PHASE 1

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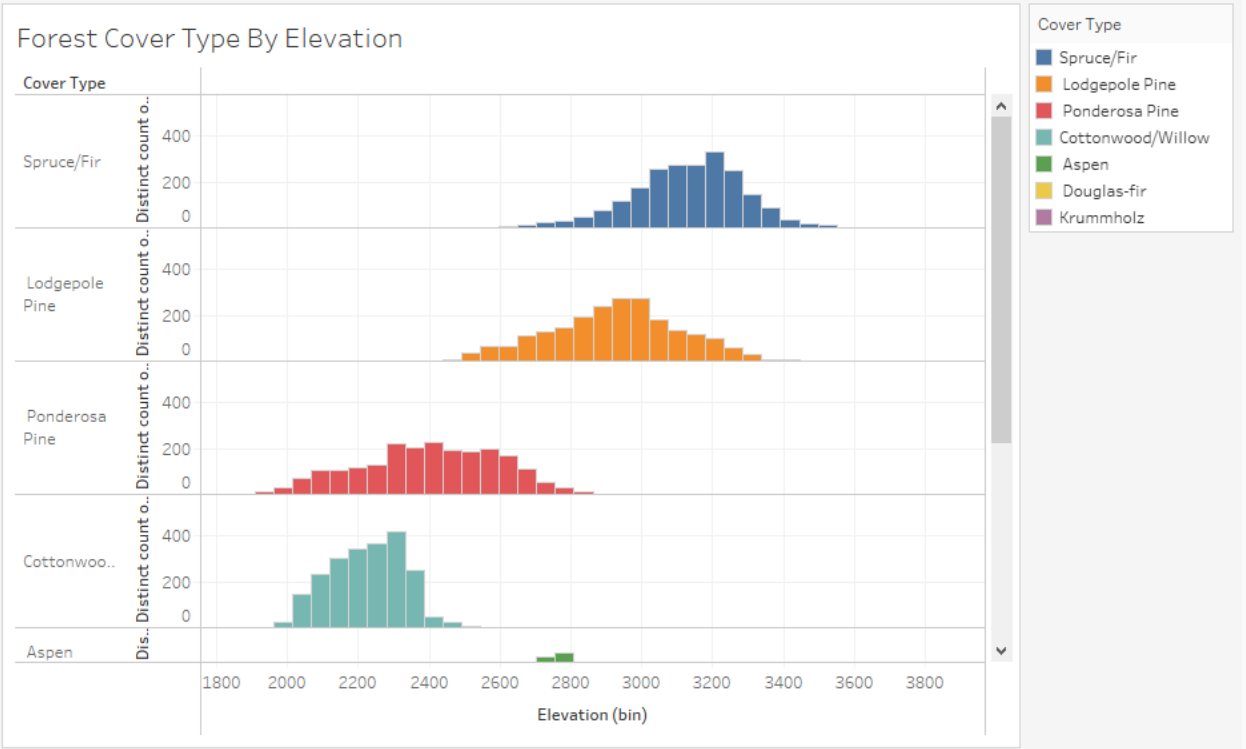
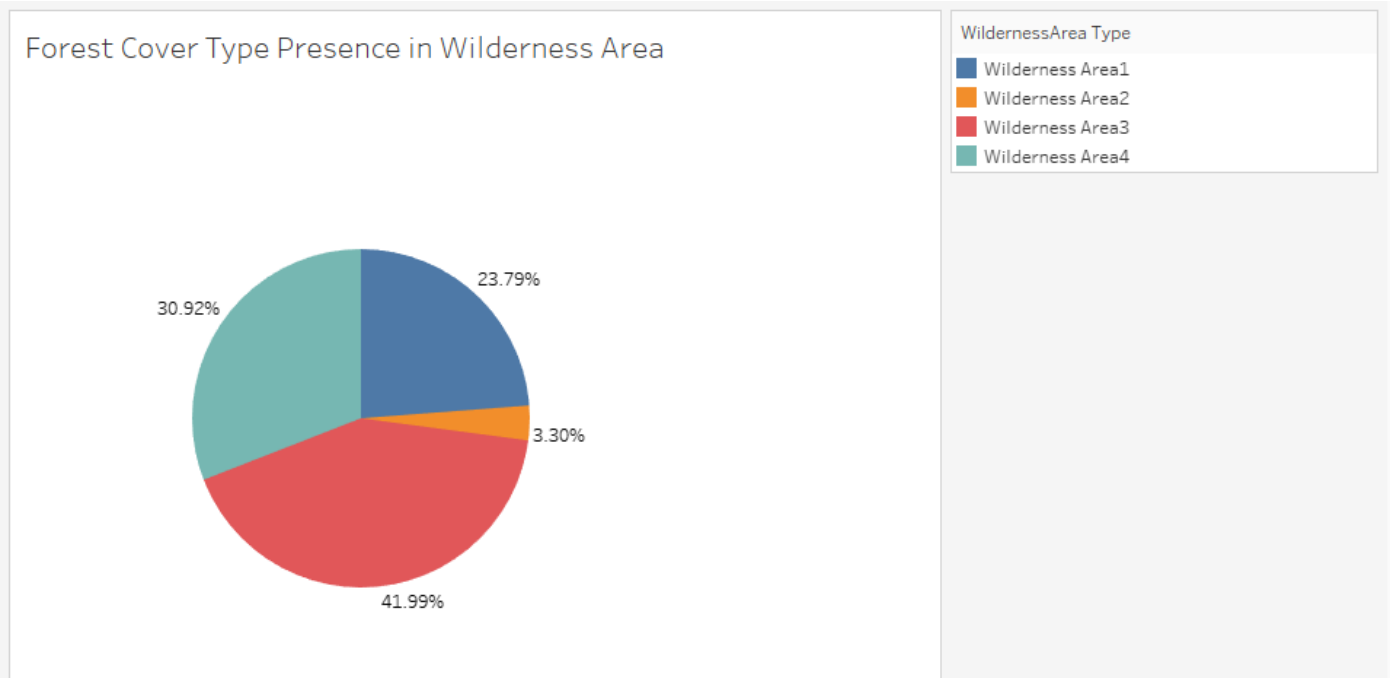
1. **Forest Cover Type By Elevation:**



