



STATE OF NEVADA  
**SAGEBRUSH ECOSYSTEM COUNCIL**  
201 South Roop Street, Suite 101  
Carson City, Nevada 89701-5247  
Phone (775) 684-8600 - Fax (775) 684-8604

**MEETING OF THE SAGEBRUSH ECOSYSTEM COUNCIL**  
**Monday, November 18<sup>th</sup>, 2013 8:30 a.m.**  
**The Legislative Building**  
**401 S Carson Street, Room 4100, Carson City, Nevada 89701**

The meeting is not available for video conference but can be viewed on the internet at:  
<http://www.leg.state.nv.us/App/Calendar/A/>

**1. CALL TO ORDER**

**2. PUBLIC COMMENT**

Public comment will be taken at the beginning and end of the meeting, and may be taken at the discretion of the Chair on agenda items listed for possible action. Public comments may be limited to 3 minutes per person at the discretion of the Chair. Comment will not be restricted based on viewpoint. No action will be taken on any matters raised during the public comment period that are not already on the agenda. Persons making comment will be asked to begin by stating their name for the record.

**3. REVIEW AND CONSIDERATION OF APPROVAL OF AGENDA - \*FOR POSSIBLE ACTION\***

**4. REVIEW AND CONSIDERATION OF APPROVAL OF MINUTES - \*FOR POSSIBLE ACTION\***

A. Approval of minutes from the meeting held October 10, 2013.

**5. COUNCIL MEMBER ITEMS AND CORRESPONDENCE:**

A. Council members may make comments at this time and the Program Manager will bring forward any pertinent correspondence directed to the Council.

**6. DISCUSSION OF THE CONSERVATION CREDIT SYSTEM:**

A. A brief update on the status of the Conservation Credit System RFP. – *Tim Rubald, Program Manager, Sagebrush Ecosystem Technical Team.*

**7. PRESENTATION AND DISCUSSION OF THE BLM/USFS SUB-REGIONAL DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS). \*FOR POSSIBLE ACTION\***

A. Presentation and discussion of the Sub-regional DEIS, possibly resulting in Council direction to the SETT. – *Joe Tague, Branch Chief Renewable Resources and Planning and Sub-Regional Program Lead, BLM State Office.*

**8. DISCUSSION AND CONSIDERATION OF PROPOSED BEST MANAGEMENT PRACTICES, ALSO KNOWN AS ‘DESIGN FEATURES’, PERTAINING TO THE ‘MINIMIZE’ POLICY TO BE INCLUDED IN THE REVISED VERSION OF THE 2012 STATE PLAN AND STATE EIS ALTERNATIVE. - \*FOR POSSIBLE ACTION\***

A. Discussion and consideration of proposed Design Features to be included in the revised State Plan and EIS Alternative, as requested during the October 10, 2013 Council Meeting. – *Sagebrush Ecosystem Technical Team*

**9. DISCUSSION AND CONSIDERATION OF PROPOSED REVISIONS TO SECTION 3.0 GOALS AND OBJECTIVES OF THE 2012 STATE PLAN. - \*FOR POSSIBLE ACTION\***

A. Discussion and consideration of revisions to the 2012 State Plan, as directed during the September 12, 2013 and October 10, 2013 Council Meetings. – *Sagebrush Ecosystem Technical Team*

B. Possible consideration of processes and definitions regarding the concept of ‘Maximum Allowable Disturbance’ and cumulative impacts and determination of a process to determine the parameters of these issues. This will include discussion of the SETT’s work with the Science Work Group. -- *Sagebrush Ecosystem Technical Team*

**10. REVIEW OF ACTION ITEMS AND FUTURE AGENDA ITEMS DRAFTED ON FLIP CHARTS DURING THIS MEETING - \*FOR POSSIBLE ACTION\***

A. With staff assistance, the Council will review items discussed, as well as items acted upon during this meeting, and determine which of those they wish to direct staff to do further work on, as well as which items the Council wishes to act on that may not have been acted upon during earlier discussion.

B. Determination of whether the Council will meet on December 12, 2013 which is the next regularly scheduled Council meeting.

**11. FEDERAL AGENCY UPDATES AND COMMENTS:**

- A. US Fish and Wildlife Service
- B. Bureau of Land Management
- C. US Forest Service
- D. Other

**12. STATE AGENCY UPDATES AND COMMENTS:**

- A. Department of Conservation and Natural Resources
- B. Department of Wildlife
- C. Department of Agriculture
- D. Sagebrush Ecosystem Technical Team

E. Other

### 13. PUBLIC COMMENT

Public comment may be made on any matter, provided that comment will be limited to matters relevant to the Council. Public comments may be limited to 3 minutes per person at the discretion of the Chair. **Comment will not be restricted based on viewpoint. No action will be taken on any matters raised during the public comment period that are not already on the agenda. Persons making comment will be asked to begin by stating their name for the record.**

### 14. ADJOURNMENT - **\*FOR POSSIBLE ACTION\***

**NOTICE: Items on this agenda may be taken in a different order than listed, combined for consideration by the Council, or removed from the agenda.**

Notice of this meeting was posted in the following location:

Sagebrush Ecosystem Program, 201 S. Roop Street, Carson City, Nevada  
Department of Conservation and Natural Resources, 901 S. Stewart Street, Carson City, Nevada  
Department of Agriculture, 405 South 21<sup>st</sup> Street, Sparks, Nevada  
Department of Wildlife, 1100 Valley Road, Reno, Nevada  
Nevada State Library & Archives Building, 100 North Stewart Street, Carson City, Nevada  
Grant Sawyer Office Building, 555 East Washington Avenue, Las Vegas, Nevada  
Capitol Building, 101 North Carson Street, Carson City, Nevada  
Legislative Building, 401 South Carson Street, Carson City, Nevada

Notice of this meeting was also posted on the Sagebrush Ecosystem Program website at:

<http://sagebrusheco.nv.gov>

*We are pleased to make reasonable accommodations for individuals with disabilities who wish to attend the meeting. If special accommodations or assistance at the meeting are requested, please notify our office by writing to the Sagebrush Ecosystem Program, 201 S. Roop Street, Suite 101, Carson City, NV 89701; or by email at [timrubald@sagebrusheco.nv.gov](mailto:timrubald@sagebrusheco.nv.gov) or calling 775-684-8600 no later than two (2) working days prior to the scheduled meeting.*

*Please contact Tim Rubald at 201 S Roop St Ste 101 Carson City, Nevada 89701; or email [timrubald@sagebrusheco.nv.gov](mailto:timrubald@sagebrusheco.nv.gov); or phone 775-684-8600 to obtain support material for the agenda. Materials will also be posted on the <http://sagebrusheco.nv.gov> website.*

### **Video Viewing Location:**

This meeting will be available at the time of the meeting on the Legislative Council Bureau's website. This is for viewing only and is not interactive; some presentations may not be viewable concurrent with the meeting activity due to technical limitations. Any presentations that are available before the meeting will be posted on the Sagebrush Ecosystem Program website at <http://sagebrusheco.nv.gov>.

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**Sagebrush Ecosystem Program**

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BRIAN SANDOVAL  
Governor



*Tim Rubald*, Program Manager  
*John Copeland*, Forestry/Wildland Fire  
*Melissa Faigeles*, State Lands  
*Kelly McGowan*, Agriculture  
*Lara Niell*, Wildlife

**STATE OF NEVADA**  
**Sagebrush Ecosystem Program**

**SAGEBRUSH ECOSYSTEM COUNCIL**  
**STAFF REPORT**  
**MEETING DATE: November 18, 2013**

**DATE:** November 12, 2013  
**TO:** Sagebrush Ecosystem Council Members  
**FROM:** Sagebrush Ecosystem Technical Team  
Telephone: 775-684-8600  
**THROUGH:** Tim Rubald, Program Manager  
Telephone: 775-684-8600, Email: timrubald@sagebrusheco.nv.gov  
**SUBJECT:** Discussion and possible consideration of proposed Best Management Practices / Required Design Features to be Included in the Revision of the State Plan/ EIS Alternative

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**SUMMARY**

This item presents proposed Best Management Practices (BMPs)/ Required Design Features (RDFs) that pertain to the “minimize” policy to be included in revisions of the 2012 State Plan and State EIS Alternative. The purpose of this item is to provide greater detail and specificity on the “minimize” policy in order for the BLM to analyze the State Alternative and to provide a greater likelihood for the State Alternative to, at least in part, be selected as the preferred alternative.

**PREVIOUS ACTION**

**July 30, 2013.** The Council adopted the Sagebrush Ecosystem Strategic Detailed Timeline, which included revision of the State Plan/ EIS Alternative.

**October 10, 2013.** The Council directed the SETT to develop Best Management Practices (BMPs) for the “minimize” policy for Council consideration.

**DISCUSSION**

In order to develop the State’s sage-grouse BMPs/ RDFs list, the SETT first reviewed those developed in the National Technical Team (NTT) Report and the BLM’s EIS Alternative (now available to the public in Alternative D of the DEIS). The BLM’s EIS Alternative included (1) the BMPs developed in the NTT Report, some of which were modified by the BLM, and (2) additional RDFs that were listed in no particular order. The SETT used the BLM’s EIS Alternative RDFs as the starting point for the State’s EIS Alternative RDFs, reorganized the RDFs by BLM program area, and then provided

track changes to modify, add, and delete RDFs as needed. The State's EIS Alternative RDFs (in the form of track changes to the BLM's RDFs) are provided in Attachment 1.

**FISCAL IMPACT**

There is no fiscal impact at this time.

**RECOMMENDATION**

Staff recommends the SEC approves the proposed RDFs/ BMPs or provide direction to staff on how to revise it.

**POSSIBLE MOTION**

Should the Council agree with the staff recommendations, a possible motion would be:  
“Motion to approve the proposed RDFs/BMPs for inclusion in the State Plan and State EIS Alternative.”

**Attachments:**

1. Proposed State Of Nevada Required Design Features/ Best Management Practices (to be included as Appendix A of the Revised State Plan)

mf: TR

## Appendix A: Required Design Features/ Best Management Practices

### Mineral Resources

#### Fluid Minerals RDFs

##### Roads - PPMA

- *Do not construct new roads when there are existing roads that could be used or upgraded to meet the need.*
- Design roads to an appropriate standard, no higher than necessary, to accommodate their intended purpose.
- Locate roads to avoid important areas and habitats.
- Coordinate road construction and use among ROW or SUA holders.
- *Where possible, avoid constructing roads within riparian areas and ephemeral drainages.*
- Construct road crossings at right angles to ephemeral drainages and stream crossings.
- Establish speed limits on BLM and Forest Service-managed roads to reduce vehicle/wildlife collisions or design roads to be driven at slower speeds.
- Establish trip restrictions (Lyon and Anderson 2003) or minimization through use of telemetry and remote well control (e.g., Supervisory Control and Data Acquisition).
- Do not issue ROWs or SUAs to counties on newly constructed energy development roads, unless for a temporary use consistent with all other terms and conditions included in this document.
- Restrict vehicle traffic to only authorized users on newly constructed routes (using signage, gates, etc.)
- Use dust abatement on roads and pads.
- Close and rehabilitate duplicate roads.
- Cluster disturbances, operations (fracture stimulation, liquids gathering, etc.), and facilities.

##### Operations - PPMA

- Use directional and horizontal drilling to reduce surface disturbance.
- Place infrastructure in already disturbed locations ~~where the habitat has not been fully restored.~~
- Apply a phased development approach with concurrent reclamation.

