shared between the two: "include." However, there were 5 words shared by the Republican states, South Dakota and Iowa. These words are displayed above but are environmentally charged. However, the usage of the words "fish," "wetlands," and "public" are a part of the economy in the state and these words are the basis of tourism as well.

For research question three, there were no differences in words associated with economic or societal change in the Republican states compared to the Democratic states when comparing the top words. However, when looking at the unique words of each state based on the top 50 words, the framing categories were more conclusive. Each state's unique words fit into the framing categories and showed a specific focus of each state's WAP. Iowa was focused on economic development when looking at the unique words. South Dakota, however, used environmental framing for its unique words.

Finally, research question four explores how each state uses the sentiments. For each category, except negative, there was over 50% overlap with the words, so the uniqueness was minimal. The usage of "positive" and "trust" words had higher frequencies across the states compared to the "negative" and "fear" words. There were no outliers in the "positive" and "trust" sentiment results. However, the outliers of the fear sentiment were the overuse of "change" and

"disturbance" in South Dakota's WAP. The same overuse of "disturbance" in South Dakota's WAP was visible in the negative sentiment results. Overall, these two words were the only differences between states and political parties.

5. Discussion

The use of unique words per state gave more insight into the sentiment and framing of each state. these words were more useful in determining the approach to wildlife conservation of each state. However, the minimal political party association overlap brings into question the practicality of the WAPs. If republican states are using words in line with Democratic-led states, does that mean the plan is not widely accepted and is a placeholder to receive federal funding? Or the plan may be accepted with acknowledgment of the environmental degradation, but the cost to reverse or stop further environmental harm is too costly for the state. The lack of difference in the findings also points to the wide acceptance and recognition of endangered animals and the importance of protecting them and their habitats. The lack of public acknowledgment by politicians in these states is not necessarily supported by these plans' implementation.

The lack of differences brings to light that climate change is happening and is acknowledged through policies. However, the lack of public acceptance by politicians, predominately Republicans, of climate change has created further distrust in science, despite the policy acceptance. This study also used only four states which is not enough to determine concrete evidence that there are no differences between policies and political parties. This is a basis to build on to gain further insight. Future studies should incorporate more states' WAPs to understand if these findings are consistent. The found differences, or lack thereof, can also be attributed to states focusing on certain economic gains or business investments in the state.

Differences in wording and focus can also be attributed to other influential stakeholders in individual states. Further research should also incorporate the influence of outside actors when evaluating framing and tone.

I think these results show that there is acceptance of the environmental effects of climate change. It is easier to hide scientific evidence in 400-page documents, as these plans are, than a few-minute speech in front of a capital building. This study also showed that framing does exist in these documents. The results do show that there is a focus on environmental effects, and this should be what these documents are addressing. The lack of words related to economic benefits or conflict is encouraging to know that the focus is on the right issues. Knowing these frames and approaches to scientific evidence could be a basis for understanding what words are accepted by both parties but still manage to create change. If policymakers and politicians who are willing to work across the aisle understand how to approach talking about climate change in a politically acceptable way, environmental policies could have a better chance of passing. However, evaluating the effectiveness of these policies is necessary to determine the effectiveness of using framing techniques. If the right words are used and politically acceptable framing is incorporated into these WAPs, there is hope for progressive environmental legislation that can further create lasting effects to combat climate change.

The results of this study also can be attributed to the acceptance of the wildlife conservation movement. It would be socially unacceptable to state that a state does not care if animals continue to go extinct. So, states are going to make plans that address animal extinction, but these plans may become placeholders because the work to protect wildlife is unattainable according to state priorities. There are also sections of these WAPs that focus on history and the non-practicality of restoring certain landscapes or animals. Iowa spends substantial time talking about how Iowa used to be a beautiful rolling prairie. This is where the terms "bear" and "quail"

make their appearance. However, the time spent talking about current actions and future projects is minimal. Future research should focus more extensively on the content of these documents and evaluate the structures and setup of the plans in comparison to how effective the plans have been in decreasing endangered species.

Finally, further research should be done to determine who writes these plans and how the state approves them to then send them to the federal department for funding. Some states, such as Colorado, create these plans through a task force made up of professionals from universities, policymakers, and private landowners. If a governor's office makes the plan, it also may differ from if the department makes the plan. The plans in this study vary from being published by the Department of Natural Resources to the Department of, Game, Fish, and Parks. Departments are not always strongly affiliated with a political party compared to the staff of a governor. Knowing who created these policies may also help us understand the different framings and word usage separate from political party affiliation.