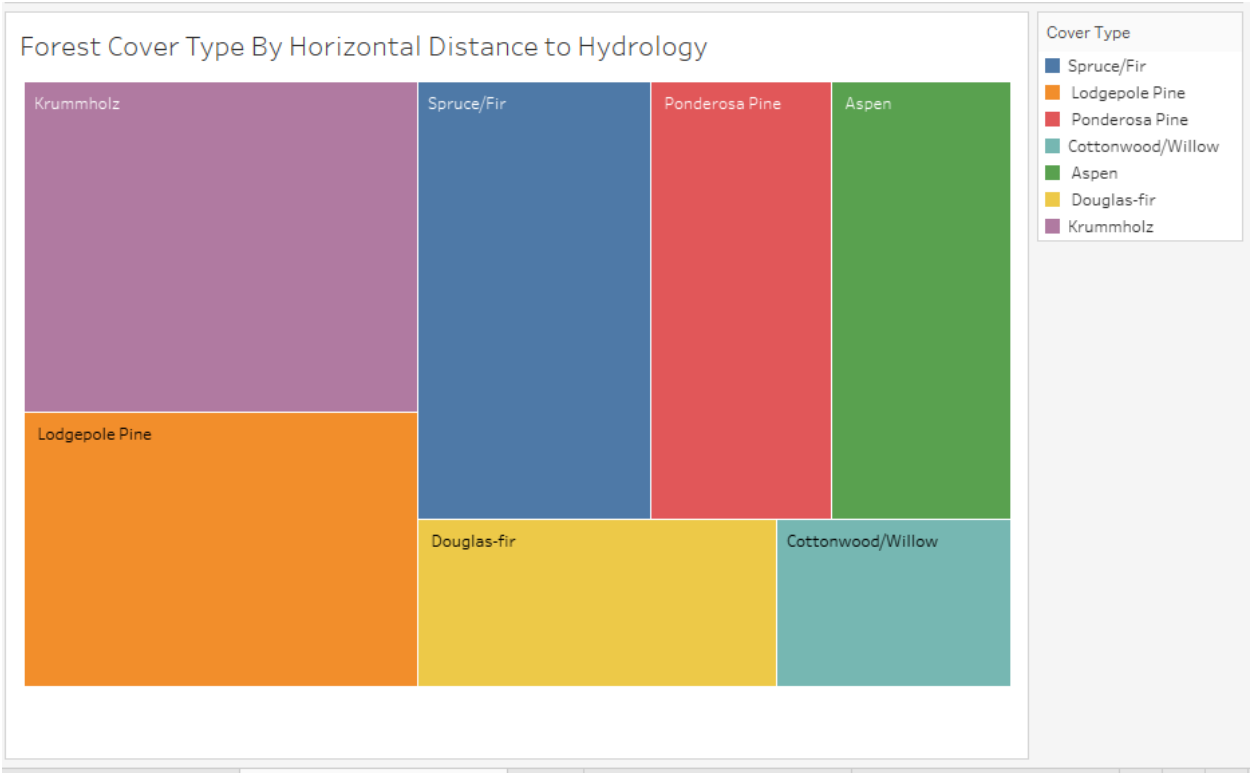
Spruce/Fir cover types are more prevalent in higher elevations and Cottonwood/Willow in lower altitudes. We could infer that Spruce/Fir trees can survive in harsher conditions where the elevation is high and temperatures are lower, while Cottonwood/Willow trees thrive in regions of lower altitude with higher humidity levels.