- Place liquid gathering facilities outside of priority areas. Have no tanks at well locations within priority habitat areas to minimize truck traffic and perching and nesting sites for ravens and raptors.
- Pipelines must be under or immediately adjacent to the road (Bui et al. 2010).
- Use remote monitoring techniques for production facilities and develop a plan to reduce the frequency of vehicle use (Lyon and Anderson 2003).
- Restrict the construction of tall facilities and fences to the minimum number and amount needed.
- Site and/or minimize linear ROWs or SUAs to reduce disturbance to sagebrush habitats.
- Place new utility developments (power lines, pipelines, etc.) and transportation routes in existing utility or transportation corridors.
- Bury distribution power lines.
- Co-locate power lines, flow lines, and small pipelines under or immediately adjacent to existing roads (Bui et al. 2010).
- Design or site permanent structures which create movement (e.g., pump jack) to minimize impacts to ~~sage-grouse~~GRSG.
- Cover (e.g., fine mesh netting or use other effective techniques) all drilling and production pits and tanks regardless of size to reduce GRSG mortality.
- Equip tanks and other above-ground facilities with structures or devices that discourage nesting of raptors and corvids.
- Control the spread and effects of non-native plant species (Evangelista et al. 2011) (e.g., by washing vehicles and equipment, *minimize unnecessary surface disturbance*).
- Use only closed-loop systems for drilling operations and no reserve pits.
- Restrict pit and impoundment construction to reduce or eliminate threats from West Nile virus (Doherty 2007).
- Remove or re-inject produced water to reduce habitat for mosquitoes that vector West Nile virus. If surface disposal of produced water continues, use the following steps for reservoir design to limit favorable mosquito habitat:
  - Overbuild size of ponds for muddy and non-vegetated shorelines.
  - Build steep shorelines to decrease vegetation and increase wave actions.
  - Avoid flooding terrestrial vegetation in flat terrain or low lying areas.
  - Construct dams or impoundments that restrict down slope seepage or overflow.

- Line the channel where discharge water flows into the pond with crushed rock.
  - Construct spillway with steep sides and line it with crushed rock.
  - Treat waters with larvicides to reduce mosquito production where water occurs on the surface.
- Limit noise to less than 10 decibels above ambient measures (20-24 dBA) at sunrise at the perimeter of a lek during active lek season (Patricelli et al. 2010, Blickley et al. In preparation).
  - Require noise shields when drilling during the lek, nesting, brood-rearing, or wintering season.
  - Fit transmission towers with anti-perch devices (Lammers and Collopy 2007).
  - Require GRSG-safe fences (*e.g. marked fences*).
  - Locate new compressor stations outside priority habitats and design them to reduce noise that may be directed towards priority habitat.
  - Clean up refuse (Bui et al. 2011).
  - Locate man camps outside of priority habitats.

#### *Reclamation — PPMA and PGMA*

- Include objectives for ensuring habitat restoration to meet GRSG habitat needs in reclamation practices/sites (Pyke 2011). Address post reclamation management in reclamation plan such that goals and objectives are to protect and improve GRSG habitat needs.
- Maximize the area of interim reclamation on long-term access roads and well pads, including reshaping, topsoiling and revegetating cut-and-fill slopes.
- Restore disturbed areas at final reclamation to the pre-disturbance landforms and desired plant community.
- Irrigate interim reclamation if necessary for establishing seedlings more quickly.
- Utilize mulching techniques to expedite reclamation and to protect soils.

#### *Roads - PGMA*

- Design roads to an appropriate standard no higher than necessary to accommodate their intended purpose.
- *Do not construct new roads when there are existing roads that could be used or upgraded to meet the need.*
- *Where possible, avoid constructing roads within riparian areas and ephemeral drainages.*



- Do not issue ROWs or SUAs to counties on energy development roads, unless for a temporary use consistent with all other terms and conditions included in this document.
- Establish speed limits to reduce vehicle/wildlife collisions or design roads to be driven at slower speeds.
- Coordinate road construction and use among ROW or SUA holders.
- Construct road crossings at right angles to ephemeral drainages and stream crossings.
- Use dust abatement practices on roads and pads.
- Close and reclaim duplicate roads by restoring original landform and establishing desired vegetation.

#### *Operations – PGMA*

- Cluster disturbances, operations (fracturing stimulation, liquids gathering, etc.), and facilities.
- Use directional and horizontal drilling to reduce surface disturbance.
- Clean up refuse (Bui et al. 2010).
- Restrict the construction of tall facilities and fences to the minimum number and amount needed.
- Cover (e.g., fine mesh netting or use other effective techniques) all drilling and production pits and tanks regardless of size to reduce GRSG mortality.
- Equip tanks and other above-ground facilities with structures or devices that discourage nesting by raptors or corvids.
- Use remote monitoring techniques for production facilities and develop a plan to reduce vehicular traffic frequency of vehicle use.
- Control the spread and effects from non-native plant species. (e.g., by washing vehicles and equipment.)
- Restrict pit and impoundment construction to reduce or eliminate augmenting threats from West Nile virus (Dougherty 2007). [See this table's BMP Section A: West Nile Virus.](#)

#### Locatable Minerals BMPs

##### *Roads – PPMA and PGMA*

- Design roads to an appropriate standard no higher than necessary to accommodate their intended purposes.
- Locate roads to avoid important areas and habitats.
- Coordinate road construction and use among ROW or SUA holders.

- Construct road crossing at right angles to ephemeral drainages and stream crossings.
- Establish speed limits on BLM and Forest Service managed roads to reduce vehicle/wildlife collisions or design roads to be driven at slower speeds.
- Do not issue ROWs or SUAs to counties on mining development roads, unless for a temporary use consistent with all other terms and conditions including this document.
- Restrict vehicle traffic to only authorized users on newly constructed routes (e. g., use signing, gates, etc.).
- Use dust abatement practices on roads and pads.
- Close and reclaim duplicate roads, by restoring original landform and establishing desired vegetation.
- *Do not construct new roads when there are existing roads that could be used or upgraded to meet the need.*
- *Where possible, avoid constructing roads within riparian areas and ephemeral drainages*

#### *Operations — PPMA and PGMA*

- Cluster disturbances associated with operations and facilities as close as possible.
- Place infrastructure in already disturbed locations where the habitat has not been restored.
- Restrict the construction of tall facilities and fences to the minimum number and amount needed.
- Site and/or minimize linear ROWs or SUAs to reduce disturbance to sagebrush habitats.
- Place new utility developments (power lines, pipelines, etc.) and transportation routes in existing utility or transportation corridors.
- Bury power lines.
- Cover (e.g., fine mesh netting or use other effective techniques) all pits and tanks regardless of size to reduce GRSG mortality.
- Equip tanks and other above ground facilities with structures or devices that discourage nesting of raptors and corvids.
- Control the spread and effects of non-native plant species (Gelbard and Belnap 2003, Bergquist et al. 2007).
- Restrict pit and impoundment construction to reduce or eliminate threats from West Nile virus (Doherty 2007). ~~See this table's BMP Section A: West Nile Virus.~~
- Require GRSG-safe fences around sumps.

- Clean up refuse (Bui et al. 2010).
- Locate man camps outside of priority GRSG habitats.

#### *Reclamation – PPMA and PGMA*

- Include restoration objectives to meet GRSG habitat needs in reclamation practices/sites.
- Address post reclamation management in reclamation plans such that goals and objectives are to protect and improve GRSG habitat needs.
- Maximize the area of interim reclamation on long-term access roads and well pads including reshaping, topsoiling and revegetating cut and fill slopes, *and investigating the possibility of establishing fuel breaks.*
- Restore disturbed areas at final reclamation to pre-disturbance landform and desired plant community
- Irrigate interim reclamation as necessary during dry periods.
- *Utilize mulching techniques to expedite reclamation.*

### *Fuels and Fire Management*

- Fire and fuels operations should focus on protecting and enhancing occupied GRSG habitats. This includes taking into account the feasibility and cost of future rehabilitation efforts during WFDSS planning and general fire operations in all occupied GRSG habitats

#### *Fuels Management*

- Where applicable, design fuels treatment objective to protect existing sagebrush ecosystems, modify fire behavior, restore native plants, and create landscape patterns which most benefit GRSG habitat.
- Provide training to fuels treatment personnel on GRSG biology, habitat requirements, and identification of areas ~~utilized~~ used locally.
- Use burning prescriptions that minimize undesirable effects on vegetation or soils (e.g., minimize mortality of desirable perennial plant species and reduce risk of annual grass invasion).
- Ensure proposed sagebrush treatments are planned with full interdisciplinary input pursuant to NEPA and coordination with ~~state fish and wildlife agencies~~ NDOW and SETT, and that treatment acreage is conservative in the context of surrounding GRSG seasonal habitats and landscape.
- Where appropriate, ensure that treatments are configured in a manner that promotes use by GRSG.
- Where applicable, incorporate roads and natural fuel breaks into fuel break design.

- *Where appropriate and allowable, utilize livestock grazing as a tool to reduce fuels and control non-native species.*
- Power-wash all vehicles and equipment involved in fuels management activities prior to entering the area to minimize the introduction of undesirable and/or invasive plant species.
- Design vegetation treatments in areas of high fire frequency which facilitate firefighter safety, reduce the potential acres burned, and reduce the fire risk to GRSG habitat. Additionally, develop maps for GRSG habitat which spatially display existing fuels treatments that can be used to assist suppression activities.
- *Give priority to* For implementing specific GRSG habitat restoration projects in annual grasslands, first *give priority* to sites which are adjacent to or surrounded by PPMA or that reestablish continuity between priority habitats. Annual grasslands are a second priority for restoration when the sites are not adjacent to PPMA, but within two miles of PPMA. The third priority for annual grassland habitat restoration projects are sites beyond two miles of PPMA. The intent is to focus restoration outward from existing, intact habitat.
- As funding and logistics permit, restore annual grasslands to a species composition characterized by perennial grasses, forbs, and shrubs or one of that referenced in land use planning documentation.
- Emphasize the use of native plant species, recognizing that non-native species may be necessary depending on the availability of native seed and prevailing site conditions.
- Remove standing and encroaching trees within at least 110 yards of occupied GRSG leks and other habitats (e.g., nesting, wintering and brood rearing) to reduce the availability of perch sites for avian predators, as resources permit.
- Protect wildland areas from wildfire originating on private lands, infrastructure corridors, and recreational areas.
- Reduce the risk of vehicle- or human-caused wildfires and the spread of invasive species by installing fuel breaks and/or planting perennial vegetation (e.g., green-strips) paralleling road rights-of-way. Strategically place and maintain pre-treated strips/areas (e.g., mowing, herbicide application, etc.) to aid in controlling wildfire, should wildfire occur near PPMA or important restoration areas (such as where investments in restoration have already been made).

#### *Fire Management*

- Compile District/Forest level information into state-wide GRSG tool boxes. Tool boxes will contain maps, listing of resource advisors, contact information, local guidance, and other relevant information for each District/Forest, which will be aggregated into a state-wide document.
- Provide localized maps to dispatch offices and extended attack incident commanders for use in prioritizing wildfire suppression resources and designing suppression tactics.

- Assign a resource advisor with GRSG expertise, or who has access to GRSG expertise, to all extended attack fires in or near GRSG habitat. Prior to the fire season, provide training to GRSG resource advisors on wildfire suppression organization, objectives, tactics, and procedures to develop a cadre of qualified individuals. Involve state wildlife agency expertise in fire operations through:
  - instructing resource advisors during preseason trainings;
  - qualification as resource advisors;
  - coordination with resource advisors during fire incidents;
  - contributing to incident planning with information such as habitat features or other key data useful in fire decision making.
- On critical fire weather days, pre-position additional fire suppression resources to optimize a quick and efficient response in GRSG habitat areas.
- During periods of multiple fires, ensure line officers are involved in setting priorities.
- To the extent possible, locate wildfire suppression facilities (i.e., base camps, spike camps, drop points, staging areas, heli-bases, etc.) in areas where physical disturbance to GRSG habitat can be minimized. These include disturbed areas, grasslands, near roads/trails or in other areas where there is existing disturbance or minimal sagebrush cover.
- Power-wash all firefighting vehicles, to the extent possible, including engines, water tenders, personnel vehicles, and all-terrain vehicles (ATV) prior to deploying in or near GRSG habitat areas to minimize noxious weed spread. Minimize unnecessary cross-country vehicle travel during fire operations in GRSG habitat.
- Minimize burnout operations in key GRSG habitat areas by constructing direct fire line whenever safe and practical to do so.
- Utilize retardant, mechanized equipment, and other available resources to minimize burned acreage during initial attack.
- As safety allows, conduct mop-up where the black adjoins unburned islands, dog legs, or other habitat features to minimize sagebrush loss.
- Adequately document fire operation activities in GRSG habitat for potential follow-up coordination activities.

