

– CREATING NEW ANTHROPOGENIC CATEGORIES WITHIN THE HQT

Finding

The CCS identified anthropogenic disturbance categories do not always capture every type of proposed anthropogenic disturbance on the landscape. This improvement aims to create new disturbance categories to classify disturbances that do not fit within existing categories and are expected to be relatively uncommon or unconventional.

Improvement Recommendation

Specific Improvement Recommendation

1. The SETT recommends the creation of a new anthropogenic disturbance category “Other Disturbance” Type to capture miscellaneous, ancillary, and other types of disturbances that are analyzed as disturbances but do not fall into an existing CCS disturbance category. Examples could be hydroelectric power projects, gravel pits, mineral materials sites, certain renewable or non-renewable energy projects (excluding solar, wind, and geothermal), maintenance or transfer stations, staging areas, etc. There will be three Subtypes, Low, Medium, and High.
 - If a proposed disturbance does not fall into an existing category but requires mitigation per state regulation, it will default to the Other Disturbance category.
 - The Low, Medium and High Subtype weights and distances will be defined using the same science and rationale used to define existing anthropogenic feature categories. The Subtypes will be based on the level of threat or impact expected from the proposed disturbance due to the variety of disturbance types that could fall under the Other Disturbance category (more description in Rationale section below).
 - i. Other Disturbance – High: 75%, 6km*
 - ii. Other Disturbance – Medium: 50%, 3km
 - iii. Other Disturbance – Low: 25%, 1km
 - iv. Ranking of criteria and a comparative analysis using established anthropogenic disturbances and new science as guidance will determine which category is most appropriate for a given disturbance.

* The SETT intends to capture the majority of disturbances within the provided weights and distances. If warranted, the SETT may determine the 75% weight for the High category be adjusted to 100% under certain circumstances. The SETT would bring any proposed disturbances that may warrant a 100% weight to the SEC for consideration.

 - The term length for the Other Disturbance category will generally be a minimum of 30 years. Consideration may be given for projects authorized for activities of less than 10

years when reclamation also occurs within this timeline. However, the minimum term will not be less than 10 years.

- Note: this recommendation does not supersede the exceptions process defined in NAC 232.400 – 232.480 and the definition associated with de minimis activities in the CCS Manual.

2. The SETT recommends the creation of a Railway category. The SETT would digitize currently operating railways in Nevada and include them as existing disturbances, and any new proposed railways would be included within this category. Impacts from railways used for freight or passenger trains are expected to have similar impacts as high use roads; therefore the SETT recommends the weight and distance associated with railways be the same as for High Use Roads (100%, 3km). The only exception will be the Nevada Northern Railway that operates a passenger tour in association with the Nevada Northern Railway Museum in Ely; this railway will be given a weight of 25% and distance of 1km similar to the Low Use road category as it exhibits lower usage compared to the other operating railways in Nevada.

- There are five main railways that currently operate in Nevada within sage-grouse habitat and include the Overland Route (A), Central Corridor (B), Feather River Corridor (C), the Nevada Northern Railway (L), and the Reno Branch (H) (Figure 1). The SETT would add these corridors to the new Railway category as existing disturbances.

Rationale Supporting Recommendation Details

The SETT has seen an increased volume of debit projects enroll in the CCS as a result of Mitigation Regulation 232.400 - 232.480. Therefore, there have been many anthropogenic disturbance projects that are proposed in or near sage-grouse habitat but do not fall into a one of the defined disturbance categories identified in the HQT. It is difficult to prepare for and capture every possible type of disturbance that could be proposed on the landscape within specific categories. This is why the SETT has proposed several additional anthropogenic disturbance categories in recent years to account for disturbances that were not anticipated, or those that did not occur with enough frequency to warrant inclusion in the original HQT versions, including mineral materials and railroads. To prevent the need to predetermine every possible future disturbance and associated weight and distance of impact, the SETT recommends that a general category, Other Disturbance, to capture activities resulting in surface disturbance should be identified within the HQT. If specific disturbance types become frequent, the SETT can look to make additional standardize categories.

