Response Variables (BRSP BBS data 2009-2013)

1. Abundance
   1. Abundance over time (5yr period)
      1. Average proportion of a route at which BRSP was observed (computed from 10-stop BBS data for each year separately, then average of the 5 annual proportions)
   2. Change in abundance (variance/co-variance of abundance)
2. Presence/absence

Landcover – ecosystem level

1. Northern Rocky Mountain Montane-Foothill Deciduous Shrubland
   1. Big Sagebrush present in WY but not dominant
2. Rocky Mountain Gambel Oak-Mixed Montane Shrubland
   1. Big Sagebrush can be co-dominant
3. Columbia Plateau Silver Sagebrush Seasonally Flooded Shrub-Steppe
   1. Big Sagebrush occasionally codominant
4. Inter-Mountain Basins Mat Saltbush Shrubland
   1. Big Sagebrush occurs in local patches
5. Inter-Mountain Basins Mixed Salt Desert Scrub
   1. Big Sagebrush can co-dominate
6. Great Basin Xeric Mixed Sagebrush Shrubland
   1. Big Sagebrush can co-dominate
7. Inter-Mountain Basins Big Sagebrush Shrubland
   1. Big Sagebrush dominates
8. Inter-Mountain Basins Big Sagebrush Steppe
   1. Big Sagebrush dominates
9. Inter-Mountain Basins Montane Sagebrush Steppe
   1. Big Sagebrush dominates
10. Colorado Plateau Mixed Low Sagebrush Shrubland
    1. Dominated by dwarf sagebrush, Big Sagebrush can co-dominate
11. Columbia Plateau Low Sagebrush Steppe
    1. Dominated by dwarf sagebrush
12. Wyoming Basins Dwarf Sagebrush Shrubland and Steppe
    1. Dominated by 4 sagebrush species (Artemisia tripartita ssp. rupicola, Artemisia nova, Artemisia arbuscula ssp. longiloba, and wind-dwarfed Artemisia tridentata ssp. Wyomingensis)
13. Inter-Mountain Basins Semi-Desert Shrub Steppe
    1. Big sagebrush present but doesn’t dominate.
14. Cultivated Cropland
15. Pasture/Hay
16. Introduced Upland Vegetation - Annual Grassland

Landcover variables (broad)

1. Shrub & Herb Vegetation (+)
2. Desert & Semi-Desert (+)
3. Agriculture & Developed Vegetation (-)
4. Introduced & Semi-Natural Vegetation (-)

Drought

1. VegDRI
   1. Vegetation stress during breeding season
   2. Change in vegetation stress across 5yr period
2. Precipitation (Winter)
   1. Change in precipitation across 5yr period

Landscape Characteristics

1. Habitat connectivity
   1. Number of patches
   2. Patch density
   3. Patch area
   4. Nearest neighbor
   5. Edge density
   6. Contiguity Index

Other variables

1. Observer
   1. Same across years?
   2. Different observers?
      1. Number of observers (1-5)