6. Conclusion

This study examined the framing of different Wildlife Action Plans and determined relationships based on political party controls to determine political bias in particular states. A content analysis guided the study to determine relationships between words and political parties. Further word categorization was used to determine framing based on certain categories. 4 questions guided the study: Are there similar frequencies for less polarizing words such as "protect," "biodiversity," and "ecosystems" across all states? Is there a higher frequency of words such as "sustainable" or "restore" in Democratic-led states? Or what words are more associated with those states? Is there a focus on economic and societal change because of conservation in the Republican-controlled states? What is the tone or framing of conservation of

each state and how does that contribute to word usage of political parties? Overall, there was an absence of differences between these four documents concerning word use and political parties. There were also no differences between framing categories in the WAPs.

There were no specific words only used in the Democratic or Republican-led states. The lack of differences between states' word usage does show acceptance of climate change, especially its influence on wildlife and natural ecosystems. The plans also bring to question the usage of these plans and their practicality, especially in the Republican states. These plans may act as placeholders that simply fulfill a requirement to receive federal funding. There was also minimal overlap with SDG 15. This is a guiding idea of conservation nationally and not using this terminology needs to be explored more. Determining the effectiveness of these plans and expanding the state plans examined are ideas for further research based on this study.

After reflecting, I would have liked to expand this project to incorporate more states. a future goal would be to learn about different ways and utilize different methods of content analysis. I would like to compare the structures of these plans and search for differences there. This project has taught me how to use RStudio and I have learned about political and environmental framing extensively. I have also learned about conservation techniques and programs in different states. I hope to learn that other states are learning from each other as I have learned from them. This project has taught me about how states are working to be more sustainable by protecting their natural wildlife and how other states go so far as to protect the ecosystems. Some states do not make the connection between successful ecosystems equaling thriving wildlife populations, but through educating lawmakers about sustainable practices, those connections may become apparent. This has also taught me that "sustainable" is not a word used throughout WAPs and understanding what words are used by certain populations, will better help

me to communicate with those people. I hope to be able to use words that are understandable to those who are not my peers to better educate others about conservation and climate change.

Works Cited

1990 Clean Air Act Amendment Summary | US EPA. (2023, November 15). US EPA.

    https://www.epa.gov/clean-air-act-overview/1990-clean-air-act-amendment-summary

Colorado Parks and Wildlife (COPW). (2015). Colorado Parks and Wildlife.

    https://cpw.state.co.us/aboutus/Pages/StateWildlifeActionPlan.aspx

Coltrain, N., & Coltrain, N. (2023, May 12). Gov. Jared Polis signs "enormous package" of

    green energy and climate change bills. *The Denver Post*.

    https://www.denverpost.com/2023/05/11/gov-jared-polis-signs-enormous-package-of-

    green-energy-and-climate-change-bills/

Conservation Collection: Materials from the Prints and Photographs Division. (n.d.).

    https://memory.loc.gov/ammem/amrvhtml/conspref.html#:~:text=Between%201850%20

    and%201920%2C%20American,in%20North%20America%2C%20adopted%20the

Castor, Kelly. (2022, February 28). The Hill. *The Hill*. https://thehill.com/blogs/congress-

    blog/energy-environment/596119-why-are-republicans-fighting-to-pollute-the-air-we/

Dale, D. (2023, April 24). Fact check: Trump's latest false climate figure is off by more than

    1,000 times. *CNN*. https://www.cnn.com/2023/04/24/politics/fact-check-trump-sea-

    levels-ocean-climate-change/index.html

Davenport, C. (2024, February 2). The Republican drive to tilt courts against climate action

    reaches a crucial moment. *The New York Times*.

    https://www.nytimes.com/2022/06/19/climate/supreme-court-climate-epa.html

Forchtner, B. (2019). Climate change and the far right. *WIREs Climate Change*, *10*(5).

    https://doi.org/10.1002/wcc.604

Fredriksson, P. G., & Millimet, D. L. (2002). Strategic Interaction and the Determination of

    Environmental Policy across U.S. States. *Journal of Urban Economics*, *51*(1), 101–122.

    https://doi.org/10.1006/juec.2001.2239

Great Plains Conservation Program, designated counties. (n.d.). The Library of Congress.

    https://www.loc.gov/item/84690377/

Grey Towers – Conservation history. (n.d.).

    https://www.fs.usda.gov/detailfull/greytowers/aboutgreytowers/history/?cid=stelprd3824

    701&width=full

Hedding, K. J. (2017). Sources and Framing of Fracking: A content analysis of newspaper

    coverage in North Carolina, New York, and Pennsylvania. *Environmental*

    Communication, *11*(3), 370–385. https://doi.org/10.1080/17524032.2016.1269819

Hoover, K., & Riddle, A. (2023, May 18). *National Forest System Management: Overview and*

    Issues for Congress. Congressional Research Service.

    https://crsreports.congress.gov/product/pdf/R/R43872#:~:text=The%20193%20million%

    20acres%20of,several%20other%20federal%20land%20designations.

