Deschutes Collaborative Forest Project
Preliminary Core Habitat Recommendations
Approved by Steering Committee consensus on November 14, 2023

Overview

This document outlines initial Restoration Planning Subcommittee recommendations to the Deschutes National Forest for reducing human disturbance to wildlife and conserving biodiversity across the forest. The overarching purpose of these recommendations is to address habitat fragmentation by roads, trails, and human interactions. This document should serve as a foundation for core habitat defragmentation, sustainable trails planning, vegetation management adjacent to roads and trails, and associated long-term project tracking and holistic planning.

The below summary outlines the purpose for recommendations found at the end of this document and highlights the context provided in the Background and Approach sections.

Project Planning – To formally address the biodiversity crisis across the Deschutes National Forest (DNF), biodiversity conservation should be elevated during the NEPA process for as many relevant projects as possible, especially in identified priority habitat and landscape connectivity corridors. As roads and trails increase human disturbance to wildlife and limit habitat suitability and connectivity, closures and decommissioning should be a priority NEPA action for increasing core habitat and connectivity across the forest.

Maintenance Level 1 Roads and Non-System Roads and Trails – Many projects may not be suited to include closures and decommissioning of system roads and trails, limiting the ability of the USFS to decrease fragmentation across the forest to meaningful levels. Meanwhile, illegal motorized use of Level-1 roads and ubiquitous networks of user-created roads and trails adds a significant amount of fragmentation and disturbance across the forest. Effective closures of Level-1 roads and decommissioning of user-created roads and trails should therefore be prioritized in the absence of NEPA actions across the forest.

Sustainable Recreation – Recreation is a major societal value for the DNF and predominant economic driver of Central Oregon. As recreation demands continue to increase across the forest, so will the pressure on remaining intact habitats. It will therefore be paramount to work with recreation community leaders to provide targeted outreach and education to users and identify and implement trail network strategies to limit fragmentation and human disturbance to wildlife.

Vegetation Management – Fuels treatments open forest stands to levels which increase the visual and auditory zone of influence of humans on wildlife and provide opportunities for illegal users to evade road and trail closure barriers. Vegetation management can therefore be a critical tool to reduce this zone of influence by strategically retaining cover screens along roads and trails and fortifying Level-1 road closure methods.

Tracking and Monitoring – Over the course of this process, it became apparent that there is a strong need to track the implementation of road and trail projects included in signed NEPA decisions to ensure project follow through and long-term efficacy. Further, monitoring of road closures and decommissioning will be critical in determining if goals and objectives for habitat defragmentation are being met.

Holistic Planning – The DCFP continues to advocate for holistic project planning in which biodiversity values are balanced with other values across the forest. As National Forest multi-use mandates are confronted by the climate and wildfire crises, holistic planning should focus on long term strategies to concomitantly address the biodiversity crisis. Therefore, the Restoration Planning Subcommittee will continue working with the Forest Service to identify and implement spatially explicit strategies for safeguarding biodiversity in the face of climate change and catastrophic wildfires.

Background

The Deschutes National Forest (DNF) has some of the highest densities of Federally owned and managed forest roads in the Pacific Northwest, many of which are legacies from historical logging practices of the 1900s. Since then, values and resource demands within the forest have shifted from a timber to recreation economy. As the Central Oregon population and tourism grows, recreational demands on the forest will continue to increase, likely resulting in greater tradeoffs between management for biodiversity conservation and recreation values.

A wealth of research on both motorized and non-motorized recreation across the US has revealed strong negative effects of human disturbance on wildlife for taxa found in the DNF, ranging from altered behavior, daily/seasonal movements, and resource selection to increased stress, lower individual fitness, and overall population declines (see references, including General Technical Report review by Miller et al. 2020). While some species readily habituate to human presence across landscapes, the majority of studies report negative effects of recreation on wildlife and biodiversity responses. Many of these responses are due in part to the loss and fragmentation of suitable habitat resulting directly from anti-predator responses to both low and high levels of human activities along roads and trails as well as indirect effects including habitat modification and the spread of invasive species.

