

Habitat Team - Assignments and Schedules
Herbivore Ecology
Fall 2006

Assignments:

1. Literature Research. The first step in any research project is to investigate the methods that are commonly used, or that have been used successfully in the past. You will be responsible for developing the statistical methods of analysis of the data we collect, and will be responsible for making recommendations for changes in the protocols of sampling as part of your final project. However, we already have decided on the protocols for this year (to save time and get the project going), although we might alter some of the methods slightly as we go. Nevertheless, we need to investigate the statistical necessities of the sampling protocol (i.e., how to compute densities from nearest individual plotless methods, and how to compute the variances for these estimates). We will be using plotless methods for our estimates, as alluded to above, and this will include the density of plants in the habitats we visit, and the density of stems within plants. You may start investigating the plotless methods from the papers by Engeman et al. 1994 and Liu 2001 (Engeman 1994, Liu 2001).

2. Software Development: One of your team's duties will be to interact with Dr. Mock's Software Engineering team, who will be responsible for developing the software that will run your new computerized plotless distance habitat survey instruments. The time and date for meeting with his group will be determined in the near future, and the schedule for training on the instrumentation will also be scheduled soon.

3. GIS Work. I will attempt to snag a copy of ARC-GIS for the lab computer, and this will be available for your use on the Habitat Project. One or more of the Habitat Team members may wish to delve into this job, to create and update maps of vegetation types, sampling locations, mapping chores, etc. For those of you who already are familiar with the software, you are aware of its powerful capabilities, and its wide applicability in the field of Ecology and Natural Resource Management.

For those not familiar with its use, we will arrange for training or working sessions on the software with the Forest Service personnel. You may wish to get together and decide on dates and times for training and use of the Forest Service' facilities with the Forest Service

Collaborators:

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4. Field Work: We have three scheduled field trips at the present time:

Sept. 15-17. Placer Valley Trip. Meet outside Science Building at 10 AM on Friday. We travel to Girdwood where we will meet up with Bridget Brown, and then to the whistle-stop at Portage Valley, where we will board the train for Spencer Lake at 1 PM. We will set up camp at Spencer Lake, and have some time to begin training that afternoon. On Saturday, we will spend the majority of our time sampling moose habitat in the Spencer Lake area. On Sunday, we plan to float the Placer River to the Seward Highway Bridge, sampling moose habitat down the valley as we go. We plan to be out of the river, and heading to Anchorage by about 2 PM.

Prior to this trip, we will need to meet and discuss food and equipment needs, and begin training on the computerized sampling tools. I suggest we set a date and time to meet via email in the next few days.

Sept. 29-Oct. 1. Essentially a repeat of the trip on the 15th, except we plan to move our tame moose into Placer Valley at this time. Hence, travel into the valley, and work on the 29th will depend on the logistics of moving the moose (ie., when we leave, how we will get up the valley, etc. Friday afternoon, we will probably all be involved in the construction of the moose pens in the Spencer Lake area, and getting the moose moved into their temporary new home. Saturday and Sunday will probably be very similar to the previous trips itinerary.

Oct. 6-8. Similar procedure, although we will all be involved in monitoring the tame moose behavior, and tracking in on wild moose for vegetation sampling. We will again float out on Sunday the 8th, and collect more habitat and moose location data.

As I mentioned earlier, the two habitat teams do not have to go out on every occasion. I want two full crews working each trip, but I will be along, and at least one member from one of the other teams can come out to help us. Hence, individuals should plan on going out 2 of the 3 weekends. If you really want more field time, you can also go out during other trips with the FS crews – contact Bridget Brown to arrange the details. I encourage this, but do not require it. I realize you have other classes and activities you have to participate in during Sept.

Engeman, R. M., R.T. Sugihara, L.F. Pank, and W.E. Dusenberry. 1994. A comparison of plotless density estimators using monte carlo simulation. *Ecology* **75**:1769-1779.

Liu, C. 2001. A comparison of five distance-based methods for spatial pattern analysis. *Journal of Vegetation Science* **12**:411-416.