Monitoring Huckleberries for Invasive Fruit Flies and Climate Change Impacts on the Flathead Indian Reservation (Poster)

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The huckleberry (*Vaccinium spp.*) has been important to both bears and the Salish people for hundreds of years. With predicted climate changes including increasing temperature, increasing variability in weather, and unknown changes in precipitation it is important to understand effects on huckleberry plants on the Flathead Reservation. In this project, we

are proposing to extend huckleberry phenology research in Glacier National Park led by Dr. Tabitha Graves to the Flathead Reservation. The USGS project aims to understand potential climate change impacts on grizzly bear food sources, a research need identified in a workshop evaluating climate change impacts to grizzly bears (Servheen and Cross 2010). Two potential impacts include 1) changes in phenology that could impact pollination rates and thus productivity and 2) the possible presence of an invasive fruit fly, the spotted wing drosophila that lays eggs in ripe fruit, and can cause the fruit to drop off early. I will use remote cameras that record pictures every day to measure the length of time individual flowers bloom and individual berries are present. This will be used to evaluate how flowering time and duration and ripe berry time and duration varies with temperature across sites that range in precipitation and solar radiation. Productivity metrics will be recorded at the peak of the berry season. All findings and conclusions will be a part of my senior thesis and will be provided to the Confederated Salish and Kootenai Tribes.