Co-occurrence mapping is a technique that involves several map layers, each layer highlighting a different set of features. These map layers are then overlaid to make one, combined map. This combined map can then be used to see where different features co-occur. The map is labeled with a color gradient, making the areas with a greater number of co-occurrences darker, and an area with fewer co-occurrences lighter. For example, if a co-occurrence map was examining the co-occurrence of unfragmented lands, wetlands, and threatened and endangered species habitat, the areas that contained all three of these features would be the darkest, and the areas that contained none of these features would be the lightest. If it is desired, one or more layers can be weighted so they appear darker on the final map.

Based on input from ASLPT, the students in the Third Year Project came up with the following co-occurrence layers and values.

- Public Drinking Water- (4) The features of this layer have an impact on all residents.
- Ecologically Important Lands- (5, 4, 3, 2, 1) These features were weighted due to the amount of variation within the composite.
- Unfragmented Lands- (5, 4, 3, 2, 1) This layer was weighted based on parcel size.
- Agriculture- (5) This layer was given a high ranking because of the scarcity of farms in the area.
- Scenic Resources- (1) This layer was given a low ranking because the definition of a scenic view is very subjective.