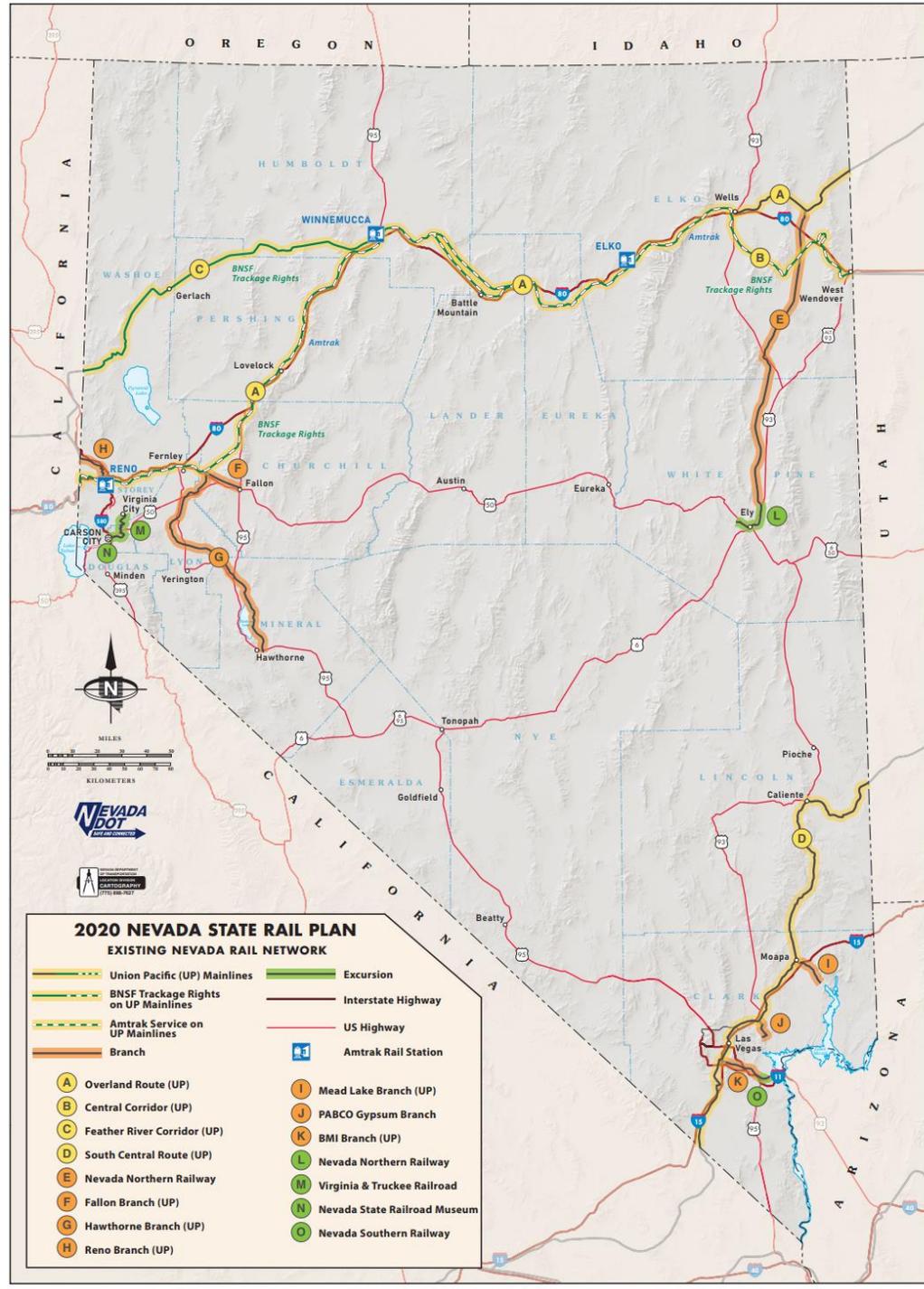


Figure 1. Map of the existing railway network in Nevada. Currently operating railways are A, B, C, D, H, and L.

1. The Other Disturbance category is recommended to have the following weights and distances:
 - a. Other Disturbance – High: 75%, 6km*
 - b. Other Disturbance – Medium: 50%, 3km
 - c. Other Disturbance – Low: 25%, 1km

* The SETT intends to capture the majority of disturbances within the provided weights and distances. If warranted, the SETT may determine the 75% weight for the High category be adjusted to 100% under certain circumstances. The SETT would bring any proposed disturbances that may warrant a 100% weight to the SEC for consideration.

The range of the provided weights and distances incorporates the various indirect impacts associated with high vs low impacts. The SETT recommends analyzing proposed disturbances on a case by case basis to most appropriately categorize disturbances that will default to Other Disturbance; however, there will be some criteria used to help categorize proposed disturbances. The following criteria are based on previous anthropogenic disturbance categories and associated science and rationale, please see Appendix D – *Sage-grouse response to anthropogenic disturbance literature review* in the Scientific Methods Document for supporting documentation.

- a. Other Disturbance – High: Proposed disturbance will be of high impact and will exhibit one or more of the following impacts:
 - i. Structures that could be used as perching and nesting by ravens.
 - ii. Consistent or continuous noise from construction and operation of the disturbance (i.e., greater than 10 dBA following disturbance).
 - iii. Subsidies that would act as predator attractants.
 - iv. Continuous activity and other attributes that suggest large-scale disturbance (e.g., ground disturbance, heavy use or traffic).
 - b. Other Disturbance – Medium: Proposed disturbance may exhibit similar impacts as listed above but have been minimized or have a lower scale of impact and could include:
 - i. Disturbances that are minimized using measurable methodologies.
 - ii. Intermittent or less continuous noise and activity (i.e., noise less than 10 dBA following disturbance).
 - c. Other Disturbance – Low:
 - i. Does not exhibit significant indirect impacts as listed above. General presence of infrastructure, direct habitat loss, and potential for invasive weed spread from ground disturbance will be the primary impacts expected from a Low category.
 - d. Ranking of criteria and a comparative analysis using established anthropogenic disturbances and new science as guidance will determine which category is most appropriate for a given disturbance.
2. Railways and trains can negatively affect wildlife and the environment in ways similar to roads and vehicles (including wildlife mortality, habitat loss and fragmentation, and disturbance) (Federico et al., 2014; Jackson, 2000; Knick et al., 2011), but the degree of these impacts may differ (Dorsey et al., 2015). Some authors suggest that the impacts of trains may be less than roads due to the infrequency of trains (Barrientos et al., 2019), but not much research has been done on the

differences between railroad and road impacts on wildlife nor on the effects of railroads specifically, especially in regards to ground-dwelling birds.

Existing railroads in Nevada (with the exception of the Nevada Northern Railway museum tour railway) that fall within sage-grouse habitat run approximately eight trains per day to 20 or more trains, depending on location (Hill, 1991, NDOT 2012). With the frequency, speed, and noise associated with railroads, it is most appropriate to use the High Use Road weight and distance classification for the new Railway category. The museum railway runs seasonally and typically runs two trains per day. For this reason, the SETT recommends the museum railway should be assigned a weight of 25% and distance of 1km similar to the Low Use road category.

References

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