**Effects of Electric Fence Permeability on Grizzly and Black Bears in the Blackfoot Valley

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Electric fencing is an effective tool for deterring bears from calving areas and bee yards, however scientific evaluations of the impacts of large-scale electric fencing on bear movements and habitat use are lacking. In 2015 and 2016, we conducted a study in the Blackfoot Valley to evaluate A) the efficacy of rapid-deployment electric fencing designs in deterring bears from agricultural lands, and B) landscape level space use and permeability of agricultural lands relative to electric fences. Baited enclosures of 2 fencing configurations

were established in the valley. Each enclosure was systematically energized and unenergized for 3-day periods; passage into the enclosure was monitored with trail cameras to provide information on effectiveness and permeability. In addition, we established 60 randomly selected camera trap stations throughout the valley to evaluate landscape-level use relative to electric fences. Daily locations provided by 4 grizzly bears fitted with GPS collars in 2016 will provide individual-level information on seasonal movements and habitat selection relative to electric fences. The proportion of black bears that were deterred from both configurations of fence when turned on or off over both years was 61% and the proportion that successfully penetrated the enclosures was 38%. The proportion of grizzly bears that were deterred from both configurations of fence over both years was 69% and the proportion that were successful was 30%. The camera traps did not detect enough individuals to conduct a hierarchical occupancy analysis. We will collect the GPS collars in 2017 and conduct an RUF analysis on space use.