Iowa Department of Natural Resources (IADNR). (2015). Iowa's Wildlife Action Plan: Securing

    a future for fish and wildlife. K. Reeder and J. Clymer, eds. Iowa Department of Natural

    Resources, Des Moines, Iowa, USA.

Jones, B. J. M. (2024, February 7). Democratic, and Republican confidence in science diverges.

    Gallup.com. https://news.gallup.com/poll/352397/democratic-republican-confidence-

    science-diverges.aspx

Krugman, P. (2022, August 15). Opinion | Why Republicans turned against the environment. *The*

    New York Times. https://www.nytimes.com/2022/08/15/opinion/republicans-

    environment-climate.html

Lakhani, N., & Milman, O. (2022, November 4). Republican candidates on climate: 'fake science' to 'carbon is healthy.' *The Guardian*. https://www.theguardian.com/us-news/2022/nov/04/republican-democrat-candidates-climate-crisis

Minnesota Department of Natural Resources (MNDNR). (2016). Minnesota's Wildlife Action Plan 2015-2025. Division of Ecological and Water Resources, Minnesota Department of Natural Resources.

Montanaro, D. (2023, August 3). Three-quarters of Republicans prioritize the economy over climate change. *NPR*. https://www.npr.org/2023/08/03/1191678009/climate-change-republicans-economy-natural-disasters-biden-trump-poll#:~:text=But%2070%25%20of%20Republicans%20said,some%20effect%20on%20their%20communities.

National Park System (U.S. National Park Service). (n.d.). https://www.nps.gov/aboutus/national-park-system.htm

Noem joins lawsuit challenging social cost of climate change | AP News. (2021, April 27). *AP News*. https://apnews.com/article/government-and-politics-environment-and-nature-business-climate-lawsuits-edc5a45d423addf0df0cffae4b46e3aa

Peltier, E., & Sengupta, S. (2021, February 20). U.S. formally rejoins the Paris climate accord. *The New York Times*. https://www.nytimes.com/2021/02/19/world/us-rejoins-paris-climate-accord.html#:~:text=President%20Biden%20has%20said%20tackling,Biden%20said%20on%20Friday.

Presidential Election Results and Electoral Map 2020. (n.d.). *CNN Politics*. https://www.cnn.com/election/2020/results/president

Rolfe-Redding, J., Maibach, E., Feldman, L., & Leiserowitz, A. (2011). Republicans and Climate
Change: An audience Analysis of Predictors for belief and policy Preferences. *Social
Science Research Network*. https://doi.org/10.2139/ssrn.2026002

South Dakota Department of Game, Fish and Parks (SDGFP). (2014). South Dakota Wildlife
Action Plan. Wildlife Division Report 2014-03. South Dakota Department of Game, Fish
and Parks, Pierre.

State Wildlife Action Plans :: Association of Fish & Wildlife Agencies. (n.d.).
https://www.fishwildlife.org/afwa-informs/state-wildlife-action-plans

Steve Karnowski, Associated Press. (2022, September 17). Minnesota governor rolls out plan to
fight climate change. *MPR News*. https://www.mprnews.org/story/2022/09/17/minnesota-
governor-rolls-out-plan-to-fight-climate-change

Summary of the Clean Water Act | US EPA. (2023, June 22). US EPA.
https://www.epa.gov/laws-regulations/summary-clean-water-act

Times-Union, F. (2015, March 10). Florida Gov. Rick Scott denies banning phrase "climate
change." Florida Times-Union.
https://www.jacksonville.com/story/news/2015/03/10/florida-gov-rick-scott-denies-
banning-phrase-climate-change/15654065007/

UN. (n.d.). *Biodiversity and ecosystems | Department of Economic and Social Affairs*.
https://sdgs.un.org/topics/biodiversity-and-ecosystems

U.S. SENATE: U.S. Senate roll call votes 101st Congress - 2nd session. (2023, August 15).
https://www.senate.gov/legislative/LIS/roll_call_votes/vote1012/vote_101_2_00324.htm

U.S. SENATE: U.S. Senate roll call votes 104th Congress - 1st session. (2023, August 15).
https://www.senate.gov/legislative/LIS/roll_call_votes/vote1041/vote_104_1_00588.htm

