Point Weights

steppe

This AIM study was designed in order to both maximize the environmental habitats which it represented across the field office, and be able to inform our understanding of high priority management areas. The first of these goals, makes the design

| Stratum | Total Area (acres) | Prop. Area | Prop. Site | No. Sites | Plot Wt. |
| --- | --- | --- | --- | --- | --- |
| Pinion Juniper Woodland | 354,850 | 0.41 | 0.12 | 25 | 70,970 |
| Sagebrush | 211,832 | 0.24 | 0.33 | 80 | 13,239 |
| Salt Desert | 118,664 | 0.14 | 0.30 | 75 | 7,911 |
| Mixed Mountain Shrub | 61,862 | 0.07 | 0.10 | 25 | 12,372 |
| Riparian | 46,769 | 0.05 | 0.05 | 15 | 15,590 |
| Grassland | 17,867 | 0.02 | 0.02 | 5 | 17,867 |
| Other | 16,685 | 0.02 | 0.01 | 5 | 16,685 |
| Mixed Conifer | 15,338 | 0.02 | 0.05 | 15 | 5,113 |
| Ponderosa Pine | 14,716 | 0.02 | 0.01 | 5 | 14,716 |
| Aspen | 12,932 | 0.01 | 0.01 | 5 | 12,932 |

Design Weights

Under a Simple Random Sample, wherein each stratum would be un-weighed

* is the inclusion probability of each individual, i.e. the probability of a site being selected
* sample size, e.g. the number of plots
* population size, e.g. the target is geographic size of the BLM field office

Under a weighed design, wherein each stratum has an associated weight e.g. based on it’s heterogeneity

* is the inclusion probability of each individual, i.e. the probability of a site being selected
* is the weight associated with each site

| Stratum | Inference Prop. | Area (acres) | Area to Infer | Plot Wt. | Sampled | Rejected |
| --- | --- | --- | --- | --- | --- | --- |
| PJ | 0.80 | 354,850 | 283,880 | 14,194 | 20 | 5 |
| SS | 0.89 | 211,832 | 188,001 | 2,648 | 71 | 9 |
| SD | 0.88 | 118,664 | 104,424 | 1,582 | 66 | 9 |
| MMS | 0.84 | 61,862 | 51,964 | 2,474 | 21 | 4 |
| RI | 0.60 | 46,769 | 28,062 | 3,118 | 9 | 6 |
| GR | 1.00 | 17,867 | 17,867 | 3,573 | 5 | 0 |
| OT | 0.60 | 16,685 | 10,011 | 3,337 | 3 | 2 |
| MC | 0.27 | 15,338 | 4,090 | 1,023 | 4 | 11 |
| PP | 0.80 | 14,716 | 11,773 | 2,943 | 4 | 1 |
| AS | 0.40 | 12,932 | 5,173 | 2,586 | 2 | 3 |

The reporting units of Areas of Critical Environmental Concern (ACEC’s), and Wilderness Study Areas (WSA), have different management objectives relative to the remaining BLM administered surface area. These areas are intended to have ” … greater than 80 percent vegetation communities … “. These areas were not intensified units within the original sample design, rather we split them out here using the original point draw for the field office. Here we calculate the initial sample weights for them using the same approach as for the remainder of BLM land, i.e. the acreage of each stratum is weighed against a targeted proportion of sites in the region. As our sample design was initiated and completed during a period of drought (See…), we dismiss the possibilities of making temporal comparisons across the sample panels. Accordingly, we have strata within these management units which: do not have a point per year panel (i.e. cannot be sampled each year). Subsequently, we do not have the initial ability to infer across the entire acreage of each stratum within them.

| Stratum | Total Area (acres) | Prop. Area | Prop. Site | No. Sites | Plot Wt. |
| --- | --- | --- | --- | --- | --- |
| PJ | 36,832 | 0.39 | 0.12 | 3 | 22,099 |
| SS | 21,272 | 0.22 | 0.33 | 11 | 9,669 |
| SD | 14,215 | 0.15 | 0.30 | 10 | 7,108 |
| MMS | 11,924 | 0.12 | 0.10 | 3 | 7,154 |
| RI | 4,147 | 0.04 | 0.05 | 2 | 1,659 |
| OT | 2,294 | 0.02 | 0.01 | 1 | 459 |
| AS | 1,429 | 0.01 | 0.01 | 1 | 286 |
| GR | 1,175 | 0.01 | 0.02 | 1 | 235 |
| MC | 1,064 | 0.01 | 0.05 | 2 | 426 |
| PP | 785 | 0.01 | 0.01 | 1 | 157 |

## # A tibble: 6 × 8  
## # Groups: Stratum [6]  
## Stratum TotalAcres AreaInference WgtAcres PlotsSampled Plots…¹ PropI…² WghtP…³  
## <chr> <dbl> <dbl> <dbl> <int> <int> <dbl> <dbl>  
## 1 GR 1175. 1175. 1175. 1 NA 1 1   
## 2 MMS 11924. 5962. 994. 6 NA 0.5 0.0833  
## 3 OT 2294. 2294. 2294. 1 1 1 1   
## 4 PJ 36832. 24555. 12277. 2 1 0.667 0.333   
## 5 SD 14215. 11372. 1422. 8 2 0.8 0.1   
## 6 SS 21272. 15471. 1934. 8 1 0.727 0.0909  
## # … with abbreviated variable names ¹​PlotsRejected, ²​PropInference,  
## # ³​WghtPerPlot