2. Forest Cover Type Presence In Wilderness Area



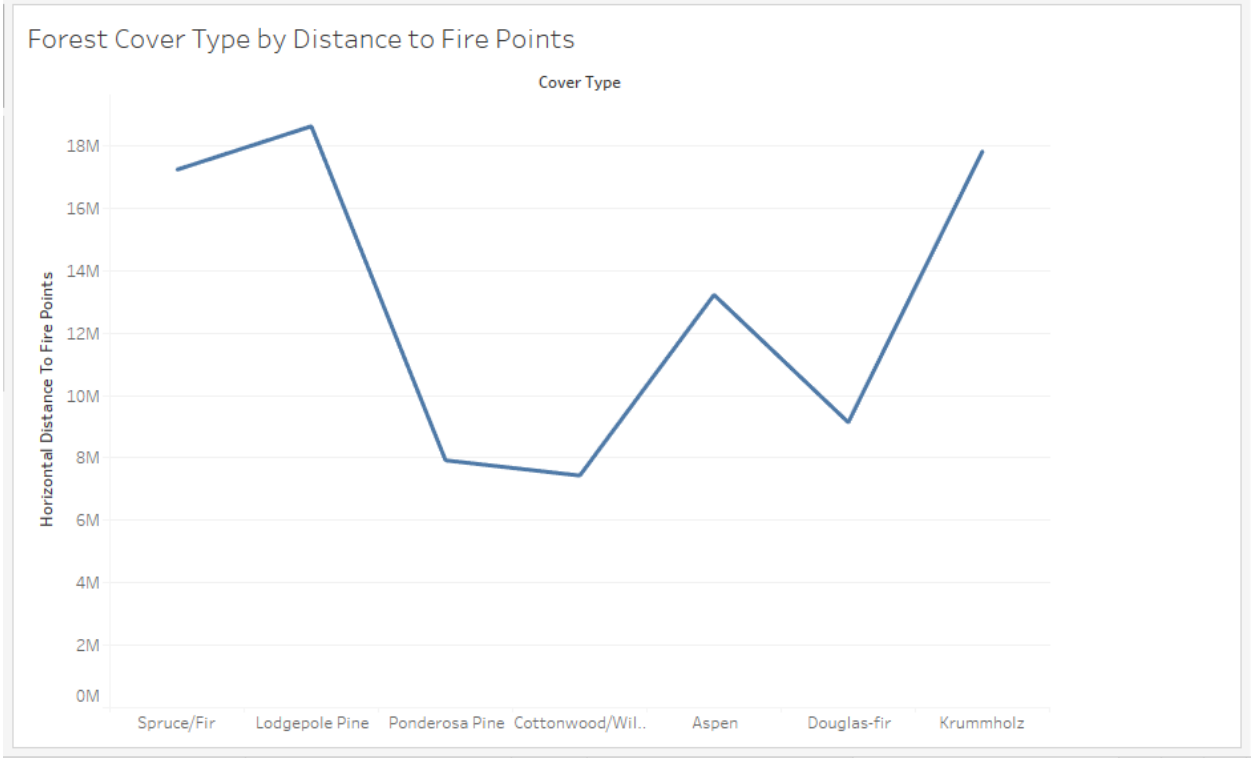
From the visualization above, Wilderness Area 3 has the most number of samples whereas Wilderness Area 2 has the lowest number of samples. During our analysis, we expect most of the forest cover types to fall into either Wilderness Area 1 , Wilderness Area 3, or Wilderness Area 4. We could conclude that Wilderness Area 2 is an uncommon wilderness type e.g. desert or tundra.