## *Lands and Realty*

### [Leases and Permits](#)

- *Only allow permits and leases that have neutral or beneficial effects sage-grouse and their habitat in sage-grouse habitat management areas.*

### Right-of-Ways (ROWs)

- Work with existing rights-of-way holders in an attempt to install perch guards on all poles where existing utility poles are located within 3 miles of known leks, where necessary. Stipulate these requirements at grant renewal.
- ~~Authorize new rights of way at least 3.3 km (2miles) or other appropriate distances (based on features such as type of project, topography, etc.) from leks.~~
- Use existing utility corridors and consolidate rights-of-way to reduce habitat loss, degradation, and fragmentation. Whenever possible, install new power lines within existing utility corridors. ~~Otherwise power lines should be located at least 3 miles from breeding, nesting, brood-rearing and winter habitat.~~
- Where GRSB conservation opportunities exist, BLM field offices and Forests should work in cooperation with rights-of-way holders to conduct maintenance and operation activities, authorized under an approved ROW grant, to avoid and minimize effect on GRSB habitat.
- When renewing or amending ROWs, assess the impacts of ongoing use of the ROW to GRSB habitat and minimize such impacts to the extent allowed by law.
- Work with applicants to minimize habitat loss, fragmentation, and direct and indirect effects to GRSB and its habitat.
- Conduct pre-application meetings *with the BLM or Forest Service and SETT* for all new ROW proposals consistent with the ROW regulations (43 CFR 2804.10) and consistent with current renewable energy ROW policy guidance (WO-IM-2011-061, issued February, 2011). Assess the impact of the proposed ROW on GRSB and its habitat, and implement the following: Ensure that reasonable alternatives for siting the ROW outside of GRSB habitat or within a BLM designated utility corridor are considered and analyzed in the NEPA document; and identify technically feasible best management practices, conditions, (e.g., siting, burying power lines) that may be implemented in order to eliminate or minimize impacts.
- ~~For ROWs where the total project disturbance for the ROW and any connected action is less than 1 linear mile, or 2 acres of disturbance, develop mitigation measures related to construction, maintenance, operation, and reclamation activities that as determined in cooperating with the Nevada Department of Wildlife, would cumulatively maintain or enhance GRSB habitat.~~
- ~~For ROW applications where the total project disturbance from the ROW and any connected action is greater than 1 linear mile or 2 acres of disturbance, the each District will determine that it is appropriate to authorize a ROW, utilizing the following process:~~

~~—The BLM will document the reasons for its determination and require the ROW holder to implement measures to minimize impacts to sage grouse habitat.~~

~~—In addition to considering opportunities for onsite mitigation, the BLM will, to the extent possible, cooperate with the project proponents to develop and consider implement appropriate offset mitigation that the BLM, coordinating with the Nevada Department of Wildlife determines would avoid or minimize habitat and population-level effects (Refer to WO-IM-2012-043 Greater Sage Grouse Interim Management Policies and Procedures.) When developing such mitigation, the BLM should consider compensating for the short-term and long-term direct and indirect loss of GRS and its habitat.~~

- Maximize the area of interim reclamation on long-term access roads and well pads including reshaping, topsoiling and revegetating cut and fill slopes.
- Authorize ROWs by applying appropriate BMPs (BLM Wind Energy Development EIS, June 2005), land use restrictions, stipulations, and mitigation measures. *The BLM will document the reasons for its determination and require the ROW holder to implement these measures to minimize impacts to sage grouse habitat.*
- Evaluate and take advantage of opportunities to remove, bury, or modify existing power lines within priority sage-grouse habitat areas.
- Where existing leases or rights-of-way (ROWs) have had some level of development (road, fence, well, etc.) and are no longer in use, reclaim the site by removing these features and restoring the habitat.
- Within designated ROW corridors encumbered by existing ROW authorizations: new ROWs should be co-located to the extent practical and feasible with the entire footprint of the proposed project within the existing disturbance associated with the authorized ROWs.
- Subject to valid, existing rights, where new ROWs associated with valid existing rights are required, co-locate new ROWs within existing ROWs or where it best minimizes sage-grouse impacts. Use existing roads, or realignments as described above, to access valid existing rights that are not yet developed. If valid existing rights cannot be accessed via existing roads, then build any new road constructed to the absolute minimum standard necessary.
- Upon project completion, roads used for commercial access on public lands would be reclaimed, unless, based on site-specific analysis, the route provides specific benefits for public access and does not contribute to resource conflicts.
- Bury or reroute power lines outside of sage-grouse habitat wherever possible. If power lines cannot be sited outside of sage-grouse habitat, site power lines in the least suitable habitat possible,
- Remove power lines that traverse important sage-grouse habitats when facilities being serviced are no longer in use or when projects are completed.
- Install anti-perching and anti-nesting measures on tall structures, such as power lines.

## Travel and Transportation

- Establish speed limits on BLM and Forest Service-administered roads to reduce vehicle/wildlife collisions or design roads to be driven at slower speeds.
- *Conduct restoration of roads, primitive roads, and trails not designated in travel management plans. This also includes primitive route/roads that were not designated in wilderness study areas and within lands managed for wilderness characteristics that have been selected for protection.*
- *When reseeding roads, primitive roads, and trails, use appropriate seed mixes and consider the use of transplanted sagebrush in order to meet sage-grouse habitat restoration objectives. Where existing annual grasses are present, pre-emergent herbicides should be used to enhance the effectiveness of any seeding and to also establish islands of desirable species for dispersion.*
- *Use existing roads, or realignments to access valid existing rights that are not yet developed. If valid existing rights cannot be accessed via existing roads, then any new roads would be constructed to the absolute minimum standard necessary.*
- *Allow no upgrading of existing routes that would change route category (road, primitive road, or trail) or capacity unless the upgrading would have minimal impact on sage-grouse habitat, is necessary for motorist safety, or eliminates the need to construct a new road.*
- *Identify, map, quantify, and evaluate impacts of existing roads, including 2-tracks, in relation to known lek locations and sage-grouse winter ranges.*
- *Consider the use of speed bumps where appropriate to reduce vehicle speeds near leks, such during oil and gas development.*
- *Manage on-road travel and OHV use in key grouse areas to avoid disturbance during critical times such as winter and nesting periods.*
- *Consider road removal, realignment, or seasonal closures where appropriate to avoid degradation of habitat.*
- *Reclaim closed roads with plant species beneficial to sage-grouse.*

## Recreation

- *Only allow special recreation permits that have neutral or beneficial effects to sage-grouse and their habitat in sage-grouse habitat management areas.*
- *Issue special recreation permits with appropriate distance and timing restrictions to minimize impacts to seasonal sage-grouse habitat.*



## Energy Development and Infrastructure

- *Adopt standards outlined in Nevada Energy and Infrastructure Development Standards to Conserve Greater Sage-grouse Populations and Their Habitats, April 2010, pgs 25-29.*

## Riparian Areas and Wetlands

- *At a minimum, all riparian areas and wet meadow brood rearing habitat should meet proper functioning condition (PFC). Where PFC is met, strive to attain reference state vegetation relative to the ecological site description.*

## Wild Horses and Burros

- *Prioritize gathers in sage-grouse habitat, unless removals are necessary in other areas to prevent catastrophic environmental issues.*
- *Within sage-grouse habitat, develop or amend herd management area (HMAs) plans to incorporate sage-grouse habitat objectives and management considerations for all HMAs. For all HMAs within sage-grouse habitat, prioritize the evaluation of all appropriate management levels based on indicators that address structure/condition/composition of vegetation and measurements specific to achieving sage-grouse habitat objectives.*
- *When conducting NEPA analysis for wild horse and burro management activities, water developments or other rangeland improvements for wild horses in sage-grouse habitat, address the direct and indirect effects to sage-grouse populations and habitat. Implement any water developments or rangeland improvements using the criteria identified for domestic livestock identified in sage-grouse habitats.*

## Livestock Grazing and Range Management

- *Adopt the Natural Resource Conservation Service (NRCS) Conservation Practice Standards and Specification listed below. In addition, adopt the recommendations additions to the standards developed by NRCS and NDOW as part of NRCS' Sage-grouse Initiative*
  - *Code 645: Upland Wildlife Habitat Management*
  - *Code 528: Prescribed Grazing*
    - *Emphasize rest periods when appropriate as part of the grazing management plan and restoration.*
  - *Code 614: Water Facilities*
    - *Avoid placement where sagebrush cover will be reduced near a lek, in nesting habitat, or winter habitat whenever possible. NDOW recommends structures be at least 1 mile from a lek.*

- Code 574: Spring Development
  - Code 533: Pumping Plant
    - NDOW recommends the structure should not be placed within 3 miles of a lek to avoid disturbance to nesting sage-grouse.
  - Code 642: Water Well
  - Code 516: Livestock Pipeline
  - Code 410: Grade Stabilization Structure
    - If possible, avoid the installation of these structures during the late summer brood rearing period. NDOW recommends structure placement in mid-September through late November.
  - Code 382: Fence
    - If possible, fencing should not be constructed near a lek and should be avoided in winter habitats near ridges. To make a fence more visible, use white tipped metal fence posts, securing flagging or reflectors to the top fence wires, or slide sections of PVC pipe over the top wire.
- Remove or modify existing water developments that are *having a net* negatively impact on GRSG habitats.
  - ~~Build or modify exclosures so that they large enough to provide hiding cover to GRSG and other wildlife and to reduce the possibility of wildlife collisions with fences. This includes mitigation for reduction of Culex mosquitoes.~~
  - ~~In PPMA, R~~remove, *relocate, or modify* livestock ponds built in perennial channels that are *having a net* negatively impacting on riparian habitat, either directly or indirectly. ~~and do not permit new ones to be built in these areas. Development of new livestock ponds should be designed to have neutral or positive impacts to GRSG habitat.~~
  - ~~Ensure that any water developments do not remove more than 50% of water from any spring or other surface water source. Water developments should make water available on the ground for wildlife use.~~ All troughs should be outfitted with the appropriate type and number of wildlife escape ramps.
  - All field and district offices should apply BLM IM 2013-094 or similar methodology until superseded related to drought management planning.
  - Use aircraft to check livestock in areas where consistent trespass has been noted and access/manpower is difficult to obtain.
  - ~~In pastures where short term livestock utilization standards are not met, AUMs grazed the following year should be reduced accordingly. AUMs cannot be applied to another pasture.~~
  - ~~In PPMA, any pasture scheduled for rest as part of its grazing permit schedule should not be used if short term utilization limits have been exceeded.~~
    - ~~To reduce the probability of Culex mosquitoes or reductions in nesting habitat volumes, evaluate the need for livestock~~

~~reductions or changes in seasons of use before considering construction of new livestock ponds in PPMA.~~

### Surface Disturbing Activities - General

- During the period specified, manage discretionary surface disturbing activities and uses to prevent disturbance to GRSG during life cycle periods. Seasonal protection is identified for the following:
  - Seasonal protection within four (4) miles of active GRSG leks from March 1 through June 15;
  - Seasonal protection of GRSG wintering areas from November 1 through March 31;
  - Seasonal protection of GRSG brood-rearing habitat from May 15 to August 15.
- For any surface-disturbing activities proposed in sagebrush shrublands, the Proponent will conduct clearance surveys for GRSG breeding activity during the GRSG's breeding season before initiating the activities. The surveys must encompass all sagebrush shrublands within 3.0 miles of the proposed activities. Three surveys would be conducted every season during pre-planning operations. In areas found to have probable GRSG activity, surveys should continue during project operations. *These surveys should be conducted as part of a monitoring program to inform an adaptive management framework for required design features and operations.*
- Ensure that all authorized ground disturbing projects have vegetation reclamation standards suitable for the site type prior to construction and ensure that reclamation to appropriate GRSG standards are budgeted for.
- Implement appropriate time-of-day and/or time-of year restrictions for future construction and/or maintenance activities in known GRSG habitat to avoid adverse impacts.
- Reseed all areas requiring reclamation with a seed mixture appropriate for the soils, climate, and landform of the area to ensure recovery of the ecological processes and habitat features of the potential natural vegetation, and to prevent the invasion of noxious weeds or other exotic invasive species. *Long-term monitoring is required to determine success.*
- Maximize the area of interim reclamation on long-term access roads and well pads including reshaping, topsoiling and revegetating cut and fill slopes.

