Trends in Availability of Fruit – Northern Continental Divide

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by David Mattson

These graphics show trends in forest conditions driven by wildfires in the Northern Continental Divide Ecosystem (NCDE), with implications for availability of fruit to grizzly bears. Maps (F) and (G) shows areas burned during 1985-1999 and 2000-2018, respectively. Figure (E) shows annual trends in cumulative area burned in gray. Large wildfires burned during 1988 followed by a period of stasis, followed in turn by a succession of years, 2002-2010, during which large areas burned. This latter period coincided with a sustained drought. Graphs (A-D) show relations between fruit crop sizes for huckleberry and buffaloberry relative to time since a stand-replacing wildfire (A-B) and percent overstory forest cover (C-D). The upshot is that fruit crops of both species are predictably small for roughly 20 years following wildfires, after which they peak before declining as forest cover increases. Annual trends in the cumulative area of these transient unproductive conditions are shown in (E) in burgundy, juxtaposed with the cumulative area of productive conditions in blue. Notably, the effects of wildfires have been concentrated in remote portions of the NCDE, with the probable effect of accelerating increases in distribution of grizzly bears on the periphery of the NCDE, especially along the East Front.