1-31-22

Used ArcGIS to select all lakes >= 1ha within 10km of the burn polygon. Eliminated headwater lakes (17) and lakes with >= 0% watershed burned. Also eliminated any lakes with fluctuating connectivity class (only 2 after previous eliminations). This left us with a candidate pool of 127 lakes. Next step is to cross-reference with list of lakes impacted by invasives and then possibly narrow further based on accessibility.

In this pool of 127 lakes, 37 drainage and 90 isolated

When join with LAGOS-US-DEPTH v 1.0, only 13 matches with max depth (0 with mean depth). Max depth ranged about 1-7m in these 13 lakes.

2-7-22

Further investigated pool of lakes within 10km of the burn polygon. I began with the 13 lakes with a maximum depth value (described above). I then looked in the Minnesota DNR Lake Bathymetry dataset (<https://www.mngeo.state.mn.us/chouse/water_lakes.html>), but the only matches with LAGOS were already within the pool of 13 lakes. Although there were a few other “lakes” in the MN DNR dataset with depth data, these are not considered lakes in LAGOS and we need them to be in LAGOS for the connectivity class and other ancillary variables. So, we are then back to the 13 lakes, which are considerably larger than the 24 burned lakes (had been 28, but we eliminated headwaters). With these 13 control lakes, median size was 32.9 ha, whereas the 24 burned lakes was 11.8 ha.

Presumably, we want roughly the same proportion of isolated and drainage lakes in the burned and control sets. We would also want roughly the same size distribution for both isolated and drainage lakes in both of these sets.

In the burned dataset, we have 74% drainage and 26% isolated lakes.

Ended up just randomly picking lakes in drainage vs. isolated to match proportions in burned dataset and size distributions were pretty close. Issue moving forward may be accessibility, in which case I can try to swap analogous lakes that are easier to access.