Biodiversity is considered a critical component to the healthy functioning of forests, due to the variety of ecosystem services that diverse wildlife communities provide, including seed dispersal, pollination, pest control, nutrient and carbon cycling, soil-water infiltration, and promoting overall forest resilience. Efforts to restore biodiversity throughout forests are therefore considered critical to forest restoration in the face of landscape changes. Climate projections predict shifts in habitat resources and wildlife distributions, revealing a strong need to facilitate wildlife movement throughout fragmented landscapes, enabling species to adapt to shifts in resources, while also buffering high-quality habitats from rapid change. In short, this is a critical moment for wildlife and biodiversity conservation in the DNF; significant actions are needed to reverse their continued decline.

As severe wildfire risk grows and fuel reduction and restoration projects increase in pace and scale to address this risk, there is an opportunity to enhance wildlife habitat and biodiversity values in landscape-level planning and project implementation. Integrating wildlife values into severe wildfire risk mitigation will likely be compatible given roads and trails increase the risk of human-caused wildfire ignition and facilitate the spread of highly flammable invasive plants, while also diminishing habitat value and biodiversity. Therefore, incorporation of road closures, decommissioning, rerouting, and sustainable trail planning into vegetation management implementation will be critical for increasing forest restoration in line with habitat quality, quantity, and connectivity needs.

Forest defragmentation and biodiversity restoration have been goals of the Deschutes Collaborative Forest Project (DCFP) and the Collaborative Forest Landscape Restoration Program (CFLRP) since its inception as they are critical components to holistic restoration. However, these defragmentation goals have yet to be meaningfully accomplished at scales commensurate with wildlife conservation needs. The DCFP and US Forest Service (USFS) have had a positive and productive collaborative relationship accomplishing numerous successful projects. We hope to build on that legacy by addressing the transportation network that currently fragments the DNF and is beyond the Forest Plan standards and guidelines. The identification of the DNF as a priority fireshed for wildfire risk reduction provides an ideal opportunity to meaningfully integrate habitat and biodiversity values into increased restoration efforts.

Approach

Throughout 2022 and half of 2023, the DCFP's Restoration Planning Subcommittee (RPSC) has engaged in conversations regarding planning and implementation strategies for habitat and biodiversity conservation. The goal of these efforts was to help inform, guide, and enhance USFS efforts to restore functional wildlife habitat, by increasing connectivity, and conservation of critical biodiversity refugia. While we recognize that there are numerous components to habitat functionality, the RPSC's work and the resulting recommendations are focused on the disturbance from travel and recreation management as one of the primary mechanisms for incorporating

wildlife and biodiversity values into project planning and implementation. We also recognize that not all wildlife species respond similarly to human presence but the intent of these recommendations is to reduce negative impacts on those species most sensitive to human disturbance.

This can be a contentious issue as USFS roads and trails serve many different users including firefighters, the unhoused community, recreationists, industry contractors, and agency personnel. Precisely because of the difficult nature of this topic, a diverse set of stakeholders were convened over the past eighteen months to guide the development of a core habitat metric or tool to enhance core habitat and permeability through forest defragmentation. Representatives from various USFS programs including fuels, fire, wildlife, recreation, silviculture, and forest products participated in discussions to ensure the metric's compatibility with internal USFS processes. Similarly, community members from various constituencies throughout central Oregon including recreation, forest product industry, environmental, local governance, and many others, engaged in this social learning process and contributed to its development.

Major discussions revolved around the assessment of core habitat across the forest, including a buffer analysis which defines core habitat as patches 200 meters from motorized roads and trails and 100 meters from non-motorized roads and trails, grouping patches into 0-50, 50-100, and greater than 100 acres in size. As expected, the buffer analysis revealed considerable landscape fragmentation, which has been extensively documented to negatively impact disturbance-sensitive species, edge-sensitive species, and migratory wildlife. This approach was augmented by a companion project in the Sisters Ranger District which identified and mapped a matrix of user-created, non-system roads and trails. Additionally, many stakeholders have documented that countless Level-1 (closed) roads and user-created roads and trails continue to experience unauthorized motorized access. Both user-created roads and trails and continued usage of "closed" roads exacerbate the fragmentation identified in the buffer analysis of system roads and trails.

