Abstract: Cattle are notorious for consuming a very high amount of water but are also a major part of the economy in the Gunnison Valley. The goal for this project was to investigate an alternative source of meat to see if there was less water consumption by livestock other than cattle. Bison were found to be a good alternative to beef, both for environmental and consumer health. For this project, a comparison life cycle analysis and material flow analysis were performed to compare the impact of bison compared to cattle in terms of water usage. Data from this project was used to inform the Upper Gunnison River Water Conservancy District on their demand management plan through an Environment and Sustainability capstone project.