NRM 140 NRCM Project
Fall 2011

Use the aerial image and forest and stream data provided to complete the following

1. Develop a habitat suitability evaluation (HSI index) for TWO species found in this region (choose 2 different types of species….1 mammal, 1 bird, or 1 edge 1 interior species)

http://el.erdc.usace.army.mil/emrrp/emris/emrishelp3/list_of_habitat_suitability_index_hsi_models_pac.htm

$$HSI = [(V1 + V2 + V3 + V4.....)/n]^{1/n}$$

2. Based on landcover conditions apply the HSI model to the general campus area shown

   - TOTAL HSI = HSI x Proportion of Total Area (i.e. if you have a score of 0.9 but this only applies to 70% of the study area then your overall species HSI is 0.7*0.9 = 0.63)

3. Identify areas where specific (and realistic) management steps could be taken to increase the overall conditions for each species and indicate specifically where these are on the aerial photo

Options include but are not limited to……

Alter human land use
Selected thinning of trees
Create snags (i.e. by girdling selected 'non desirable' species such as red-maple)
Restoration of 'natural' conditions i.e. by replanting of native vegetation

TURN IN (By Friday December 9th at Noon). Hardcopy ONLY.

A (TYPED) 500-750 word report 1-2 pages including:

Explanation of HSI results for each species
Identification and justification of proposed management steps and expected increase in HSI values

PLUS……

A map of the area indicating HSI conditions and proposed management areas

A flow chart detailing HSI model criteria and cutoff values for each species

Basic Steps in Creating a Habitat Suitability Model

1. Determine species critical habitat needs in your area
2. Determine most and least ideal conditions for each
3. Score most ideal conditions 1.0 and least ideal conditions 0.0
4. Determine cutoff values for intermediate scoring (0.25, 0.50, 0.75 etc.)
5. HSI = geometric mean of habitat variables based on field data collected for specific sites
6. Determine the proportion of management/study area meeting various HSI score requirements and
7. Overall score equals the original HSI * Proportion