Appendix
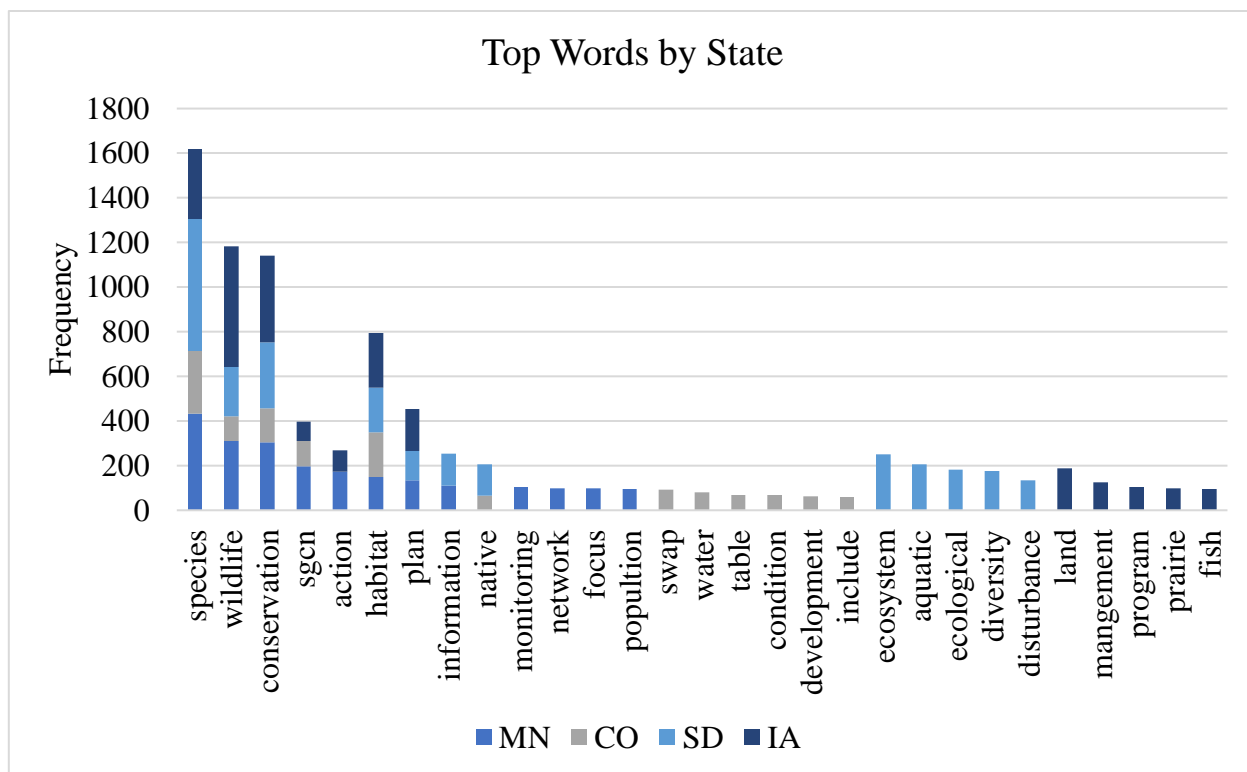
Figure 8: Top 15 most frequent words used in each state by frequency.

Figure 9: Top 15 most frequent "trust" sentiment words used in each state by frequency.

