# Supplementary Data 1

**Further explanation to Figure 2. Major events leading to decline of American bison (*Bison bison*) occurred in parallel with settler colonization and the disenfranchisement of Plains people*.*** (ILTF)

For more than 10,000 years, Native Americans hunted and lived alongside bison, with an estimated population of tens of million animals roaming between the Rocky and Appalachian Mountains (Gilmore et al., 1999; Kornfeld et al., 2016) (**Figure 2**). Bison were an integral part of life and many creation stories tell of the connection between the people and their kin, the ‘buffalo’ (bison) (Goble and Crow, 2009; Hubbard, 2016). Plains Native peoples continuously moved and followed bison herds (Peck, 2001), and the bison provided a reliable source of protein and hides (Schaeffer, 1978). Historic records from the mid-nineteenth century show that Plains people were the tallest people in the world (Steckel and Prince, 2001), which is indicative of good nutrition and overall health (Steckel and Prince, 2001).

Plains Indians, who lived a nomadic life, traded bison goods with southern tribes (e.g., fur, hides, tools) (Creel, 1991). Prior to European settlement, Native American nations engaged in trade and led prosperous economic systems that enabled private enterprise (Crepelle, 2019). After Europeans colonized the west, Plains Indians continued to trade bison products, however, the overwhelming demand for bison parts for international trade, the intense harvest by settlers for European markets, and the U.S. government bison extermination program – which was used as a direct method to subjugate tribes – led to the collapse of an economic system based around bison (**Figure 2)** (Taylor, 2011b; Hubbard, 2014).

Early conflicts between Plains Indians and outside traders were in part due to overhunting bison by Europeans, which was only further exacerbated with increased settler presence following the discovery of gold and the construction of the Trans-Pacific Railroad (1869). The latter was only possible due to treaties made with bison-reliant nations (Treaty-making Era), all of which included clauses ensuring the protection of bison from outside hunters, as overhunting had already led to the noticeable decline of bison elsewhere (**Figure 2**) (Gwynne, 2010). In addition, European demand for bison hides spiked in response to the development of a commercially viable method of tanning buffalo hides (1865-1889), causing hunters to flood bison territory (Taylor, 2011a). Finally, the ultimate decimation of the bison population was multi-pronged, including the unintentional introduction of novel epizootic diseases spread from cattle to bison throughout the region (Stoneberg Holt, 2018).

By the late 1800s, despite years of organized resistance, all Plains people were forced onto reservations by the U.S. government (Relocation & Reservation Eras), a feat made possible in large part due to the disappearance of bison, their primary food source, providing means of self-sufficiency as sovereign societies as well as having significant cultural value. (**Figure 2**) (Wilkins and Stark, 2017; Feir et al., 2018). In addition, forced government assimilation programs (Allotment and Assimilation Era) prohibited the practice of all former cultural systems (Wilkins and Stark, 2017). This included the prohibition of the practice of all former cultural systems (e.g., land-use, education, religion, and language), paired with the forced enrollment of Native American children into government boarding schools, removing children from their families and denying access to their language and culture (Child, 1998). As Plains Indians were forced onto reservations and cut off from the bison economic market, they were also cut off from their traditional relationship with bison. On paper, Native Americans were allowed to continue their way of life and have food sovereignty on reservations (e.g., the ability to hunt, gather food, and control of food systems), but these treaties were not honored by the government and many Native Americans lost the ability to provide for their families; with bison extirpated from the plains (**Figure 2**). Plains Indians experienced widespread starvation. Records from the 1880’s indicate that approximately 600 people from the Blackfeet Nation, a quarter of the population on the reservation, starved to death due to malnourishment from inadequate government-provided food and, in the winter of 1883-1884, 300 Assiniboine starved to death on the Fort Peck Reservation (Henderson-Matthews, 2005).

During this period, tribal lands were divided into small parcels and allocated (Dawes Act 1887) to each “competent” male head of household, disregarding a tradition of communal land rights and practice of shared use (Pevar, 2012; Wilkins and Stark, 2017). The unallotted land within tribal territories was then considered surplus and made available to outside homesteaders, resulting in a net loss of 90 million acres of tribal lands across all reservations (McDonnell, 1991). The impact of this history resulted in a suite of legal, economic, land, and social challenges that still impact Native nations to this day. (Pevar, 2012; Wilkins and Stark, 2017; Feir et al., 2018).

With persistent Native resistance and activism, and federal policy shifts such as the Indian Civil Rights Act (1968), Native Nations became more empowered to deconstruct imposed government systems. However, by that time, the loss of bison and the accompanying loss of food security and sovereignty had directly impacted Native American health and well-being for decades. Despite multiple governmental and private efforts, food sovereignty has not been fully restored on reservations (Ruelle, 2017).

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