The RPSC has identified a range of considerations for identifying where road and trail closures would provide the greatest benefit to biodiversity conservation. These considerations included the DCFP Forest Fragmentation Tool, overlayed by project planning areas, fire planning, the core-habitat buffer analysis, Oregon Department of Fish and Wildlife's habitat connectivity assessment (OCAMP), and high-value habitat resource areas such as old growth, meadows, riparian areas, water bodies, aspen stands, and hardwood patches. Future efforts will include landscape analyses that incorporate these variables to determine where planning areas can best incorporate wildlife core habitat areas and where future projects can be planned to prioritize to benefit wildlife and biodiversity.

In this document, the RPSC provides initial recommendations on incorporating wildlife conservation into vegetation management projects and outlines the next steps that the RPSC will pursue, including geospatial analyses and the development of a framework and recommendations for holistic restoration planning. The goal of this framework is to facilitate the restoration of wildlife habitat and improve biodiversity retention by contributing to and enhancing USFS efforts throughout planning, implementation, and monitoring cycles. This document should serve as an initial set of forest-wide recommendations to the DNF regarding road infrastructure and recreation planning pertaining to wildlife core habitat and landscape connectivity. It is the DCFP's intention to develop spatially explicit models to better inform project planning pertaining to habitat defragmentation and biodiversity conservation across the DNF.

Within the overarching goal of this project exist two primary objectives:

1) Increase core habitat and connectivity across the DNF through the closure, decommissioning, or rerouting of system and non-system roads and trails in concert with sustainably planned recreation.

2) Dissuade the creation of user-created roads and trails through outreach and public education efforts.

Recommendations

1. Project Planning and Implementation:

The DCFP recommends that the DNF look for and evaluate opportunities to elevate core wildlife habitat conservation and biodiversity enhancement into the development of Purpose and Need statements of as many NEPA projects as possible to enable the use of available funding and tools for wildlife-focused travel and recreation management. The DCFP sees road and trail closures, decommissioning, and rerouting as one of the most effective and significant methods of achieving core habitat conservation and enhancement. We recommend that this be considered in the proposed actions of every relevant NEPA project especially in identified priority core or connectivity areas or where actions would have deleterious impacts on wildlife and biodiversity values.

Where decommissioning is not feasible due to conflicting resource management objectives (e.g., fire management, high-value recreation areas, archaeological resources), seasonal, administrative use, or permanent closures should be pursued to achieve wildlife and biodiversity objectives. Closure and decommissioning of roads and trails identified in environmental analyses should be included as action items in Decision Notices for individual projects. Roads and trails identified for closure or decommissioning and utilized for access or operations in vegetation management projects should be closed as part of the contractual requirements of individual projects. Temporary roads would be closed after contractor's use is completed unless otherwise identified for short term use by the USFS to accomplish related project work. After USFS use of these temporary roads is complete, USFS shall close or decommission these as identified in environmental analyses. We recommend that USFS consider establishing an Indefinite Delivery Indefinite Quantity (IDIQ) contract or other efficient contract mechanisms to help with timely closure of temporary roads, road and trails not included in vegetation management contracts.

2. Maintenance Level-1 and Non-System Roads and Trails:

For projects with Categorical Exclusions and NEPA-ready projects that do not include road closure, decommissioning, and rerouting, the DCFP recommends that the USFS prioritize the full closure of Level-1 roads to motorized uses via effective closure techniques such as barricades, felled trees, boulders, decommissioned entrances, and any new techniques that are developed. In addition, we recommend line of sight decommissioning of user-created, non-system roads and trails. Where non-system roads and trails occur, the USFS should partner with the DCFP by adopting and continuing to develop methodologies developed by the RPSC to map and assess where decommissioning will be optimal and feasible. The closure of many of these illegal or Level-1 roads would add significant areas of core habitat to the landscape. Slash beds used to close roads or non-system routes should be configured in a way to break up fuel continuity so that slash is not consumed during prescribed fire implementation. These efforts should be reinforced by the vegetation recommendations in recommendation four, located below.

