**From:** Deibert, Pat
**To:** Wiechman, Lief
**Subject:** Re: outline
**Date:** Friday, March 27, 2015 11:54:33 AM
**Attachments:** GRSG2015_Outline_SpReport_20150326 (LW and PD Edits).docx

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looks good. Added my two cents since I was already in it. Suggest sending with both our comments.

thanks for pulling this together!

p

On Fri, Mar 27, 2015 at 10:28 AM, Wiechman, Lief <lief_wiechman@fws.gov> wrote:

> take a quick peak, please.
>
> ***Lief Wiechman***
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got leks?

# Greater Sage-Grouse Species Report Outline

## Introductory and Background Section

***Chapter: Executive Summary*** ***(Amy Nicholas)***

*Short (2-3 page) summary of the report.*

***Chapter: Introduction*** ***(Sarah Backsen)***

- Regulatory History (including all FR notices and litigation)
- Process for 2015 Status Review
- Species Report Overview

***Chapter: Species Description*** ***(Amy Nicholas and Craig Hansen)***

*Very brief chapter; much can be incorporated by reference.*

- Species Description
- Taxonomy
- Genetics
- Life history and ecology (all life stages: breeding, nesting, brood rearing, wintering, movement/migration)

***Chapter: Current Biological Status*** ***(Amy Nicholas and Craig Hansen)***

*Include occurrence table here.*

- Historical Range
- Current Range/Distribution and Population Estimates/Annual Lek Counts
- Management Zone Discussion/Description (one for each management zone with reference to populations contained within)
    - *[Figure – WAFWA MZs, populations, and range map]*
    - *[Figure – PACs map]*
    - *[Figure - Distribution models by MZ]*
    - *[Table - Numbers from Distribution models by MZ]*
    - *[Figure – Abundance models by MZ]*
    - *[Table - Numbers from Abundance models by MZ]*

***Chapter: Land Ownership and Management*** ***(TBD)***

*Summary (2-3 pages) of Ownership, and types of decisions and management actions that are associated with each agency/owner*

- *[Figure - Land Ownership status by MZ]*
- *[Table – Land Ownership status by MZ]*

- Federal Lands
    - USFS
    - BLM
        - LUP Amendments / Planning efforts
            - Disturbance Monitoring
            - Adaptive Management
            - Mitigation
            - FIAT
    - FWS/Refuges

**Comment [LW 1]:** I'm not entirely sure what this is/was… we can discuss how/where to use it…

**Comment [DP2]:** believe it might be states and percentages of pops – we had one in the two previous findings. might not be terrible useful this round, but we may want to think about a MZ table instead.

**Comment [LW 3]:** Do we want this (PACs)?

**Comment [DP4]:** I think we have to talk about them so would retain (but maybe not in this location). We will also have to deal with strongholds.

**Comment [LW 5]:** We'll want input from KD on this

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    - NPS
    - DOD/DOE
- Tribal Lands
- State Lands
- Private Lands
    - FWS
        - CCA/CCAA
    - NRCS
        - SGI

**Comment [LW 6]:** Jesse, this is what you had in your version… assuming it would be a summary, with the bulk of the discussion coming later…

## Effects Analysis (Potential Threats/Risks)

*Include threats table to indicate cumulative threats or threat interactions. All threats will use Management Zone as the common spatial scale.*

### Habitat Loss and Fragmentation

***Chapter:*** *(Tier 1)* ***Wildfire (Altered Fire Regime)*** *(Genevieve Skora)*
***Chapter:*** *(Tier 1)* ***Noxious Weeds and Invasives*** *(Dawn Davis)*
***Chapter:*** *(Tier 1)* ***Conifer Encroachment*** *(Jeff Everett)*
***Chapter:*** *(Tier 1)* ***Agricultural Conversion*** *(Joy Gober)*
***Chapter:*** *(Tier 1)* ***Oil & Gas*** *(Amy Nicholas)*
***Chapter:*** *(Tier 2)* ***Mining*** *(Ron Baxter)*
***Chapter:*** *(Tier 2)* ***Renewable Energy*** *(Lisa Solberg Schwab)*
***Wind***
***Solar***
***Geothermal***
***Chapter:*** *(Tier 2)* ***Infrastructure*** *(Heather McPherron)*
***Roads***
***Power Lines***
***Communication Towers***
***Fences***

**Comment [LW 7]:** Originally – this was it's own chapter, so I put it below for flow purposes… however, we could just roll it into Infrastructure

***Chapter:*** *(Tier 3)* ***Fences*** *(Jennifer Siani)*
***Chapter:*** *(Tier 3)* ***Grazing and Rangeland Management*** *(Craig Hansen)*
***Chapter:*** *(Tier 3)* ***Free-Roaming Equids*** *(Jennifer Siani)*
***Chapter:*** *(Tier 2)* ***Urban and Exurban Development*** *(Joy Gober)*
***Landfills***
***Chapter:*** *(Tier 3)* ***Recreation*** *(Angela Burgess)*
***Chapter:*** *(Tier 3)* ***Climate Change*** *(Holly Freifeld)*
***Chapter:*** *(Tier 3)* ***Drought*** *(Angela Burgess)*

**Comment [LW 8]:** Should these be in "Other"…?

**Comment [DP9]:** it was in the habitat section in 2010 simply because it affected habitat. I don't have strong feelings and maybe this is a question for Carey

### Overutilization

***Chapter:*** *(Tier 3)* ***Hunting*** *(Amy Nicholas)*
***Chapter:*** *(Tier 3)* ***Scientific and Education Purposes*** *(TBD)*