Figure 10: Top 15 most frequent "fear" sentiment words used in each state by frequency.
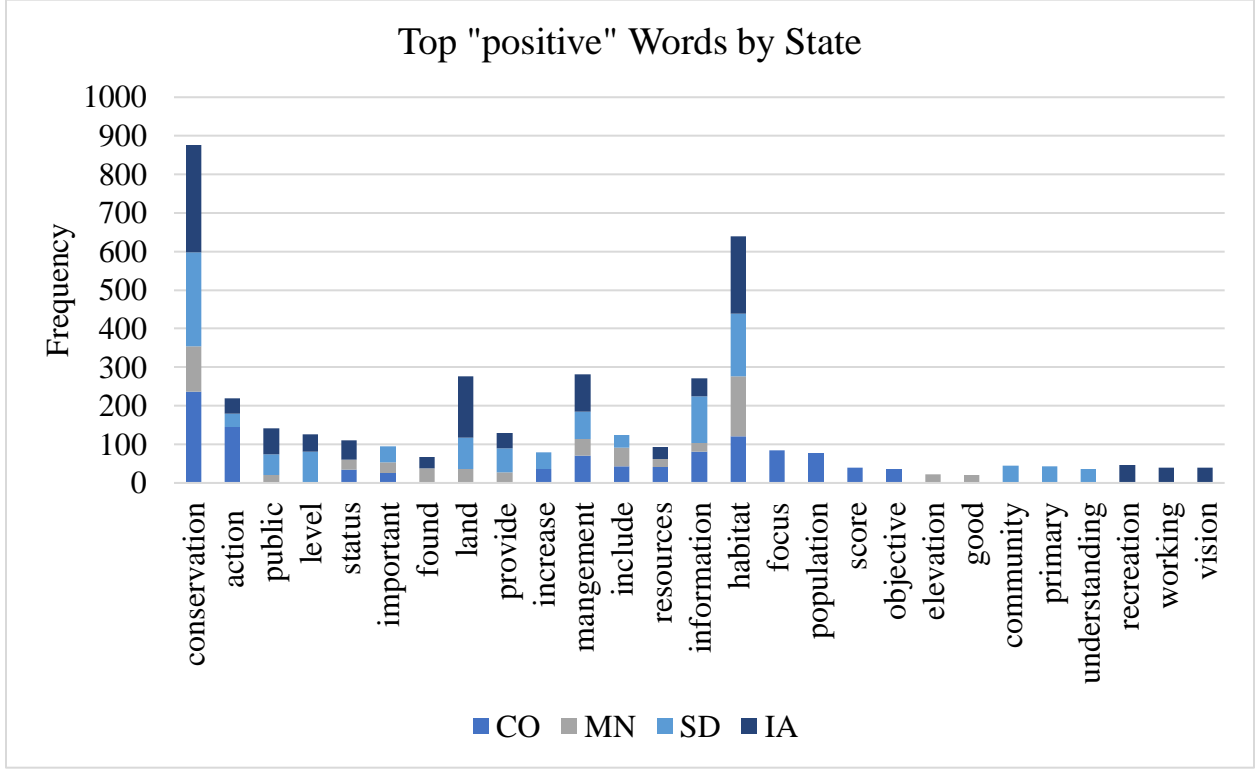
Figure 11: Top 15 most frequent "positive" sentiment words used in each state by frequency.
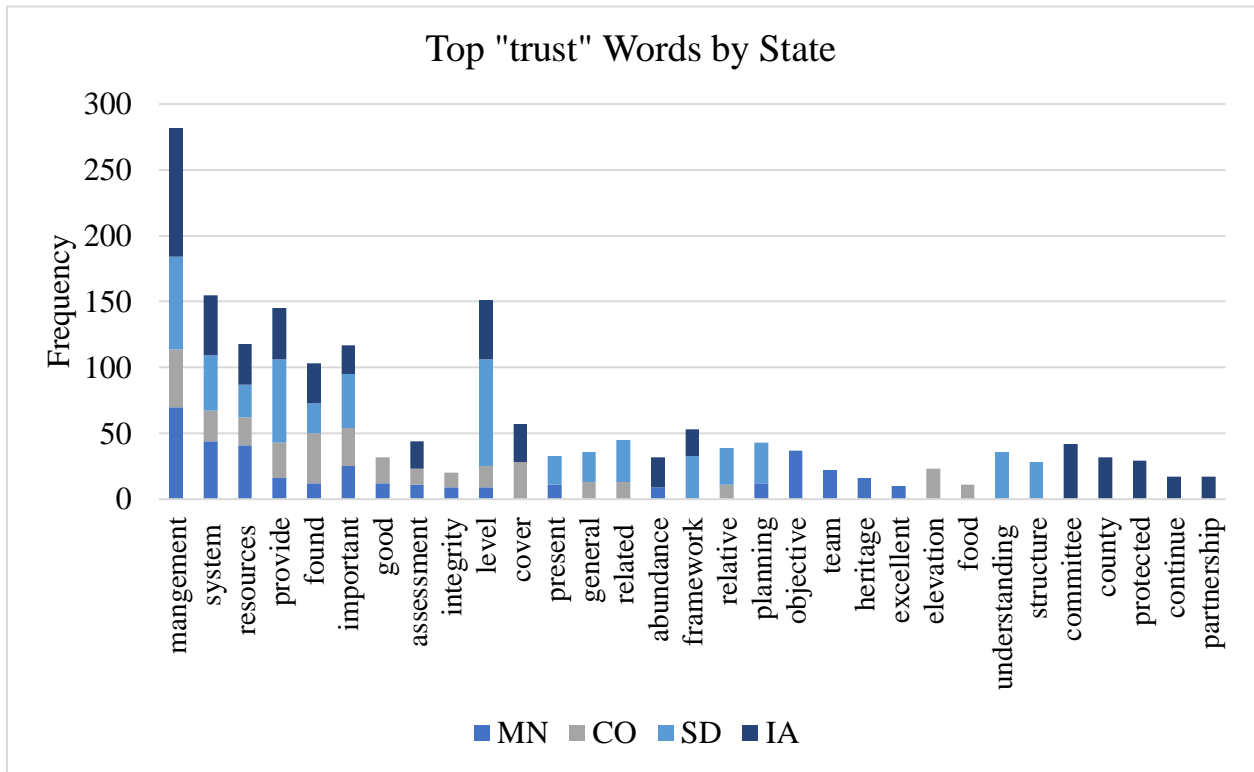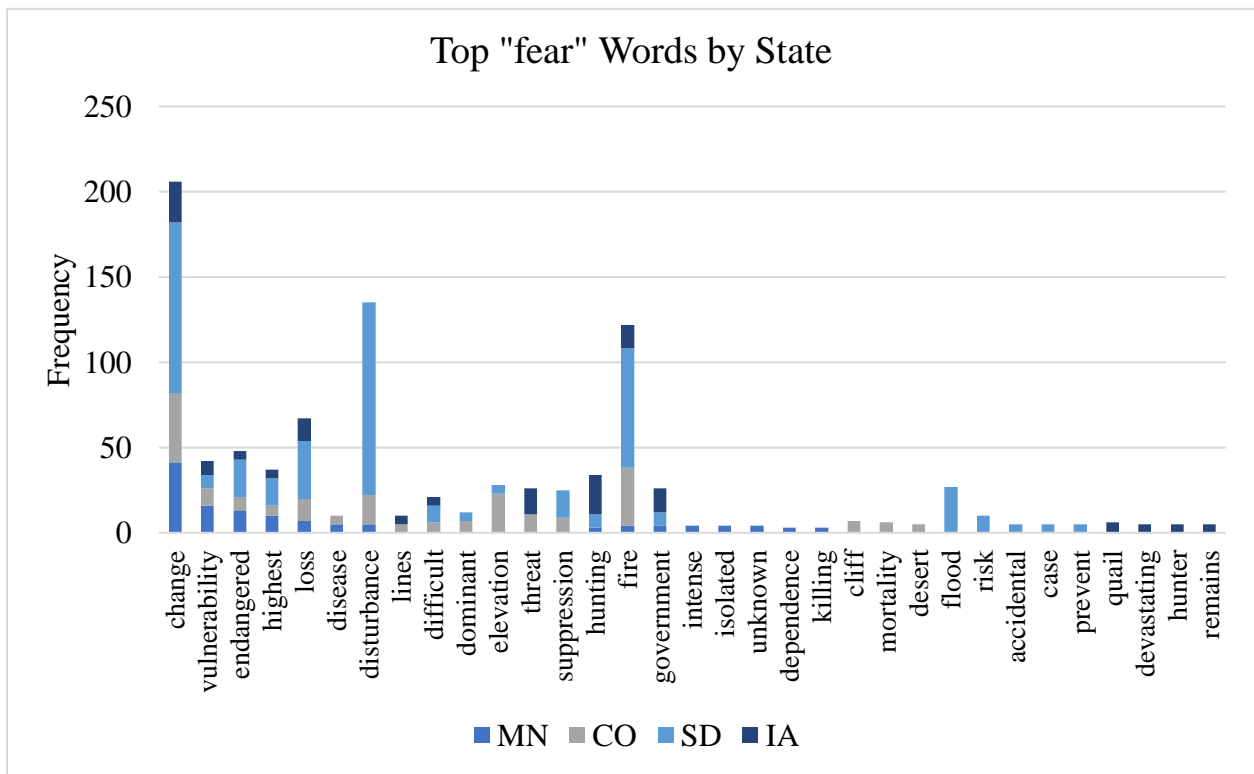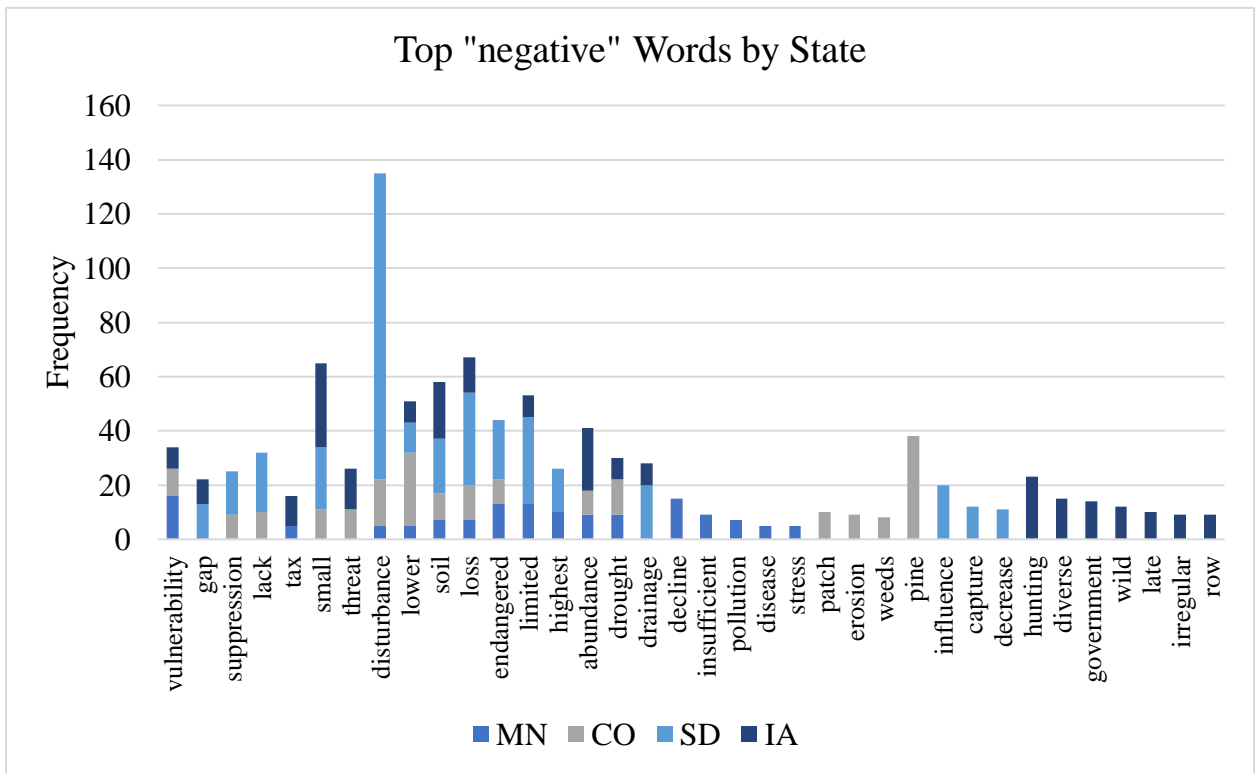

