

Incorporating Connectivity into USFS Forest Plan Revisions: a Collaborative Pilot Project with the Custer Gallatin National Forest

Preserving and enhancing the potential for wildlife to move through the landscape has emerged as a conservation priority in our increasingly fragmented and human-dominated world. Ecological connectivity – the degree to which the landscape facilitates movement between habitat patches – influences many critical ecological processes for wildlife populations, including daily foraging movements, seasonal migrations, gene flow, and range shifts in response to climate change. A large body of theoretical and empirical evidence demonstrates that wildlife need connected landscapes to thrive. Developing policies and actions that achieve those objectives, however, remains a challenge for many state and federal land managers, resulting in continued loss of connectivity as the human footprint continues to expand.

The obstacles to addressing connectivity are not trivial. Laws and agency policies rarely provide specific guidance on several key questions that must be answered to analyze and plan for connectivity in a transparent and scientifically sound manner. Planning for seasonal migrations or daily movement is necessarily different than planning for long-term range expansion, yet these objectives are often conflated. Identifying which habitats or jurisdictions should be connected and for which species and ecological processes is exceedingly difficult in multi-stakeholder processes. Finally, the choice of region to consider for planning is often dependent on the ability of multiple

agencies and organizations to coordinate. These challenges, along with the complexity of synthesizing data from an ever-growing body of connectivity research with different spatial scales, modeling methods, and connectivity objectives, make it unsurprising that connectivity conservation actions are relatively rare.

The adoption of the 2012 U.S. Forest Service Planning Rule represents a major opportunity to move beyond these challenges and achieve connectivity conservation across much of

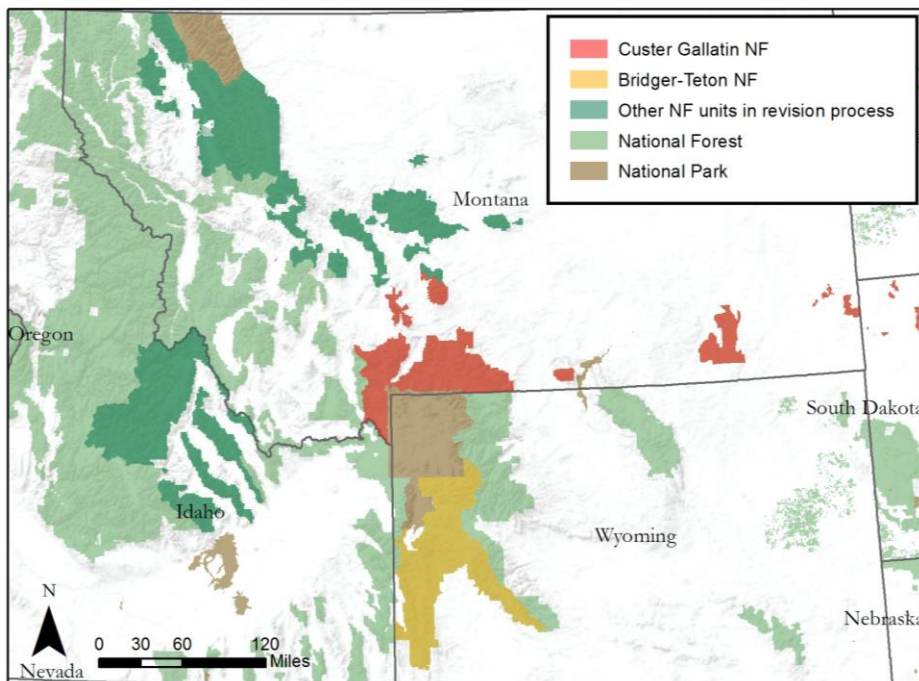


Figure 1. Custer Gallatin National Forest and surrounding Forest Service lands in the northern Rocky Mountains.

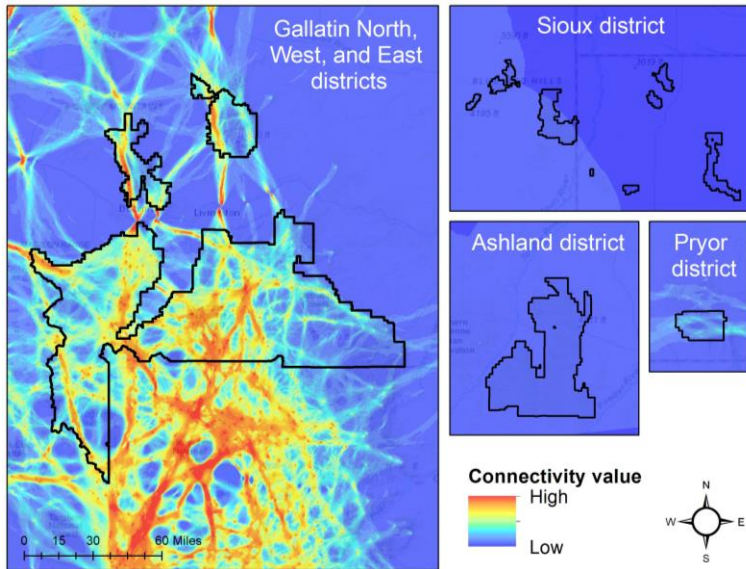


Figure 2. Example of connectivity modeling output showing connectivity value for large forest specialist species within and around the districts of Custer Gallatin National Forest.

the American West. The Rule includes the first requirements in U.S. public land management history for National Forests to evaluate, protect, and/or restore ecological connectivity as they revise Forest Plans. As various Forest Planning teams initiate their revision process, they are grappling with many of the aforementioned challenges. A consistent approach under the new Planning Rule to evaluate, identify, and assure the maintenance and restoration of wildlife movement and habitat connectivity is needed to ensure that forest management activities contribute to maintaining this critical ecological process.

CLLC has taken advantage of this key opportunity by partnering with the Custer Gallatin National Forest (CGNF) in southwest Montana (Fig. 1) to develop an approach for improving and standardizing the USFS planning process for addressing connectivity, both within the planning unit and across jurisdictions. The connectivity modeling that we have conducted for CGNF is being incorporated in their Forest Plan revision process and will inform future management decisions with the potential to impact connectivity. CLLC will be conducting similar connectivity modeling for the adjacent Bridger-Teton National Forest (BTNF) in 2019, and many of the surrounding National Forests (the Flathead, Helena, Lewis & Clark, and Salmon-Challis) totaling more than 12.5 million acres are also embarking on the FP revision process. We hope that our efforts with the CGNF and BTNF can be replicated or adapted across the region to bring significant benefits for wildlife, including species of conservation concern such as wolverine, grizzly bear, Canada lynx, gray wolf, and greater sage-grouse.