TURNER INSTITUTE *of* Ecoagriculture

LOCAL AND TRANSLOCATED DATASET OF BISON BODY MASS, AGE, SEX ACROSS LATITUDE AT TURNER RANCHES THROUGH THE LAST TWO DECADES

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Rationale. Long-term observational datasets at multi-decadal scales are important for improving our understanding of slow processes at work, such as climate change and management strategies. We know that asymptotic body mass of bison varies with sex and decadal measures of temperature and drought, but what remains unclear is the effect of management style and translocations on growth rate and body mass. The concept is that climate, environment, and management type affect animal allocation of energy for growth. This research is using Turner Ranches, including the Institute, dataset of bison traits such as body mass, sex, location, translocation, and management (broadly, cow/calf, feeding regime, grazing, culling, etc.) to model differential growth rates, longevity, pregnancy rates, sex ratios, and herd demographics. This work will improve our understanding of how male and female bison adapt to local environments by adjusting growth rates to match local conditions (e.g., climate and forage) and allow better prediction of how bison might respond and their management need to adapt to changing conditions in the future.