### Miscellaneous

- On BLM and Forest Service-administered Wilderness and Wilderness Study Areas (WSAs), mechanized equipment may be used to protect areas of high resource concerns or values; however, the use of mechanized equipment will be evaluated against potential long-term resource damage.
- ~~An Environmental Assessment is required for applications for monitoring sites in known Sage-Grouse Population Management Units.~~

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### **Acronym List:**

BMP: Best Management Practice

GRSG: Greater Sage-grouse

PGMA: Preliminary General Management Area

PPMA: Preliminary Priority Management Area

RDF: Required Design Feature

ROW: Right-of-way

SUA: Special Use Authorization

WFDSS: Wildland Fire Decision Support Tree

DRAFT

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**STATE OF NEVADA**  
**Sagebrush Ecosystem Program**

**SAGEBRUSH ECOSYSTEM COUNCIL**  
**STAFF REPORT**  
**MEETING DATE: November 18, 2013**

**DATE:** November 12, 2013  
**TO:** Sagebrush Ecosystem Council Members  
**FROM:** Sagebrush Ecosystem Technical Team  
Telephone: 775-684-8600  
**THROUGH:** Tim Rubald, Program Manager  
Telephone: 775-684-8600, Email: timrubald@sagebrusheco.nv.gov  
**SUBJECT:** Discussion and possible consideration of proposed revisions to Section 3.0: Goals and Objectives of the 2012 State Plan.

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**SUMMARY**

This item presents revisions to Section 3.0: Goals and Objectives of the 2012 State Plan. This item was originally presented at the July 30, 2013 SEC meeting. The SEC provided direction to the SETT on how to proceed with this item at the September 12 and October 10, 2013 SEC meetings, which has been incorporated into this document. The purpose of this item is to update the 2012 State Plan in order to address concerns expressed by the USFWS and provide sufficient detail for BLM to analyze it as an alternative in their EIS.

**PREVIOUS ACTION**

**March 27, 2013.** The Council directed the SETT to meet with USFWS and NDOW staffs to discuss the USFWS comments on the Nevada State Plan and report back to the Council.

**April 22, 2013.** The Council directed the SETT to further develop the Nevada State Plan and the EIS Alternative to incorporate the concerns expressed by the USFWS.

**July 30, 2013.** The Council adopted the Sagebrush Ecosystem Strategic Detailed Timeline, which included revision of the State Plan/ EIS Alternative.

**July 30, 2013.** The SETT presented proposed revisions to the 2012 State Plan. The Council assigned the SETT to address Council comments, questions, and concerns on the revisions for the following Council meeting.

**September 12, 2013.** The Council approved a definition for “avoid”, to include no new mandatory set-aside areas or exclusion zones and directed the SETT to develop a proposal for the “avoid process.”

**October 10, 2013.** The Council approved the following items related to the proposed revisions to the 2012 State Plan: any proposed anthropogenic disturbance within SGMAs will trigger SETT consultation; the proposed “avoid process”; revisions to the “Acts on Nature” objectives section; and indirect impacts should be evaluated for all disturbances within SGMAs.

**October 10, 2013.** The Council directed the SETT to work with the Science Work Group on questions related to maximum allowable disturbance (MAD) and directed the SETT to develop Best Management Practices (BMPs) for the “minimize” policy for Council consideration.

## **DISCUSSION**

At the direction of the SEC, the SETT first presented proposed revisions to the 2012 State Plan at the July 30, 2013 SEC meeting to address USFWS’ concerns and provide sufficient detail for the BLM to analyze as an alternative in their EIS. The SEC continued to discuss and consider the proposed revisions at their successive September and October meetings and provided direction to the SETT on how to proceed with the revisions.

The SETT is presenting further revisions to the document that was originally presented at the July 30, 2012 SEC meeting to include direction provided by the SEC. The following additional revisions were made by the SETT and are being presented for SEC consideration and possible approval:

- A definition of “anthropogenic disturbances” is proposed, as well as a list of “projects” that will trigger SETT consultation.
- In order to address USFWS concerns regarding how sage-grouse habitat outside of SGMAs will be managed, a voluntary SETT consultation is proposed.
- Incorporation of the SEC approved “avoid process”. The SETT, with Council direction, still anticipates developing more specific details or “sidebars” as to how project proponents will “demonstrate” the listed criteria. Additional detail will help provide assurance for the USFWS. As well, definitions for management categories still need to be developed. The SETT anticipates bringing these to the Council at the December 2013 meeting.
- The SETT proposal for the Maximum Allowable Disturbance (MAD) policy with input provided by the Science Work Group is presented and will be discussed in greater detail during Agenda Item 9b.
- Inclusion of the revisions to the “Acts of Nature” section approved by the SEC at the October 10, 2013 SEC meeting. In addition, edits provided by Council Member McAdoo are also included.

## **FISCAL IMPACT**

There is no fiscal impact at this time.

## **RECOMMENDATION**

Staff recommends the SEC approves the proposed revisions to Section 3.0 of the 2012 State Plan or provides direction to staff on how to revise it further.

## **POSSIBLE MOTION**



Should the Council agree with the staff recommendations, possible motions would be:

- “Motion to approve the proposed revisions to Section 3.0 of the 2012 State Plan.”
- “Motion to approve the proposed revisions to Section 3.0 of the 2012 State Plan on condition of specific revisions.”

**Attachments:**

1. Proposed Revisions to Section 3.0 of the 2012 State Plan

mf: TR

**Attachment 1: Proposed Revisions to  
Section 3.0 of the 2012 State Plan**

### 3.0 CONSERVATION GOALS AND ~~OBJECTIVES~~ STRATEGIES

The State's goal for the conservation of sage-grouse in the state of Nevada is to provide for the long-term conservation of sage-grouse by protecting the sagebrush ecosystem upon which the species depends. Redundant, representative, and resilient populations of sage-grouse will be maintained through amelioration of threats; *enhancement and/or* protection of key habitats; mitigation for loss of habitat due to anthropogenic disturbances; and restoration or rehabilitation of habitat degraded or lost due to Acts of Nature.

The State's goal for the conservation of sage-grouse will provide benefits for the sagebrush ecosystem and for many other sagebrush obligate species. Sage-grouse are known to be an "umbrella species" for many sagebrush obligate and associated species. The enhancement and restoration measures that bring resiliency and restore ecological functions to sagebrush ecosystems will also serve to ensure quality habitat for sage thrasher, sage sparrow, Brewer's sparrow, sagebrush vole, pygmy rabbit, pronghorn antelope, mule deer, and many other species.

The State's goal will be met through ~~the~~ conservation objectives *for anthropogenic disturbances and Acts of Nature* ~~of 1) no net unmitigated loss of habitat due to anthropogenic disturbances and 2) reducing the rate of loss of habitat due to Acts of Nature~~, principally large acreage wildland fires and subsequent invasion by non-natives species. This combined strategy creates the regulatory framework through which sage-grouse habitat can be conserved and the decline of sage-grouse populations can be stopped in the state of Nevada. This section of the Plan details related polices and an adaptive management approach that will provide guidance to achieve these ~~two~~ objectives.

The guiding principles that create the balanced foundation and vision for a coordinated, management approach for conservation of sage-grouse and the sagebrush ecosystem in Nevada are as follows:

- Conserve sage-grouse and their habitat in Nevada while maintaining the economic vitality of the State.
- Due to the broad reach of sage-grouse habitat, effective management and implementation of sage-grouse conservation actions must be conducted through a collaborative, interagency approach that engages private, non-governmental, local, state, Tribal and federal stakeholders to achieve sufficient conservation of the sage-grouse and their habitat.
- Adaptive management will be employed at all levels of management in order to acknowledge potential uncertainty upfront and establish a sequential framework in which decision making will occur in order to learn from previous management actions.

#### 3.1 Anthropogenic Disturbances

##### 3.1.1 *Conservation Objective* – No net unmitigated loss due to anthropogenic disturbances

The overarching objective of Nevada's plan is to achieve conservation through no net unmitigated loss of sage-grouse habitat due to anthropogenic disturbances within Sage-Grouse Management Areas (SGMAs) in order to stop the decline of sage-grouse populations. No net unmitigated loss is defined as the State's objective to maintain the current quantity of quality of sage-grouse habitat within SGMAs at the state-wide level by protecting existing sage-grouse habitat or by mitigating for loss due to

anthropogenic disturbances. ~~Quality Mitigation requirements are of sage-grouse habitat is~~ determined by the Conservation Credit System. This objective will be measured by the credit to debit ratio.

*Anthropogenic disturbance is defined here as any human-caused activity or action and/ or human-created physical structures that may have adverse impacts on sage-grouse and/ or their habitat. The term anthropogenic disturbance and its associated conservation policies will include, but not limited to the following project categories: mineral development and exploration and its associated infrastructure; renewable and non-renewable energy production, transmission, and distribution and its associated infrastructure; paved and unpaved roads and highways; cell phone towers; landfills; pipelines; residential and commercial subdivisions; special use permits; right-of-way applications; and other large-scale infrastructure development. Livestock operations and agricultural activities and infrastructure related to small-scale ranch and farm businesses (e.g. water troughs, fences, etc.) are not included in this definition, though Section 6.5 and Appendix A address how to minimize impacts to sage-grouse and their habitat from these activities.*

### 3.1.2 Conservation Policies – “Avoid, Minimize, Mitigate”

**The state of Nevada’s overriding policy for all management actions in SGMA is to “avoid, minimize, and mitigate” impacts to sage-grouse habitat.**

This is a fundamental hierarchical decision process that seeks to:

**Avoid** – Eliminate conflicts by relocating disturbance activities outside of sage-grouse habitat in order to conserve sage-grouse and their habitat. Avoidance of a disturbance within sage-grouse habitat is the preferred option.

**Minimize** –If impacts are not avoided, the adverse effects will need to be both minimized and mitigated. Impacts will be minimized by modifying proposed actions and/ or developing permit conditions to include measures that lessen the adverse effects to sage-grouse and their habitat. This will be accomplished through specific Design Features (DFs) *or Best Management Practices (BMPs)*, such as reducing the disturbance footprint, seasonal use limitations, co-location of structures, etc. Minimization does not preclude the need for mitigation of a disturbance. Any disturbance in habitat within a SGMA will require both minimization and mitigation.

**Mitigate** – If impacts are not avoided, after required minimization measures are specified, residual adverse effects on designated sage-grouse habitat are required to be offset by implementing mitigation actions that will result in replacement or enhancement of the sage-grouse habitat to balance the loss of habitat from the disturbance activity. This will be accomplished through the Conservation Credit System.

~~Any~~ Proposed ~~action~~ *anthropogenic disturbances* within an SGMA will trigger consultation with the SETT for assessment of impacts to sage-grouse and their habitat and compliance with SEC and other relevant agency policies. *Project proponents considering projects in sage-grouse habitat not located within SGMA are encouraged to contact the SETT for voluntary project planning guidance to avoid, minimize, and mitigate potential disturbances. Specifics of the SETT consultation are detailed in a Memorandum of Understanding (MOU) in Appendix Xx.* SETT consultation is designed to provide a

*regulatory mechanism to ensure that sage-grouse conservation policies are applied consistently throughout the State and streamline the federal permitting process.*

Determination of sage-grouse habitat will be based on the USGS Habitat Suitability Map (Figure XX). At the onset of a proposed project, *habitat evaluations or “ground-truthing” of the SETT or its designee shall ground-truth* the project site and its surrounding areas *shall be conducted by a qualified biologist with sage-grouse experience* using methods as defined in Stiver et al (2010) to confirm habitat type. *Evaluations can be conducted by the SETT or NDOW at the request of the project proponent.*

The specific steps for the implementation of the “avoid, minimize, mitigate” policy are as follows:

***Avoid***

Project proponents must first seek to avoid disturbance in sage-grouse habitat within SGMA. If the project is located entirely outside of habitat, *but within a SGMA* it will still be analyzed for indirect effects, such as noise and visual impacts. A project will only be considered to have avoided impacts if it is physically located in non-habitat and it is determined to have no indirect impacts effecting designated habitat *within SGMA*. If this is determined, no further consultation with the SETT is required.