Figure 12: Top 15 most frequent "negative" sentiment words used in each state by frequency.
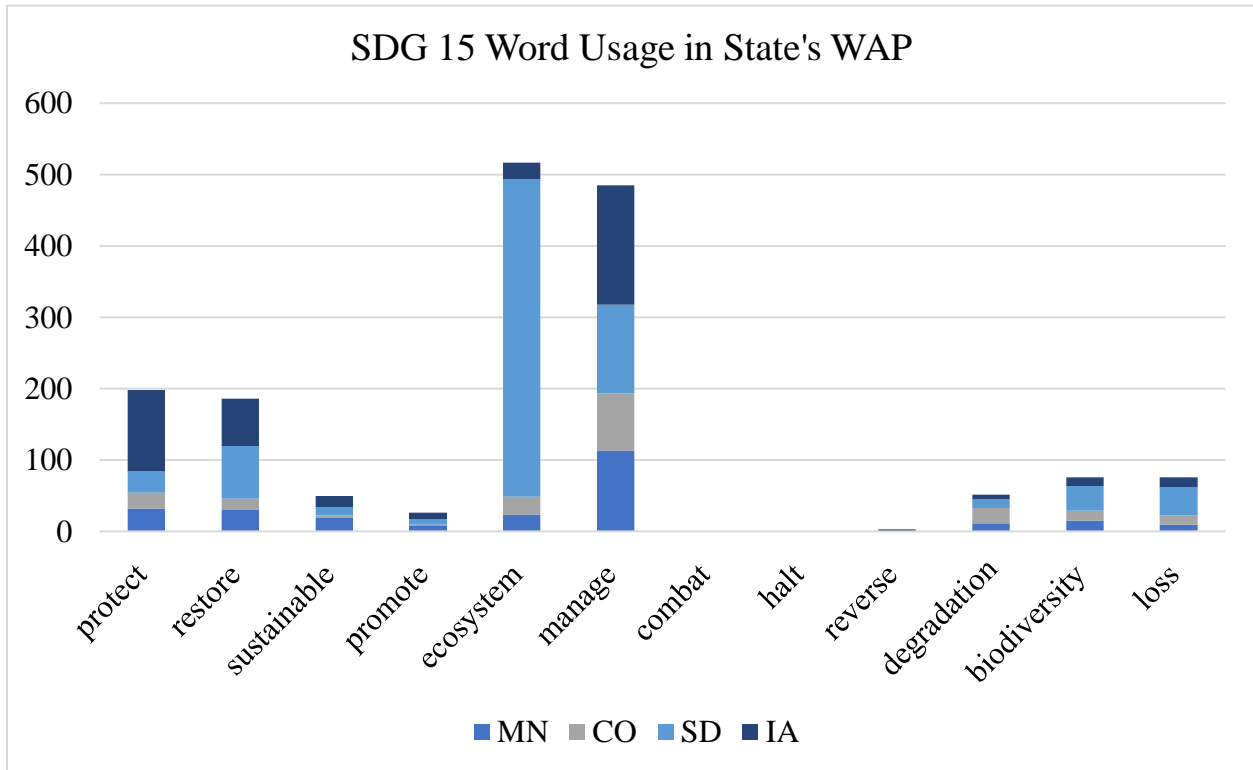
Figure 13: Frequency of words in SDG 15 found in four state's WAPs.

