

Criteria:

- Greater than 75 bird and mammalian species combined
 - Less than 10% of each study area occupied by roads, highways, and interstates
 - High habitat potential
 - Publicly owned land
 - Forested areas
 - Slope less than 15%
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1. High habitat potential

1. Convert Species Richness to raster data =>Habitat_grid
2. Reclassify – 2 classes, equal interval [0= low, 1=high]

2. Publicly owned land

1. Convert Ownership to raster data => Land_grid
3. Reclassify – 2 classes, equal interval [0=Private lands, 1=Public lands]

3. Forested areas

1. Dissolve Landuse.shp =>Landuse_dslv
2. Reclassify => Equal Interval => 2 Classes [0=non-forested lands, 1=forested lands]

4. Greater than 75 bird and mammalian species combined

1. JOIN table to StudySites.shp using BLOCK_ID
2. Make new field in attribute table: TotalSpecies
3. Recalculate field: TotalSpecies = Birds + Mammals
4. Select by attribute in StudySites.shp and query for TotalSpecies > 75
5. Export data layer => RichSites.shp

5. Less than 10% of each study area occupied by roads, highways, and interstates

1. Add field BuffDist to Roads layer
2. Select by road type: Roads and buffer at 20 meters
3. Select by road type: Highways and buffer at 50 meters
4. Select by road type: Interstates and buffer at 100 meters
5. UNION Roads layer with RichSites =>RoadRichSites
6. Convert RoadRichSites to raster data
7. Dissolve RoadRichSites based on BuffDist field => RoadRichSites_dslv
8. Add new field = AreaBuffDist
9. Calculate values by using the following VBA code:
Dim dblArea as double
Dim pArea as IArea
Set pArea = [shape]
dblArea = pArea.area
10. Add new field = PercentArea
11. Calculate by using ratio of AreaBuffDist / Area

12. Reclassify PercentArea field => Equal Interval => 2 Classes => [0>10%, 1<10%]

6. Slope less than 15%

1. Create a Hillshade file of the elevation layer and make transparent (to be viewed later with selected sites overlaid)
2. Create a Slope file from the elevation grid – spatial analyst function->surface analyst->slope command
3. Reclassify -> Equal interval ->Classes = 2 ->Values [0-14.99999% = 1, 15%-top number =0]
4. Save grid as Slope_grid

7. Calculate Raster Layers Together

1. Multiply the following grids together: Habitat_grid, Land_grid, Landuse_dslv, RoadRichSites_dslv, Slope_grid and I think that should do it! (I think!)