Experimental Design

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1 Part 1 Goals:

1.1 Constrain treatment number, size and distribution in the context of permitting requirements and logistical matters.

1.2 Conduct power analysis for deliverables based on proposed experimental design, inventory practices and preliminary data.[1]

2 Part 2 Goals:

2.1 Constrain experimental design based on expected mulch volume, permit limits for fill and effective mulch depths

2.1.1 Estimate total volume of invasive plant biomass on spoil ridges

2.1.2 Estimate area corresponding to 25 cubic yards of fill in treatment ditch

2.1.3 Estimate depth of remaining mulch spread onto ridges

2.1.4 Propose scenarios for removal

3 Part 3 Goals:

3.1 Assess adequacy of proposed vegetation inventory elements:

3.1.1 Element 1: plot size

1. Impact on biomass estimation error
2. Impact on seedling diversity estimation error

3.1.2 Element 2: plot distribution per treatment

1. Impact on removal / mulch treatment effect estimation error

[1] Do both 1 & 2 using annotated code in a version controlled format