Word	CO	MN	SD	IA
action	X			X
aquatic			X	
climate			X	
condition		X		
conservation	X	X	X	X
data	X			
development		X		
disturbance			X	
diversity			X	
ecological			X	
ecosystem			X	
fish				X
focus	X			
habitat	X	X	X	X
include		X		
information	X		X	
land				X
management		X		X
monitoring	X			
native		X	X	
network	X			
plan	X		X	X
population	X			
prairie				X
private				X
program				X
SGCN	X	X		X
species	X	X	X	X
table		X		
water		X		
wildlife	X	X	X	X

Table 6: Top 15 most frequently used words in each state's WAP. Displayed to show overlap

between the states.

Word	CO	MN	SD	IA
abundance				X
assessment	X	X		X
committee				X
county				X
cover		X		X
elevation		X		
excellent	X			
found	X	X	X	X
framework			X	X
general		X	X	
good	X	X		
heritage	X			
important	X	X	X	X
integrity		X		
level	X	X	X	X
management	X	X	X	X
objective	X			
partnership				X
planning	X		X	
present	X		X	
protected				X
provide	X	X	X	X
related		X	X	
relative		X	X	
resources	X	X	X	X
structure			X	
system	X	X	X	X
team	X			
understanding			X	

Table 7: Top 15 most frequently used "trust" sentiment words in each state's WAP. Displayed to show overlap between the states.

Word	CO	MN	SD	IA
change	X	X	X	X
cliff		X		
dependent	X			
devastating				X
difficult		X	X	X
disease	X			
disturbance	X	X	X	
dominant		X		
elevation		X	X	
endangered	X	X	X	X
fire	X	X	X	X
flood			X	
government	X		X	X
highest	X	X	X	X
hunter				X
hunting	X		X	X
intense	X			
isolated	X			
killing	X			
lines		X		X
loss	X	X	X	X
mortality		X		
prevent			X	
quail			X	
remains			X	
risk			X	
suppression		X	X	
threat		X		X
unknown	X			
vulnerability	X	X	X	X

Table 8: Top 15 most frequently used "fear" sentiment words in each state's WAP. Displayed to show overlap between the states.

Word	CO	MN	SD	IA
action	X		X	X
community			X	
conservation	X	X	X	X
elevation		X		
focus	X			
found		X		X
good		X		
habitat	X	X	X	X
important	X	X	X	
include	X	X	X	
increase	X		X	
information	X	X	X	X
land		X	X	X
level			X	X
management	X	X	X	X
objective	X			
population	X			
primary			X	
provide		X	X	X
public		X	X	X
recreation				X
resources	X	X		X
score	X			
status	X	X		X
understanding			X	
vision				X
working				X

Table 9: Top 15 most frequently used "positive" sentiment words in each state's WAP.

Displayed to show overlap between the states.

Word	CO	MN	SD	IA
abundance	X	X		X
capture			X	
decline	X			
decrease			X	
disturbance	X	X	X	
diverse				X
drainage			X	
drought	X	X		
endangered	X		X	
erosion		X		
gap			X	X
government				X
highest	X		X	
hunting				X
influence			X	
insufficient	X			
irregular				X
lack		X	X	
late				X
limited	X		X	
loss	X	X	X	X
lower	X	X	X	
patch		X		
pine		X		
pollution	X			
row				X
small		X	X	X
soil	X	X	X	X
stress	X			
suppression		X	X	
tax	X			X
threat		X		X
vulnerability	X	X		X
weeds		X		
wild				X

Table 10: Top 15 most frequently used "negative" sentiment words in each state's WAP.

Displayed to show overlap between the states.