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## Disease and Predation

***Chapter:*** *(Tier 3)* ***Disease*** *(Holly Freifeld)*
***Chapter:*** *(Tier 3)* ***Predation*** *(Lara Drizd)*

## Other Threat Factors

***Chapter:*** *(Tier 3)* ***Small population and life history traits affecting population viability*** *(Lief Wiechman)*
***Chapter:*** *(Tier 3)* ***Contaminants*** *(Angela Burgess)*

## Compounding Effects

***Chapter: Summary of Threat Interactions (TBD)***

It will describe synergistic relationships among threats described in chapters above. These relationships are identified in individual threat chapters under compounding effects. This chapter will lead reader into cumulative threats discussion below. (Examples: Fire and Invasives, Fire and Conifer, Anthropogenic disturbance and predators)

# Summary of Effects

*Each chapter in this section will be written by management zone and each management zone will have a lead (may tap into others outside of the state).*

***Chapter: Cumulative Threats by Management Zone (TBD)***

This chapter is the discussion of cumulative threats by MZ. This chapter will identify all threats by MZ, relying on threat interactions described in previous chapter and spatial threat concentration information of primary threats. This allows an examination of primary threats that we have quantitative/spatial information for, and a concomitant examination of other threats tied to the primary threat by MZ.

- MZ 1 (Montana TBD [support from Wyoming and South Dakota)
- MZ 2 (Wyoming TBD [Support from Montana, Colorado, Utah])
- MZ 3 (Nevada – TBD / Utah – TBD)
- MZ 4 (Idaho – TBD [Support from Oregon, Nevada, Utah, Montana])
- MZ 5 (Oregon – TBD [Support from Nevada, California])
- MZ 6 (Washington – TBD) (potentially Jessi Gonzales, Heather)
- MZ 7 (Colorado – TBD)

***Chapter: Threat Amelioration (TBD)***

This chapter would describe the efforts implemented and planned to reduce or remove threats and risks on the landscape. Summaries of conservation action information would be summarized from CED, as well as evaluation of plans, policies, and regulatory mechanisms, broken down by MZ.

The following sub-sections are recommended for this MZ-subsection, based on the organization of the 2010 greater sage grouse finding:

- Laws, regulations, Polices and Management Plans
  - Federal Lands
    - BLM/FS LUP Amendments / Planning efforts
      - Disturbance Monitoring
      - Adaptive Management
      - Mitigation
      - FIAT
  - FWS/Refuges
  - NPS
  - DOD/DOE

**Comment [LW 10]:** Discussions have occurred to add this to the O&G chapter…

**Comment [DP11]:** We may want to split it out into contaminants associated with energy development and all others, (e.g. pesticides)

**Comment [LW 12]:** I'm not wed to the name.

It's the compounding effects section – synergistic threats/relationships… several things we could call it.

**Comment [LW 13]:** Different from the preceding chapter, this would describe how Agriculture and Infrastructure cumulatively impact the species in MZ 1 (for example). Not necessarily synergistic, but present at the same time in the same place.

**Comment [LW 14]:**
- MZ 1 (Montana – Jeff Berglund / North Dakota Kevin Shelley [support from Wyoming and South Dakota)
- MZ 2 (Wyoming – Lisa Solberg Schwab [Support from Montana, Colorado, Utah])
- MZ 3 (Nevada – TBD / Utah – TBD) (potentially Jay Martini, Ron Baxter)
- MZ 4 (Idaho – TBD [Support from Oregon, Nevada, Utah, Montana])
- MZ 5 (Oregon – TBD [Support from Nevada, California])
- MZ 6 (Washington – TBD) (potentially Jessi Gonzales, Heather)
- MZ 7 (Colorado – TBD)

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- Other?
- Tribal Lands
- State Lands
- Local Lands
  - Private Lands
    - FWS CCAA
    - NRCS SGI
  - Canadian Federal and Provincial Laws and Regulations
- Conservation Measures
  - CED Summaries

## Overall Summary of Species Status and Impacts

***Chapter: Overall Summary of Species Status and Impacts***

*What's new and different since 2010 status determination? Include Changes over Time Table.*

- MZ 1 (Montana – TBD [support from Wyoming and South Dakota)
- MZ 2 (Wyoming – TBD [Support from Montana, Colorado, Utah])
- MZ 3 (Nevada – TBD / Utah – TBD)
- MZ 4 (Idaho – TBD [Support from Oregon, Nevada, Utah, Montana])
- MZ 5 (Oregon – TBD [Support from Nevada, California])
- MZ 6 (Washington – TBD)
- MZ 7 (Colorado – TBD)

## Support Sections

**REFERENCES CITED**

**APPENDIX A — DEFINITIONS**
**APPENDIX B — ACRONYMS USED**
**APPENDIX C — OCCURRENCE TABLE** (if too large to include in that section)
**APPENDIX D — THREATS SUMMARY TABLE** (if too large to include in that section)
**APPENDIX E — CHANGES OVER TIME SUMMARY TABLE** (if too large to include in that section)
**APPENDIX F — MANAGEMENT ZONE (and POPULATION) MAPS**
**APPENDIX G — NON-REGULATORY MECHANISMS EVALUATED**

## Tools for Writers:

- Chapter Template ***(Amy Nicholas)***
- Occurrence Table ***(Amy Nicholas)***
- Threat Summary Table ***(Amy Nicholas)***
- Changes over Time Summary Table ***(Amy Nicholas)***

**Comment [LW 15]:** Not sure if it's best to have this here. Or elsewhere…

**Comment [GM16]:** Subsections will be based on input received in CED

**Comment [DP17]:** we should probably also have a range-wide section here

**Comment [GM18]:** Place for evaluation of conservation efforts to be attached. Need to discuss if we want this attached or separate from report.

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