It is important to note that the avoid step is not an “all or nothing” concept. If the entirety of a project cannot be relocated to non-habitat, alternatives ~~should~~*will* be explored to relocate portions of the project to non-habitat. (For example, if a mine cannot be relocated into non-habitat, power distribution lines associated with the project may be relocated to non-habitat.) This may reduce minimization and mitigation requirements for the project proponent.

*Anthropogenic disturbances should be avoided within SGMA*. If avoidance is not possible, the project proponent must demonstrate why it is not possible in order for the SETT to consider minimization and mitigation alternatives. *The process to demonstrate that avoidance is not possible (the “avoid process”) is determined by four management areas, which consider both sage-grouse breeding population density and habitat suitability within SGMA. This approach was taken in order to conserve large and functioning sage-grouse populations, as well as the habitat needed to support sage-grouse survival.*

The burden of proof ~~for this to demonstrate that avoidance is not possible within SGMA~~ will be on the project proponent and will require the project proponent to demonstrate *the specified criteria listed in Table 3-1 as determined by the management areas the proposed project is located in. Exemptions to the avoid policy will be granted if all the criteria in Table 3-1 is met. A higher burden of proof is set for project proponents to demonstrate that avoidance is not possible in areas that have higher densities of sage-grouse populations and highly suitable habitat. both that the 1) purpose and need of the project could not be accomplished outside of an SGMA or within non-habitat in an SGMA and 2) that the project would not be economically feasible to complete in an alternate location.*

***“High Population Density” Management Areas<sup>1</sup>***

*The “High Population Density” Management Areas support the highest breeding densities of sage-grouse in the State of Nevada. These areas include approximately X% of the breeding male sage-grouse counted during lek surveys and encompass approximately X% of the known leks in the State of Nevada. These areas represent the strongholds (or “the best of the best”) for sage-grouse populations in the State of*

<sup>1</sup> Exact terminology to be defined with input from USGS and NDOW.

*Nevada and support the highest density of breeding populations. Thus, the management strategy is to conserve these areas by avoidance of anthropogenic disturbances in order to maintain or improve current sage-grouse population levels.*

*Project proponents must seek to avoid disturbances within SGMA. If the project proponent wishes to demonstrate that avoidance is not possible within these areas, exemptions will be granted to this restriction as part of the SETT consultation. The project proponent must demonstrate that all of the following criteria listed below (also see Table 3-1) are met as part of the SETT consultation process in order to be granted an exemption:*

- *Demonstrate that the project cannot be reasonably accomplished elsewhere – the purpose and need of the project could not be accomplished in an alternative location;*
- *Demonstrate that the individual and cumulative impacts of the project would not result in habitat fragmentation or other impacts that would cause sage-grouse populations to decline through consultation with the SETT;*
- *Demonstrate that sage-grouse population trends within the SGMA are stable or increasing over a 10-year rolling average;*
- *Demonstrate that project infrastructure will be co-located with existing disturbances to the greatest extent possible;*
- *Develop BMPs to minimize impacts through consultation with the SETT; and*
- *Mitigate unavoidable impacts through compensatory mitigation via the Conservation Credit System. Mitigation rates will be higher for disturbances within this category.*

#### *“Habitat Suitability Category A” Management Areas<sup>1</sup>*

*“Habitat Suitability Category A” Management Areas are areas that are determined to be highly suitable habitat for sage-grouse by the USGS Habitat Suitability Model, but are not contained within the “High Population Density” Management Areas.*

*Management in these areas provide more flexibility to project proponents, though avoidance in these areas is still the preferred option and project proponents are encouraged to develop outside of these areas whenever possible. Anthropogenic disturbances will be permitted in these areas if the criteria listed below (also see Table 3-1) are met as part of the SETT consultation process:*

- *Demonstrate that the project cannot be reasonably accomplished elsewhere – the purpose and need of the project could not be accomplished in an alternative location;*
- *Demonstrate that project infrastructure will be co-located with existing disturbances to the greatest extent possible. If co-location is not possible, siting should reduce individual and cumulative impact to sage-grouse and their habitat;*
- *Demonstrate that the project should not result in unnecessary and undue habitat fragmentation that may cause declines in sage-grouse populations within the SGMA through consultation with the SETT;*
- *Develop BMPs to minimize impacts through consultation with the SETT; and*

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<sup>1</sup> *Exact terminology to be defined with input from USGS and NDOW.*

- *Mitigate for unavoidable impacts through compensatory mitigation via the Conservation Credit System.*

#### *“Habitat Suitability Category B” Management Areas<sup>1</sup>*

*“Habitat Suitability Category B” Management Areas are areas determined to be suitable habitat for sage-grouse, though less suitable than “Habitat Suitability Category A” Management Areas and are not contained within the “High Population Density” Management Areas. Management of these areas provides the greatest flexibility to project proponents. Anthropogenic disturbances will be permitted in if the criteria listed below (also see Table 3-1) are met as part of the SETT consultation process:*

- *Demonstrate that the project cannot be reasonably accomplished elsewhere – the purpose and need of the project could not be accomplished in an alternative location;*
- *Demonstrate that project infrastructure will be co-located with existing disturbances to the greatest extent possible;*
- *Develop BMPs to minimize impacts through consultation with the SETT; and*
- *Mitigate for unavoidable impacts through compensatory mitigation via the Conservation Credit System.*

#### *Non-Habitat Management Areas*

*Non-Habitat Management Areas are areas determined to be unsuitable for sage-grouse by the USGS Habitat Suitability Model. As specified above, all proposed projects within SGMAs, including in non-habitat within SGMAs must conduct habitat evaluation or ground-truthing to confirm presence or absence of sage-grouse habitat. If areas are confirmed by habitat evaluations to be non-habitat, an analysis for indirect impacts on sage-grouse on their habitat within SGMAs will be required to determine if BMPs to minimize impacts and compensatory mitigation are necessary as part of the SETT consultation process (also see Table 3-1).*

#### **Minimize**

If a project cannot avoid adverse effects (direct or indirect) to sage-grouse habitat within SGMAs, the project proponent will be required to implement DFs that minimize the project’s adverse effects to sage-grouse habitat.

Minimization will include consultation with the SETT to determine which specified DFs would be most applicable to the project when considering site conditions, types of disturbance, etc. Some general examples of DFs could include: reducing the footprint of the project, siting infrastructure in previously disturbed locations with low habitat values, noise restrictions near leks during breeding season, and washing vehicles and equipment to reduce the spread of invasive species. Land use specific DFs are included in Appendix ~~XX~~A.

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<sup>1</sup> *Exact terminology to be defined with input from USGS and NDOW.*

A list of required DFs for the project must be specified and agreed upon by the SETT and project proponent prior to the start of the project and will become part of the permit/ contract requirements issued for the project. The project proponent will be required to implement, maintain, and monitor the required DFs in good working order throughout the duration of the project. ~~The SETT or its designee will conduct unannounced site visits during the duration of the project to ensure that required DFs are being properly implemented and maintained.~~

### **Mitigate**

Mitigation involves the successful restoration or enhancement of sage-grouse habitat and is designed to offset the negative impacts caused by an anthropogenic disturbance. Mitigation will be required for all anthropogenic disturbances impacting sage-grouse habitat within SGMAs. Mitigation requirements will be determined by the State's Conservation Credit System (Section 8.0).

Under the Conservation Credit System, specific mitigation will not be identified to offset a specific anthropogenic disturbance. Instead, once the cost of mitigation as determined by scientifically based metrics in the Conservation Credit System is paid, the project proponent will be permitted to proceed with their project, which will include minimization requirements. The State believes that this policy will achieve the objective of no *net* unmitigated loss because the State will be able to track the "debits" and "credits" accrued as a "common currency", as defined by the Conservation Credit System, at a state-wide scale. The funds produced through the Conservation Credit System will be multiplied in value by leveraging funds from grants and partner agencies. Over time, the State believes this will lead to a positive credit to debit ratio.

Options for mitigation will be identified in the State's Strategic Action Plan for Mitigation. The State's Strategic Action Plan for Mitigation will identify prioritized areas on public and private lands to implement a landscape scale restoration effort. This will *spatially identify where the primary threats to sage-grouse habitat are located throughout the State and provide management guidance for how to ameliorate these based on local area conditions and ecological site descriptions* ~~include specific locations and actions to be completed.~~ The prioritization includes efforts to use mitigation funding in areas where sage-grouse will derive the most benefit, even if those areas are not adjacent to or in the vicinity of impacted populations. While research will not be considered a mitigation option, the SETT will emphasize collaboration with academic institutions around the Great Basin to conduct research on mitigation projects. This Strategic Action Plan for Mitigation will be updated at least every five years to reflect improvements in understanding and technology for mitigation activities.

### *Maximum Allowable Disturbance*

While this plan does not identify maximum disturbance thresholds, thus allowing for greater land-use flexibility, it does require a higher mitigation rate, as determined by the Conservation Credit System, in areas with five percent or greater total disturbance within *mapped sage-grouse habitat within a Population Management Unit (PMU)* ~~(Figure XX)~~ *"project area of influence". Mapped habitat will be determined by the USGS habitat suitability map.* The reason for higher mitigation rates in areas with five percent or greater total disturbance is to provide a regulatory mechanism to account for additive impacts to sage-grouse that result from cumulative habitat degradation and fragmentation from both anthropogenic disturbances and Acts of Nature at the landscape-scale.

~~The process for determining the project area of influence (hereafter referred to as "DDCT examination area") and the percent of disturbance will use the Density/ Disturbance Calculation Tool (DDCT)~~



~~developed by the state of Wyoming (<https://ddctwygisc.org>). The detailed DDCT process will be outlined in the State of Nevada's DDCT Manual, still to be developed. The DDCT general process is as follows:~~

~~Determine all leks within a SGMA that may be affected by the project by placing a four-mile buffer around the project boundary, as defined by the proposed area of disturbance related to the project. All active, pending active and inactive leks located within the four-mile buffer and within a SGMA will be identified as "affected" by the project for the purpose of the tool.~~

~~A four-mile buffer will then be placed around the perimeter of each affected lek. The buffers surrounding identified leks will be added to the four-mile buffer around the project boundary, which creates the DDCT examination area for each individual project. Disturbance will be examined for the DDCT examination area as a whole and for each individual affected lek within the DDCT examination area. Any portion of the DDCT examination area occurring outside of SGMA will be removed from the examination area.~~

~~If there are no affected leks within the four-mile buffer around the project boundary, the DDCT examination area will be just that portion of the four-mile buffer around the project boundary within the SGMA.~~

Total disturbance ~~acres~~ within ~~the DDCT examination area~~ *sage-grouse habitat in a PMU* will be calculated through an evaluation of: existing disturbance; approved permits, which have approval for on the ground activity, but have not yet been implemented; and the proposed disturbance. Existing disturbance includes sage-grouse habitat that is disturbed due to anthropogenic activity and wildfire. Following wildfire, lands shall be considered "disturbed" pending ~~an implemented management plan with~~ trend data showing the area returning to functional sage grouse habitat.

If the total disturbance is determined to be five percent or greater of sage-grouse habitat within the ~~DDCT examination area~~ *PMU*, then a higher mitigation rate will be assessed.

#### *Exemption*

~~While the State Plan outlines "avoid" and "minimize" guidelines for livestock grazing, it is exempt for the "mitigate" policy. Proper livestock grazing guidelines provided will ensure that grazing permits maintain or enhance sage-grouse habitat within SGMAs.~~

#### 3.1.3 Adaptive Management

The SETT, in close coordination with applicable federal and state agencies will evaluate and assess the effectiveness of these policies at achieving the objective of no net unmitigated loss and will provide a report to the SEC annually. The objective will be considered to have been met if there is a positive credit to debit ratio within the Conservation Credit System on an annual basis. The State acknowledges that this may be difficult to achieve within the first five years of the Conservation Credit System due to an initial lag in the start of the program, but by leveraging funds, credits should outweigh debits over time. If the State falls short of its objective, the SEC will reassess and update policies and management actions

based on recommendations from the SETT using the best available science to adaptively manage sage-grouse habitat.

### 3.2 Acts of Nature – Fire and Invasive Species

#### 3.2.1 Conservation Objectives –

##### Short Term:

- Reduce the amount of sage-grouse habitat loss due to large acreage wildfires and invasion by non-native species.

