**Spatio-Temporal Response of Grizzly Bear Habitat Selection to Harvested Forests and Fire Disturbance in the Northern Continental Divide Ecosystem

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Forest disturbance can reinstate early successional vegetation, often providing abundant grizzly bear foods. However, uncertainty remains in factors influencing how grizzly bears respond to forest disturbance. We used GPS collar data from 91 individual grizzly bears between 2000 and 2022 to evaluate how disturbance from timber harvest and fire influenced habitat selection by grizzly bears in the Northern Continental Divide Ecosystem of northwest Montana. We hypothesized that grizzly bears select disturbance because it can provide important foods, but that selection would be influenced by season, anthropogenic factors, and the type, severity, age, and availability of disturbance sites because of their impacts on forage availability, vegetation regeneration, and human-caused mortality risk. We used resource selection analyses to examine whether spatio-temporal disturbance characteristics explained seasonal patterns of grizzly bear selection of disturbance. Grizzly bears generally selected unburned residual patches within burns and areas burned by low severity fire. When only sites with forest harvest were available, grizzly bears selected regenerative harvests in summer. Grizzly bears with both burns and harvest available generally avoided moderate harvest sites. Fine-scale siteswithin harvests and burns that experienced silvicultural treatments prior to and after the dominant disturbance source were generally avoided. Our findings have important management implications related to configuration of disturbance patches. Our results also support the prevailing hypothesis that grizzly bears show stronger selection for natural disturbance sources and that selection of harvested forests is influenced by availability of recent natural disturbance.