

Department of Civil Engineering
2011 Summer Semester
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Environmental Statistics

Outline #11 Nonparametric method & diversity measure (20 June 2011)

1. Overview of nonparametric methods

- Mann-Whitney U-test

2. Replication and pseudoreplication

3. Diversity measure

1) Biodiversity

Definition, three levels, α -, β -, γ -diversity

2) Concept of species diversity

Species richness, Evenness, Heterogeneity

3) Species richness measure

Rarefaction method, Jackknife estimate, Bootstrap procedure,
Species-area curve

4) Common indices for species diversity

Simpson index, Shannon index

4. Exercise (11-1, 11-2)