##### Long Term:

- Maintain an ecologically healthy and intact sagebrush ecosystem that is resistant to the invasion of non-native species and resilient after disturbances, such as wildfire.
- Restore ~~naturally occurring~~ wildfire return intervals to within a ~~healthy~~ spatial and temporal range of variability that supports sustainable populations of sage-grouse and other sagebrush obligate species.

The Greater Sage-grouse Advisory Committee, using the best available science, identified fire and invasive species, principally cheatgrass, as the primary threat to sage-grouse and their habitat in the state of Nevada. The State acknowledges these threats must be adequately addressed in order to achieve the conservation goal for sage-grouse within the state of Nevada; however, it is not economically or ecologically feasible to restore all fire damaged or invasive species dominated landscapes at this point, nor is it possible to prevent all fires. The State will put forth a best faith effort to reduce the rate of sage-grouse habitat loss due to fire and invasive species. This objective will be measured by evaluating the rate of habitat lost due to fire and subsequently invaded by non-native species over a five year period.

#### 3.2.2 Conservation Policies – Paradigm Shift

In order to address the threat of fire and invasive species, which has long challenged land managers throughout the western United States, the State proposes a paradigm shift. This would entail a more proactive, rather than reactive approach, to stop the dominance of invasive species and restore fire to within its natural range of variability. These policies include:

1. A shift in focus and funding from wildland fire suppression to pre-suppression.
  - a. Dedicate federal, state, and local funding for pre-suppression activities separate from funding for suppression and post-fire rehabilitation activities. Post fire rehabilitation/restoration funding should be available for up to three years following each incident in order to monitor effectiveness and to accommodate for poor initial success.
  - b. “Hold the line” against fire and invasive species near priority sage-grouse habitat. Develop a prioritized pre-suppression plan that focuses on priority sage-grouse habitat, similar to the Wildland Urban Interface planning analysis.
  - c. Emphasize “Strategic Fuels Management”. Location of fuels management projects should be identified at the broad landscape level to provide protections to areas of

sage-grouse habitat that have compromised resilience, resistance, and heterogeneity. They should also be implemented to protect against catastrophically large wildfires and allow for repeated attempts to suppress active fires. Provide consistent funding for maintenance of fuels management projects. Establish effective monitoring plans to learn from implementation of these tools and subsequent effectiveness during suppression. Fuels management tools may include: fuels reduction treatments, greenstripping, brownstripping, and maintaining riparian areas as natural fuels breaks by managing for Proper Functioning Condition (PFC).

2. Wildland fire should be used strategically and should not be suppressed in all instances. Allow fires to burn naturally if ~~they occur~~located in areas that may benefit sage-grouse habitat and would not risk the spread of invasive species, *but only* if *human* lives and property are not at risk. Continue to suppress wildland fires that may cause the spread of invasive species into sage-grouse habitat. Use ecological site descriptions and associated state and transition models to identify such areas.
3. Manage wildland fires in sage-grouse habitat to retain as much habitat as possible. Interior islands of vegetation in areas of habitat should be protected through follow-up mop-up of the island's perimeter and interior, when fire crew safety and welfare are not at risk.
4. Post-fire rehabilitation efforts should be collaborative and strategic in approach. A wide variety of agencies, representing multiple disciplines should be involved in order to leverage funding opportunities and provide knowledge on appropriate site-specific treatments. Rehabilitation efforts should focus on preventing the spread of invasive species, particularly in or near sage-grouse habitat.
5. Subsequent shrub seeding or live plantings may need to occur once native or locally adapted grasses and forbs species are established initially. This will encourage more significant and timely recruitment and transition into a grass-shrub community.
6. Ecological site descriptions and associated state and transition models will be used to identify target areas for *resiliency enhancement and/ or* restoration. *Maintaining and/or enhancing resiliency should be given top priority. In Great Basin sagebrush-bunchgrass communities, invasion resistance and successional resilience following disturbance are functions of a healthy perennial bunchgrass component. Therefore a combination of active and passive management will be required to ensure this functionality.* Areas that are in an invaded state that will likely transition to a cheatgrass monoculture if a disturbance occurs and are located within or near sage-grouse habitat should be prioritized for restoration efforts to increase resistance and resilience.
7. Emphasize continued research and provide funding to enhance knowledge and understanding of how to prevent catastrophic wildfire, the invasion of cheatgrass, and reclamation/ restoration techniques.

### 3.2.3 Adaptive Management

Fire and the subsequent reestablishment of plant species (native or not) is a natural process, and consequently this threat is extremely challenging across the western United States as humans are still limited in our ability to directly control this cycle. However, scientific understanding of ecological processes and resource management techniques continue to improve. A commitment by the State to address this issue through adaptive management will lead to a greater understanding of the ecological

mechanisms that drive these processes and will subsequently lead to improvements in resource management practices that prevent catastrophic wildfire and the subsequent invasion of cheatgrass.

The SETT will evaluate and assess the effectiveness of these policies at achieving the stated objective of reducing the rate of loss of sage-grouse habitat due to fire and invasive species and will provide a report to the SEC annually. The objective will be met if there is a decrease or leveling off of the ~~rate~~-amount of habitat loss due to fire and subsequent invasion by annual grasses over a five year period. If the State and federal -agencies fall short of this objective, the SEC will reassess and update polices and management actions based on recommendations from the SETT using the best available science to adaptively manage sage-grouse habitat.

**Citations**

Stiver, S.J., E.T Rinkes, and D.E. Naugle. 2010. Sage-grouse Habitat Assessment Framework. U.S. Bureau of Land Management. Unpublished Report. U.S. Bureau of Land Management, Idaho State Office, Boise, Idaho.

DRAFT

**Table 3-1. The "Avoid Process" for Proposed Anthropogenic Disturbances within SGMAs**

Anthropogenic disturbances should be avoided within SGMAs. If project proponents wish to demonstrate that a disturbance cannot be avoided, exemptions will be granted if the criteria listed in the table can be met for the applicable management category.

<i>Management Category*</i>	High Population Density ("best of the best")	Habitat Suitability Category A	Habitat Suitability Category B	Non-habitat (within SGMAs)
<i>Required Avoid Criteria</i>	<ul style="list-style-type: none"> <li>• Demonstrate that the project cannot be reasonably accomplished elsewhere – the purpose and need of the project could not be accomplished <del>and/or it would not be economically feasible to complete</del> in an alternative location;</li> <li>• Demonstrate that the individual and cumulative impacts <i>of the project</i> would not result in habitat fragmentation or other impacts that would cause sage-grouse populations to decline <i>through consultation with the SETT</i> ;</li> <li>• Demonstrate that sage-grouse population trends within the SGMA are stable or increasing over a <del>five-year period</del> <i>ten-year rolling average</i> ;</li> <li>• <i>Demonstrate that project infrastructure will be</i> <del>co-located</del> <i>with existing disturbances to the greatest extent possible;</i></li> <li>• Develop BMPs to minimize impacts <i>through consultation with the SETT</i> ; and</li> <li>• Mitigate unavoidable impacts through compensatory mitigation via the Conservation Credit System. Mitigation rates will be higher for disturbances within this category.</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate that the project cannot be reasonably accomplished elsewhere – the purpose and need of the project could not be accomplished <del>and/or it would not be economically feasible to complete</del> in an alternative location;</li> <li>• <i>Demonstrate that project infrastructure will be</i> <del>co-located</del> <i>the project</i> with existing disturbances to the greatest extent possible. If co-location is not possible, siting should reduce individual and cumulative impact to sage-grouse and their habitat;</li> <li>• Demonstrate that the project should not result in unnecessary and undue habitat fragmentation that may cause declines in sage-grouse populations within the SGMA <i>through consultation with the SETT</i> ;</li> <li>• Develop BMPs to minimize impacts <i>through consultation with the SETT</i> ; and</li> <li>• Mitigate for unavoidable impacts through compensatory mitigation via the Conservation Credit System.</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate that the project cannot be reasonably accomplished elsewhere – the purpose and need of the project could not be accomplished <del>and/or it would not be economically feasible to complete</del> in an alternative location;</li> <li>• <i>Demonstrate that project infrastructure will be</i> <del>co-located</del> <i>with existing disturbances to the greatest extent possible;</i></li> <li>• Develop BMPs to minimize impacts <i>through consultation with the SETT</i> ; and</li> <li>• Mitigate for unavoidable impacts through compensatory mitigation via the Conservation Credit System.</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Demonstrate that the project will not have</i> <del>An analysis for</del> indirect impacts to sage-grouse and their habitat within SGMAs. <i>If it cannot be demonstrated, the project proponent</i> will be required to <del>determine if develop</del> BMPs to minimize impacts and compensatory mitigation will be required.</li> </ul>

\* Exact terminology to be defined with input from USGS and NDOW upon Council direction

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**STATE OF NEVADA**  
**Sagebrush Ecosystem Program**

**SAGEBRUSH ECOSYSTEM COUNCIL**  
**STAFF REPORT**  
**MEETING DATE: November 18, 2013**

**DATE:** November 12, 2013  
**TO:** Sagebrush Ecosystem Council Members  
**FROM:** Sagebrush Ecosystem Technical Team  
Telephone: 777-684-8600  
**THROUGH:** Tim Rubald, Program Manager  
Telephone: 775-684-8600, Email: timrubald@sagebrushhco.nv.gov  
**SUBJECT:** Summary of Science Work Group Discussion on Cumulative Impacts and SETT Recommendations for Maximum Allowable Disturbance policy.

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**SUMMARY**

This item presents the summary of discussion and SETT recommendations to the questions on cumulative impacts that the Council directed the SETT, during their October 10, 2013 meeting, to bring to the Science Work Group (SWG).

**PREVIOUS ACTION**

**October 10, 2013.** As part of the on-going revisions to Section 3.0 of the State plan, the Council discussed the concept of Maximum Allowable Disturbance. The Council indicated that they needed more understanding and so directed the SETT to take the following questions to the SWG for discussion and to return with recommendations:

1. What is the range or threshold of anthropogenic disturbances that result in a long-term negative impact to sage-grouse populations?
2. What is the scale at which cumulative impacts should be assessed?
3. How should natural disturbances, such as fire, be quantified in an analysis of cumulative impacts?
4. Definitions of “disturbance” and “habitat”.

## **BACKGROUND**

### **1. What is the threshold (numerator) of anthropogenic disturbances that result in a long-term negative impact to sage-grouse populations?**

*SWG discussion:* The SWG discussed this topic extensively. The list of literature that the SETT gathered was relatively complete. The conclusion reached by the group is that the current body of literature on this topic is still emerging, and as with many other topics in the Great Basin, the threshold will likely vary by location, landscape context, and limiting habitat.

The conservation value of setting a threshold that triggers more conservation management was discussed and general consensus agreed that it is valuable. It was discussed that one must know what the change in management would be in order to establish a relevant threshold. The Council has not clearly stated what the change in management would be. Hard numbers, or triggers, are valuable because they are enforceable. Potentially the SEC can set hard numbers within a “flexible space” that would allow for the variability described in the first paragraph.

This could be established through a variety of means discussed by the SWG:

1. Decision tree - this is how we say yes or no. This can be difficult to develop and there can be some variation in how it is implemented by different individuals and agencies (i.e. may result in ground hog day).
2. Quantitative questions that provide a range of thresholds – this would require quantitative models (that predict level of impact to sage-grouse) that would have differing levels of confidence based on current understanding. Science Work Group can help develop these questions.
3. Set a range of thresholds based on the limiting habitat in the PMU (most conservative) to most available habitat (least conservative).

To be able to provide “regulatory assurance”, measures need to afford conservation and need to be enforceable and enforced.

In addition, as we are early in our understanding, the thresholds that are set should be evaluated to see if they are meeting the objective. Set a 5-10% disturbance threshold and then evaluate populations every decade to see if that is sufficient. A decade was recommended as yearly population counts are variable and it generally seems that effects to populations can be determined at the decadal scale.

*SETT recommendation:*

The SETT recommends the Council adopt a threshold of 5% disturbance. The SETT researched thresholds for cumulative impacts as set in other sage-grouse management plans (see Attachment 1). These thresholds were set at either 3% or 5%.