3. Sustainable Recreation Planning:

Early Engagement: Recreation representatives will be integral partners in developing sustainable recreation development plans as the demand for recreational opportunities and the need for equitable access to recreation areas will continue to grow. Therefore, ongoing outreach and education with the recreation community should be prioritized as more specific habitat conservation strategies are brought forward.

The recreation community is diverse and often connected to specific locations on the landscape or types of use so engagement across user groups on spatially explicit decisions will be critical to any implementation efforts. We recommend early engagement with the DCFP and recreation partners regarding anticipated changes to the existing system roads and trails, especially in priority wildlife areas. Early engagement should allow for robust

engagement on tradeoffs between recreation and biodiversity values, coordinated communication efforts, increased compliance, and user conflict resolution.

Trail Expansion Strategies: We recommend that recreation planning efforts continue to take core habitat into consideration and note that additional efforts are needed to reduce fragmentation. We recommend that recreation planning continue to incorporate in-depth wildlife habitat conservation planning to minimize tradeoffs between these values across the forest. In particular, new trail development strategies should be prioritized that minimize fragmentation, don't adversely impact core and sensitive habitat, nor adversely disrupt wildlife behavior. Efforts to meet the growing needs of recreators should be focused on repurposing or improving existing trail infrastructure to better meet users' needs within pre-established recreation areas. In addition, opportunities to repurpose level 1 roads as potential trail infrastructure should be evaluated where there are no significant wildlife and biodiversity concerns.

Seasonal Closures: Where rerouting and decommissioning is not feasible, we recommend additional and expanded seasonal closures (including Level-1 roads) to decrease human disturbance within identified priority core habitat areas across the forest including but not limited to critical winter range, migratory corridors, and breeding and natal habitats.

4. Vegetation Management:

In areas deemed to be critical migratory or dispersal corridors for wildlife, patches and strips of vegetation as cover or sight screens along high-traffic sections of road and trail infrastructure within project areas should be retained. These cover patches and strips should be designed to facilitate prescribed burn ignitions and account for potential single and group tree torching to ensure adequate sight screen cover post burn implementation. These screens should not serve as a substitute for the cover and leave patches retained for wildlife within the interior and edges of the units.

For Level-1 roads, vegetation treatment techniques should be used to reinforce the range of other closure techniques. We recommend that the retention of dense patches of trees and tall shrubs surrounding junctions with motorized roads should be used to enhance the effectiveness of road barriers by minimizing motorized access around them. The planning and implementation of sight screens and vegetation barriers should be coordinated among wildlife, silviculture, fuels, contract administrators, and fire staff to ensure their appropriate placement and longevity with future maintenance treatments and fire management activities.

5. Tracking and Monitoring

We recommend the adoption and continued improvement of Level-1 road monitoring protocols developed by the RPSC to track the effectiveness of closures long-term and adapt closure methods based on those findings. Additionally, we recommend the development and utilization of a tracking system or database for long term implementation monitoring to ensure the completion of road and trail closures included in NEPA decisions which should be managed by a USFS project manager. We believe that a robust tracking system will improve implementation successes across all USFS programs and ensure the follow through on all signed NEPA actions, especially when bridging personnel changes.

6. Holistic Planning:

Finally, the DCFP recommends the continued engagement of USFS staff with partners to develop an in-depth and spatially explicit analysis to incorporate recreation, silviculture, fuels, and fire management into a scientific framework for promoting core habitat areas and their connectivity across the forest. The DCFP advocates for

holistic planning and acknowledges that wildlife values must be balanced with all other values on the forest, especially considering projected shifts in habitats due to climate change.

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