3. **Forest Cover Type By Horizontal Distance To Hydrology:**



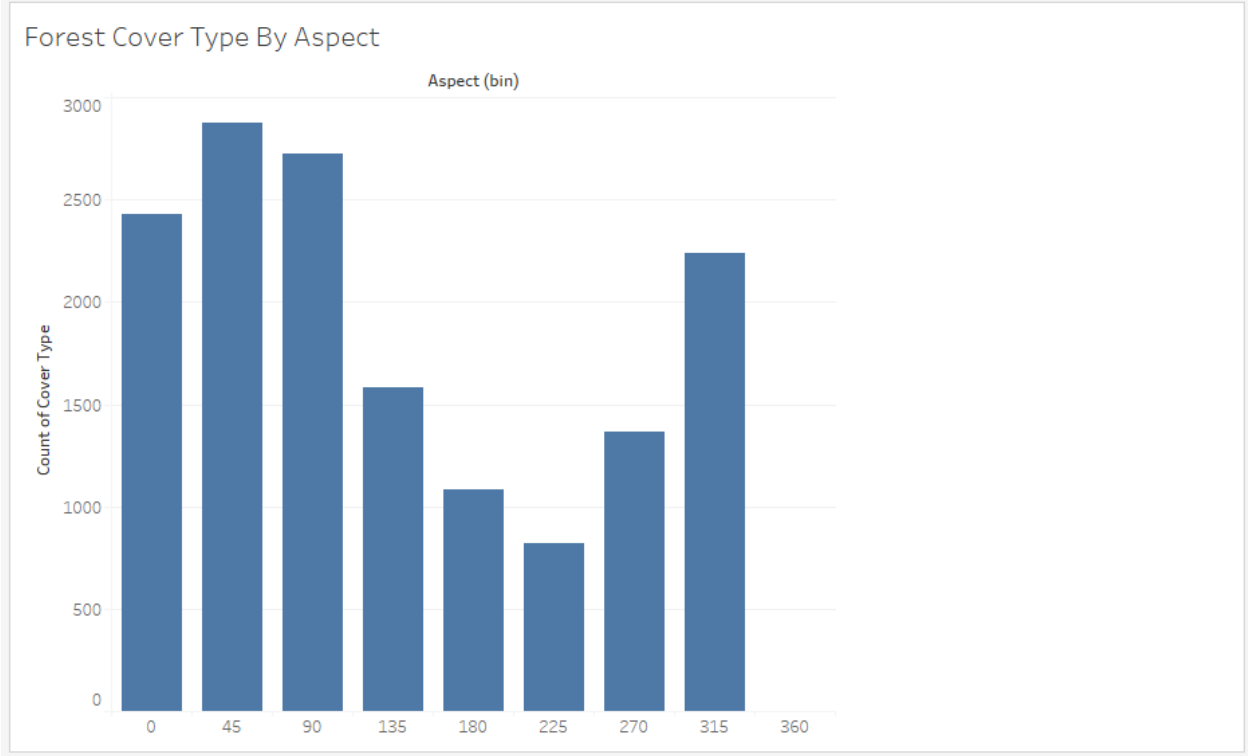
The horizontal distance to hydrology is highest for Krummholz and lowest for Cottonwood/Willow forest cover types. We can infer that Krummholz and Lodgepole Pine trees can grow farther away from water bodies whereas Cottonwood/willow and Douglas-fir are more present nearer to lakes, rivers or reservoirs.

4. **Forest Cover Type By Distance To Fire Points:**



The horizontal distance to fire points is highest for Lodgepole Pine and Krummholz and lowest for Ponderosa Pine and Cottonwood/Willow forest cover types.We can deduce that most Lodgepole Pine cover type is farthest away from fire points perhaps due to how prone they are to spreading wildfires whereas cottonwood cover types are relatively less flammable.

5. **Forest Cover Type By Aspect**:



The forest species are predominantly grouped in North East (0-90 Degrees) facing direction transitioning decline in the middle aspect range of Southern (135 - 225 Degrees) facing direction.There is gradual increase in trend in range of North West (270-360 Degrees) facing direction. From this it could be inferred that, species are predominant in north facing slopes as it receives lesser amount of sunlight which help them to retain moisture and are more humid. On the contrary, south facing slopes receive direct sunlight and are warmer and drier making it difficult for species to survive for long.