The SETT also recommends that as the science for this specific threshold is still emerging, sage-grouse populations should be monitored to determine their trend over time under this management scenario. The SWG recommends a rolling 10-year average. If populations continue to decline, a more conservative threshold should be set. As well, if a clear threshold is established by science that would be applicable in Nevada, this threshold should replace the suggested 5%.

## **2. What is the scale (denominator) at which cumulative impacts should be assessed?**

*SWG discussion:* The Science Work Group determined that the scale at which cumulative impacts should be assessed is at the scale of the sub-population or Population Management Unit (PMU). The scale of the sub-population is ideal as this would generally look at the entire landscape that birds of a subpopulation use. The area that birds require needs to be protected; otherwise there is risk of losing a population. However, as there is still incomplete understanding on population dynamics across the state, when this information is not available, the PMU scale should be used.

The SWG recommended that in addition to using the scale of the PMU, the amount of, and juxtaposition of, the different seasonal habitats in an area should be evaluated, as discussed under Question 1. For example, sage-grouse may be more sensitive to disturbance in seasonal habitats that are limited, and as data are available, the scale of seasonal habitat within a PMU should be considered.

*SETT recommendation:*

Per results of the SWG discussion, the SETT recommends that the Council move forward with the scale of PMU to evaluate cumulative impacts. As mapping for seasonal habitat becomes available, it is recommended that the scale of seasonal habitat per PMU be used to evaluate cumulative impacts.

The Council should be aware that the SGMAs do not follow the PMU boundaries. If the Council chooses to approve this recommendation, the Council will need to provide direction on how to move forward with this discrepancy.

## **3. How should natural disturbances, such as fire, be quantified in an analysis of cumulative impacts?**

*SWG discussion:* From a spatial perspective, the footprint or perimeter of the fire could be used to delineate the disturbance. However, at what point would a fire no longer be considered a disturbance?



The following is what the Wyoming Plan has to this end. The Science Work Group indicated that this approach is appropriate for Nevada as well; the track changes indicate what would be changed to meet the needs of Nevada.

Any fire is assumed to be a disturbance until the following trend data can be demonstrated:

“If sagebrush canopy cover is + 5%, as measured by the method described in the Habitat Assessment Framework (HAF), it is considered suitable. ~~Executive Order 2011-5 requires~~ The below standards plus sagebrush *are required* for all reclamation (where appropriate as described). When sagebrush canopy cover is <5%, but within 60 meters of >10% sagebrush canopy cover measure to determine compliance with the following conditions:

Measure for 2 (or more) desirable native grasses at least one of which is a bunchgrass. The species present in the reclaimed area should be reflected in an appropriate reference site, described in the ecological site description (ESD) for the reclaimed site(s), or be representative of pre-disturbance species data. A reference site will be agreed upon and determined by the land management agency or owner, ~~WGFD-SETT~~ and the proponent. It is recognized that reference sites could be numerous for linear features.

The frequency of occurrence of grass is expected to meet or exceed 70% of the frequency of grass as measured on the reference site, or as described in the ESD for the reclaimed sites(s), or as represented in the pre-disturbance species data. Grass canopy cover measurement is expected to meet or exceed 70% of the grass canopy cover as measured on the reference site, or as described in the ESD for the reclaimed sites(s), or as represented in the pre-disturbance species data.

Likewise, measure for 2 desirable native forbs. The frequency of occurrence of forbs is expected to meet or exceed 70% of the frequency of forbs as measured on the reference site, or as described in the ESD for the reclaimed sites(s), or as represented in the pre-disturbance species data. Forbs canopy cover is expected to meet or exceed 70% of the forb canopy cover as measured on the reference site, or as described in the ESD for the reclaimed sites(s), or as represented in the pre-disturbance species data.”  
(Wyoming 2012)

*SETT recommendation:*

The SETT recommends that the Council adopt the above language to indicate the trend needed for monitoring data following fire (or any disturbance) to show that a site has been restored sufficiently (either through active or passive management) so the area is no longer considered a disturbance.

#### 4. Definitions of “disturbance”.

*SWG discussion:*

Disturbance - any action that can cause negative, observable or potential impacts to demographics of sage-grouse.

Habitat - any piece of ground that meets the needs for sage-grouse including for cover and food.

Restorable habitat - any piece of ground that is not currently habitat, but, per the Ecological Site Description, has the potential to be habitat. *(These lands could be used to create credits.)*

*SETT recommendation:*

The SETT recommends that the Council adopt these definitions for inclusion in Section 2.0 Definitions. The definition of habitat as outlined by the SWG is a broad definition of habitat. The Council may wish to plan to adopt a definition of “suitable habitat” based on the USGS modeling effort and with the assistance of Dr. Pete Coates. The definition of “restorable habitat” may be useful in the development of the Conservation Credit System.

The following table is adapted from Wyoming which is the comprehensive list of disturbances that are quantified in their analysis of cumulative impacts with the Density/ Disturbance Calculation Tool (DDCT). The SETT recommends a defined list of potential disturbances, as Wyoming has, for transparency and documentation purposes. Wildfire would be considered a natural disturbance; all others would be considered anthropogenic disturbances. Note that this list can be modified by the Council as they see necessary, while keeping in mind the definition of “disturbance” provided by the SWG. Also note that this is *not* the list of disturbances/projects that will require coordination with the SETT. That list would be a subset of this list and are further defined in the Section 2.0 and 3.0 revisions that are scheduled to be presented during the November 18<sup>th</sup> Council meeting Agenda Item 9A.

ID	Description	ID	Description
0	Unknown	4	Oil and Gas
0	Unknown Type of Disturbance	40	General Oil/Gas Disturbance (type unknown or varied)
1	Road / Transportation	41	Abandoned Well Pad (oil/gas)
10	General Road (Unknown Type)	42	Drill Hole
11	Highway/Street (paved)	43	Pipeline
12	Dirt Road (BLM, County)	44	Test Well (oil/gas)

13	Other Improved Road	45	Blowout Mud Pit (oil/gas)
14	Residential Driveway	46	Oil/Natural Gas Pipeline Building
15	Oil/Gas Access Road	47	Evaporation Pit
16	Mining Access Road	48	Well Pad (general)
17	Landing Strip	<b>5</b>	<b>Mining</b>
18	Buffered BLM, County, State, Federal	50	General Mining Disturbance (type unknown or varied)
19	Interstate with buffer	51	Exploratory Scours
<b>2</b>	<b>Structure / Development</b>	52	Blowout Mud Pit (mining)
20	General Structure (type unknown or varied)	53	Drill Hole
21	Private House/Structure	54	Test Well
22	Oil/Gas structure (type unknown or varied)	55	Abandoned Pad
23	Mining structure (type unknown or varied)	56	Mining Pit
24	Snow fence	57	Mining Reclamation (Large Scale)
25	General fence (type unknown)	58	Gravel Pit/Gravel Storage
26	Private Residential Development (general)	<b>6</b>	<b>Utilities</b>
27	Agricultural Development	60	General Electrical Disturbance (type unknown)
28	Residential Area / City Boundaries	61	Power supply center
29	Man-made wetland	62	Power line/pole
<b>3</b>	<b>Range Land / Railroad / Road cut</b>	63	Windmill
30	General Range Disturbance (type unknown or varied)	64	Landfill
31	Water Source General (type unknown)	<b>7</b>	<b>General Linear Disturbance</b>
32	Cattle Waterhole	70	General Linear Disturbance (type unknown)
33	Water Trough/Tank	<b>8</b>	<b>Fire and Vegetation Treatments</b>
34	Dam/Reservoir	80	Wildfire
35	Cattle salt-lick	81	Prescribed Burn

36	Vegetation Treatment-some qualify	82	Mechanical Treatment
37	Exclosure Fence	83	Chemical Treatment
38	Railroad		
39	Highway Excavation Cut		

(Adapted from Wyoming 2012)

### **Literature Cited**

Wyoming. 2012. DDCT Frequently Asked Questions. Available at:  
<https://ddct.wygisc.org/Data/Sites/24/files/FAQs.pdf>. Accessed  
October 2013.

### **FISCAL IMPACT**

There is no fiscal impact at this time.

### **RECOMMENDATION**

The recommendations outlined above have been incorporated in the November 18 Section 3.0 revisions.

### **POSSIBLE MOTION**

Should the Board agree with the staff recommendations, a possible motion would be, “Motion to approve revisions to Section 3.1.2 Maximum Allowable Disturbance”

### **Attachments:**

- 1: Summary of thresholds from other state plans and sub-regional EISs.

In:TR

**Attachment 1: Summary of thresholds  
from other state plans and subregional  
EISs**

## Thresholds from Other Sage Grouse Management Plans

Plan Name	A - No Action Alternative	B -NTT Alternative	C-Citizen's Alternative	D- BLM/FS Alternative	E- State Alternative	F -Citizen's Alternative
<b>Colorado Subregional EIS</b>	No disturbance cap would be applied	A 3-percent disturbance cap would be applied in "PPH"	A 3-percent disturbance cap would be applied in "All Designated Habitat"	A 5-percent anthropogenic disturbance cap and 30-percent total disturbance cap would be applied in ecological sites supporting sagebrush	-	-
<b>Idaho/Montana Subregional EIS</b>	No disturbance cap would be applied	A 3- percent surface disturbance cap on anthropogenic disturbances (not including fire) in Preliminary Priority Management Areas.	Same as Alternative B.	No net unmitigated loss of Preliminary Priority Management Areas.	A 3-percent per 640 acres surface disturbance cap on fluid mineral development in CHZ in Idaho and a five percent per 640 acres disturbance cap in IHZ. No disturbance cap would be applied in the Montana or Utah portions of the sub-region.	A 3-percent disturbance cap on surface disturbances (including fire) in PPMA.
<b>Nevada/California Subregional EIS</b>	No disturbance cap would be applied	Manage GRSG PPMA's so that discrete anthropogenic disturbances cover less than 3% of the total GRSG habitat regardless of ownership. Anthropogenic features include but are not limited to paved highways, graded gravel roads, transmission lines, substations, wind turbines, oil and gas wells, geothermal wells and associated facilities, pipelines, landfills, homes, and mines. • In PPMA where the 3% disturbance threshold is already exceeded from any source, no further anthropogenic disturbances will be permitted by BLM or Forest Service until enough habitat has been restored to maintain the area under this threshold (subject to valid existing rights). • In this instance, an additional objective will be designated for the priority area to prioritize and reclaim/restore anthropogenic disturbances so that 3% or less of the total PPMA is disturbed within 10 years.	For Leased Federal Fluid Mineral Estate- limit permitted disturbances to 1 per section with no more than 3% surface disturbance in that section.	No net unmitigated loss of Preliminary Priority Management Areas	???	When permitting APDs on existing leases that are not yet developed, the proposed surface disturbance cannot exceed 3% per section for that area.
<b>State of Wyoming Plan</b>	-	-	-	-	Limit to 1 disruption per 640 acres AND limit to <5% disturbance within Examination Area (which is a 4 mile radius on project boundary plus an addition 4 mile radius around any leks captured in the initial 4 mile radius)	-
<b>State of Idaho Plan</b>	-	-	-	-	A 3-percent per 640 acres surface disturbance cap on fluid mineral development in CHZ in Idaho and a five percent per 640 acres disturbance cap in IHZ.	-
<b>State of Utah Plan</b>	-	-	-	-	Cumulative new permanent disturbance should not exceed 5% of the surface area of nesting habitat, 5% of winter habitat, or 5% of other habitat within an SGMA.	-

## VII. Standards to Avoid or Minimize Impacts to Sage-grouse (All Energy Developments)

It is important to note here that some recommendations differ for non-migratory and migratory populations of sage-grouse. For the purposes of this document, non-migratory populations of sage-grouse are those where the majority of individuals do not make long distance movements between or among seasonal ranges (individuals travel <10 km one way between seasonal ranges). Migratory populations are those in which a preponderance of individual grouse move  $\geq 10$  km one way between seasonal ranges (derived from Connelly et al. 2000).

### A. Site Selection

1. The NGSCT considers Category 1 habitats (leks and nesting habitat) irreplaceable and Category 2 habitats (quality winter and brood rearing habitats) critical to the long term persistence of sage-grouse populations. Energy or transmission development should be avoided within Category 1 and 2 sage-grouse habitats.
2. Energy development is strongly discouraged from occurring in Category 3 habitats; however, if unavoidable, projects in these habitats should be situated to minimize impact through placement in the least suitable portion of habitat.
3. Renewable energy developers are encouraged to pursue project development activities within Category 4 and 5 habitats within the range of sage-grouse in Nevada.
4. Project proponents should focus on previously disturbed sites in high potential wind resource areas. These areas could be described as those with prior disturbances including, but not limited to, previously burned areas, dense pinyon and juniper woodlands, areas converted to agriculture and areas within existing linear rights of way (transmission corridors).
5. If habitat categories have not been identified for a certain area, energy facilities and transmission lines should not be sited within 3 miles of the nearest active lek location for non-migratory populations<sup>3</sup>.
  - a. To the greatest extent possible, energy developers should work closely with NDOW and pertinent federal agency biologists to determine important nesting, brood rearing and winter habitats and avoid those areas.
6. Where populations of sage-grouse are considered migratory, energy facilities and transmission lines should not be sited within 3 miles of the nearest active lek location and should not be sited within the associated nesting habitat for that particular population.
  - a. Consideration should also be given to movement corridors between breeding, nesting, brood-rearing or winter habitat. These movement corridors may not be well defined unless significant radio marking investigations have been conducted for a particular population. It is recommended that these investigations take place where project proponents are proposing developments in likely movement corridors for sage-grouse.
7. No development should occur within a 0.6 mile (1 km) radius around seeps, springs and wet meadows within identified brood rearing habitats.

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<sup>3</sup> Holloran (2005) found that natural gas development within 3 – 5 km (approximately 2 - 3 miles) of active sage-grouse leks led to dramatic declines in breeding populations. Walker et al. (2007) also found that coal-bed natural gas development within 0.8 km and 3.2 km had strong negative effects on sage-grouse and detected effects as far as 6.4 km. Johnson et al. (In Press) found that few leks were located within 5 km ( $\approx 3$  miles) of developed land and trends in male attendance were lower for those leks with more developed land within 5 km or 18 km.

## **B. Pre-Development Planning and Survey Requirements (All Energy Related Developments)**

Each proposed energy facility requires some level of detailed individual evaluation. Unique habitat conditions can and do exist due to local variations in wildlife populations and movement patterns, habitats, area topography, facility design, and weather (Alberta Fish and Wildlife Division 2005). The level of pre-project planning and the need for certain surveys or monitoring depends on the seasonal habitat that the project is located in and the importance of the particular habitat. It is the intent of the NGSCT to complete mapping of habitat categorizations in 2010. The following are standards recommended by the NGSCT for pre-project planning and surveys:

1. Identify the cover type of habitat and habitat category of proposed development by using R-value classifications, current seasonal habitat delineations and previous telemetry information. These habitat types and categories should be determined on a site specific basis through consultation with NDOW.
2. A remote assessment (utilizing GIS applications) of present habitat condition should be conducted. This assessment should include vegetative classification, seasonal habitat layers, aerial photos, fire polygons and other man-made structures on the landscape including transmission lines, roads or other anthropogenic features.
3. If the project happens to occur in Category 1 or 2 habitats, a comprehensive monitoring plan should be developed and approved by NDOW that addresses demographics and seasonal movement patterns. The Western Agencies Sage and Columbian Sharp-tailed Grouse Technical Committee provides sound recommendations in their Interim Guidelines for Evaluating the Impacts of Energy Development (Appendix A).
4. In Category 3 or 4 habitats, field investigations should be conducted by the applicant to determine the actual condition of the habitat and the approximate extent of use by sage-grouse through consultation with NDOW. The potential for habitat improvement should be identified and a restoration or habitat enhancement plan should be developed.
5. If a project is located in Category 5 habitats, surveys (radio-marking of individuals in adjacent sage-grouse populations or stratified random pellet counts) should be considered to determine if sage-grouse move through the area between seasonal habitat patches. If movement across the area is detected, then recommendations should be made to preserve movement patterns by grouse.

## **C. Project Development (All Energy Related Developments)**

Through this guidance document, we hope to eliminate more direct impacts to sage-grouse populations through avoidance of Category 1 through 3 habitats. However, unless Greater Sage-grouse habitats are afforded increased protection from federal land management agencies such as the BLM, it is likely that some form of renewable energy development will occur within these types of habitats. The NSGCT recognizes that there are projects in the advanced stages of permitting or development which have obtained final or near-final siting approvals from federal, state and/or private entities, and that the siting and/or mitigation commitments for such projects may not be consistent with some of this document's recommendations. Where this is the case, and where the project has worked with federal and state agencies on matters relevant to wildlife prior to the release of this document, the NSGCT respects agreements that have

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already been made with regard to siting and mitigation measures. We hope that project proponents in these situations can use the recommended guidance contained in this document to minimize the effects of development where possible. However, if sage-grouse are listed as a threatened or endangered species by the U.S. Fish and Wildlife Service in the future, then projects on federal lands would be subject to section 7 consultation. Prior agreements may be subject to further review.

It is important to note here that some recommendations differ for non-migratory and migratory populations of sage-grouse. For the purposes of this document, non-migratory populations of sage-grouse are those where the majority of individuals do not make long distance movements between or among seasonal ranges (individuals travel <10 km one way between seasonal ranges). Migratory populations are those in which a preponderance of individual grouse move  $\geq 10$  km one way between seasonal ranges (derived from Connelly et al. 2000). If a project were approved in Category 1 through 3 habitats, the following represents guidelines suggested by the NGSCT:

1. Where sage-grouse populations are non-migratory energy facilities should not be constructed within 3 miles of the nearest active lek site (see Chapter 1, Section C).
2. Where populations of sage-grouse are considered migratory, energy facilities should not be constructed within 3 miles of the nearest active lek location and should not be sited within the associated nesting habitat for that particular population.
3. If construction within 3 miles of an active sage-grouse lek is absolutely unavoidable, conduct construction activities from 15 July to 30 November to avoid disturbing sage-grouse during the breeding, nesting, early brood rearing and winter periods.
  - a. If pumping stations are placed within 3 miles of an active lek, consideration should be given, and attempts made to place these features in an area where noise would least impact the actual lek using topography to help mask noise.
4. Avoid practices that remove sagebrush cover in these habitat categories as they may be the most important areas to sage-grouse using these habitats.
5. No development or infrastructure features should be placed within 0.6 miles (1 km) of identified late brood rearing habitats, especially meadow complexes and springs. These features can provide a competitive advantage for avian predators; therefore increasing sage-grouse mortality during a period when birds may be susceptible.
6. A comprehensive monitoring plan approved by the Nevada Department of Wildlife will be required to monitor sage-grouse demographics, vital rates and movement patterns before, during and after the construction phase within Category 1 – 3 habitats. The Western Agencies Sage and Columbian Sharp-tailed Grouse Technical Committee provide sound recommendations in their Interim Guidelines for Evaluating the Impacts of Energy Development (Appendix D).
7. Within Category 1-3 sage-grouse habitats, a company representative should be on site to oversee compliance during construction and provide environmental training to on-site personnel. This individual is responsible for overseeing compliance with all protective measures and coordination in accordance with the permitting authority and resource agencies should have the authority to issue a “stop work order” if deemed necessary.
8. Human Activity (Daily Operations/Maintenance)
  - a. Vehicle trips should be limited to those times that would least impact nesting or wintering grouse:

- i. Vehicle trips should not occur on a regular basis within 3 miles of an active lek or in identified nesting habitats from 01 March through 15 May.
  - 1) If vehicle trips are required during the lekking period, vehicles should only be operated from 10:00 a.m. to 5:00 p.m. daily.
- ii. Public access to construction areas should be limited if construction activities are occurring from 01 March through 15 May.

**D. Associated Infrastructure (Transmission Lines, Road, Substations, Fences, etc.)**

The infrastructure associated with utility scale energy developments can potentially be as detrimental as the facility itself. Roads, transmission lines, substations, fences and vehicle traffic can all eliminate or create disturbance within sage-grouse habitats. Even though a wind generation facility or geothermal power plant may not be constructed in optimal sage-grouse habitats, it is likely that roads and/or transmission lines associated with the facility will be. The following guidelines apply to associated infrastructure:

1. Transmission lines should not be sited within 3 miles of the nearest active lek location or in nesting habitat that occurs outside lek buffers.
  - a. In instances where transmission line placement is within 3 miles of the nearest active lek location and cannot be avoided, apply standards 5-9 in this section.
    - i. Attempt to place the line in the least suitable habitat within a 3 mile radius of the nearest active lek.
    - ii. Consider placing the transmission line to the west of the nearest active lek so that avian predators are at a disadvantage (i.e., looking into the sun) in the early morning hours.
2. Roads and below ground infrastructure (i.e. buried power lines, pipelines) should not be sited within 0.6 miles (1 km) of the nearest lek site. These features are a concern because their construction directly removes potential nesting habitat and act as vectors for invasive plant species establishment (e.g., cheatgrass).
3. To the greatest extent practical, transmission lines should be placed near existing highway corridors at “minimum safe distances” designated by the BLM or project proponent to reduce direct and indirect effects to sage-grouse.
4. In all instances where structures are to be placed in sage-grouse habitat, especially nesting habitat, preliminary surveys should be conducted to identify sage-grouse nesting areas and all attempts should be made to avoid these areas.
5. Structures should be constructed with the least amount of perching or nesting substrate possible by avoiding such things as external ladders and platforms.
6. Use tubular tower designs with pointed tops rather than lattice designs.
  - a. This should be applied as a standard design within the range of sage-grouse in Nevada regardless of habitat categorization.
7. In addition to tubular towers, conventional perch and nesting deterrents should be utilized in adherence to the Migratory Bird Treaty Act. Perching and nest deterrents include:
  - a. devices installed on support towers;
  - b. actual physical maintenance through hazing; and/or
  - c. physical removal of nest structures.
8. Avoid removing sagebrush cover whenever feasible, especially in identified winter habitats.
9. Avoid use of guy wires whenever possible.

- a. In some circumstances, use of guy wires may facilitate tower design features which minimize perching and nest building (e.g. guyed V tubular tower). The overall benefit to sage-grouse of these designs is likely to compensate for any direct affect to sage-grouse from guy wire strikes; however, guy wires should be marked with devices (e.g. spiral vibration damper, FireFly™ bird flight diverter) to increase the visibility of the wires to avian species, thus minimizing strikes.
- 10. To reduce the impact of new fences on sage-grouse, new fence proposals (including those for emergency stabilization and rehabilitation) should be carefully evaluated for sage-grouse collision risk (BLM IM 2010-022).
  - a. In the process of prioritizing areas for flagging or marking fences, state wildlife agency personnel shall be consulted (BLM IM 2010-022).

## **E. Post Project Development**

- 1. Monitoring
  - a. Within Category 1 through 3 sage-grouse habitats, a comprehensive monitoring plan will be required that addresses demographics, vital rates and seasonal movement patterns. The Western Agencies Sage and Columbian Sharp-tailed Grouse Technical Committee provide sound recommendations in their Interim Guidelines for Evaluating the Impacts of Energy Development (Appendix D).
  - b. Information gained from monitoring can be used to help develop future mitigation measures.
- 2. Noxious Weed Prevention
  - a. Roads and the footprint of wind turbine pads, geothermal energy plants, and transmission lines should be monitored at least annually for any noxious weeds and, if found, treated with appropriate techniques.
- 3. Noise Reduction
  - a. Noise levels from geothermal facilities, oil and gas pumping stations or gas pipeline compressor stations should not exceed 55 decibels (dBa) at leks. Several noise muffling techniques and equipment are available.
    - i. Noise mufflers should be installed at gas compressor stations;
    - ii. Noise barriers should be installed around oil and gas pumping stations;
    - iii. Temporary noise shields should be constructed around portions of the drilling rigs and used on standard construction equipment.
- 4. Decommissioning
  - a. Any roads that were built, primarily for construction only, should be decommissioned post construction to deter dispersed vehicle use within sagebrush habitats and the creation of new roads.
    - i. Decommissioned roadways should be restored, to the greatest extent practicable, to the pre-existing vegetative condition.
  - b. Developers should restore pathways of buried transmission lines or pathways to a desired vegetative condition.