

How Grain Size Corresponds with Human Habitation

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Introduction

- Site in South Inlet Park, Boca Raton, Florida on a Barrier Island
- Area known for prehistoric human habitation¹
- Human activity may alter grain size
- Study to see if grain size changed during human habitation
- Two excavation units (Unit 1 and Unit 2) were excavated during the summer of 2018

Methods

- Sediment was collected from each 10 cm layer in the excavated unit (e.g. Figures 2 & 3)
- Measured 208.0 g of wet sediment from the selected level
- Dried sediment in oven overnight at 50.0 Degrees C
- Weighed dry sediment and recorded data
- Placed sample in the sieve set
- Sifted the sediment for 15 minutes
- Weighed the sediment based on size and recorded the weight
- Divided each weight by the total for relative weight²



Figure 1: Sieve set used to separate the sediment by grain size

Discussion

- Unit 1
 - Pre-human habitation the grain size is larger (levels 8-10)
 - During human habitation (Feature 1) and afterwards grain size decreases
 - Grain size increases again in the relatively recent sediments (levels 1-3)
- Unit 2
 - Grain size is largest in the oldest sediments (levels 8-10)
 - Grain size again decreases in levels where artifacts were presents (levels 4-7)
 - Grain size increases again in the recent sediments (levels 2-3)
- Generally grain size decreased during times of human habitation, indicating that humans altered the sediment characteristics

Works Cited

- ¹ Endonino et al. (2009) Data recovery excavations at the Boca Raton Inlet Midden 3 Site, 8PB6, Palm Beach County, Florida, FDHR Project No.: 2007-0999, Report
- ² ASTM D 422-Standard Test Method for Particle Size Analysis of Soils.

Results



Figure 2: Photo of Unit 1 during excavation. There is an abrupt change in the color as the depth increases.



Figure 3: Photo of Unit 2 during excavation. There is a gradual change in color as the depth increases.

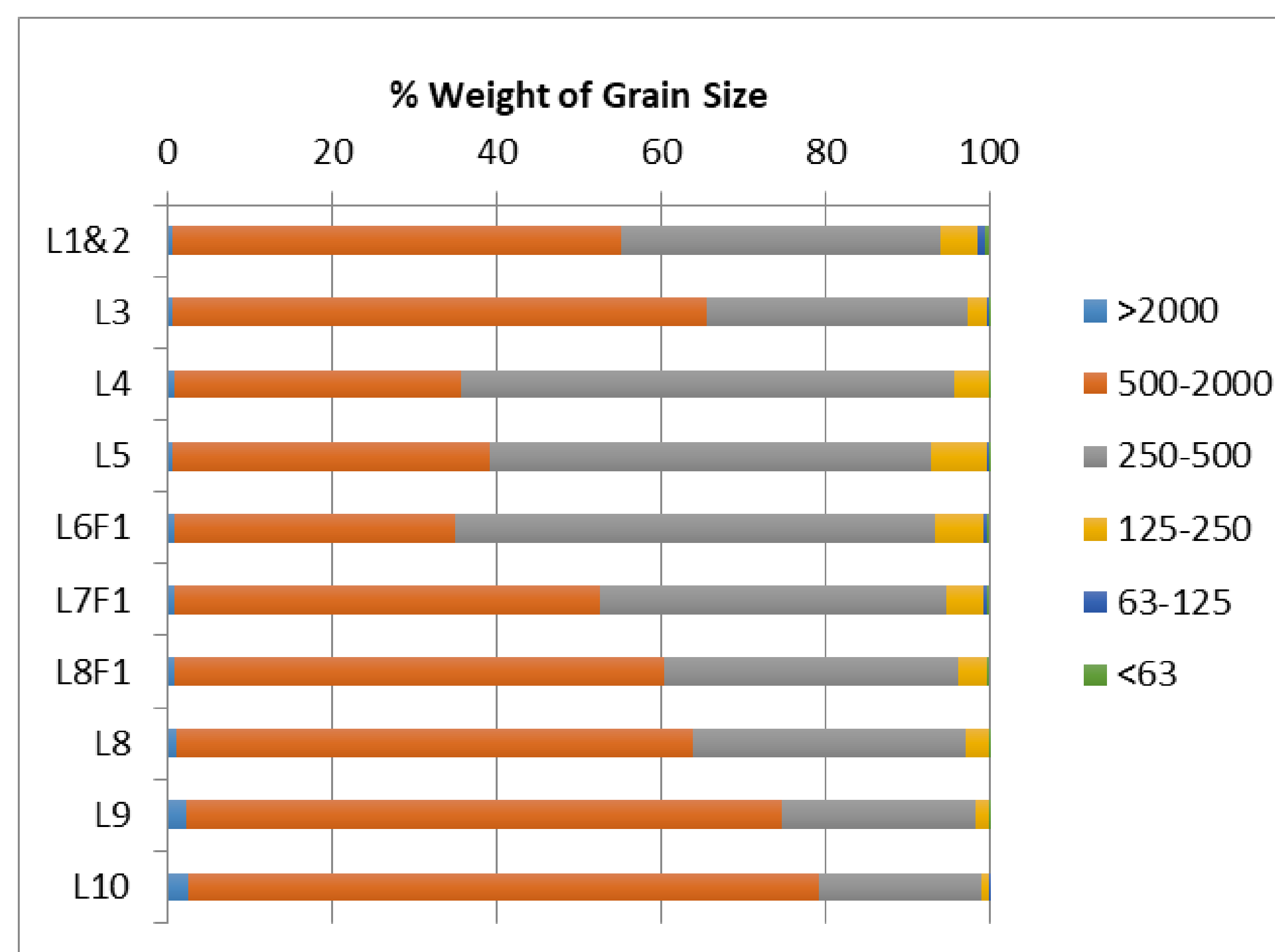


Figure 4: The results of Unit 1 show larger grain sizes in the deeper levels, below the feature, and smaller grain sizes in the upper levels, in the feature and above.

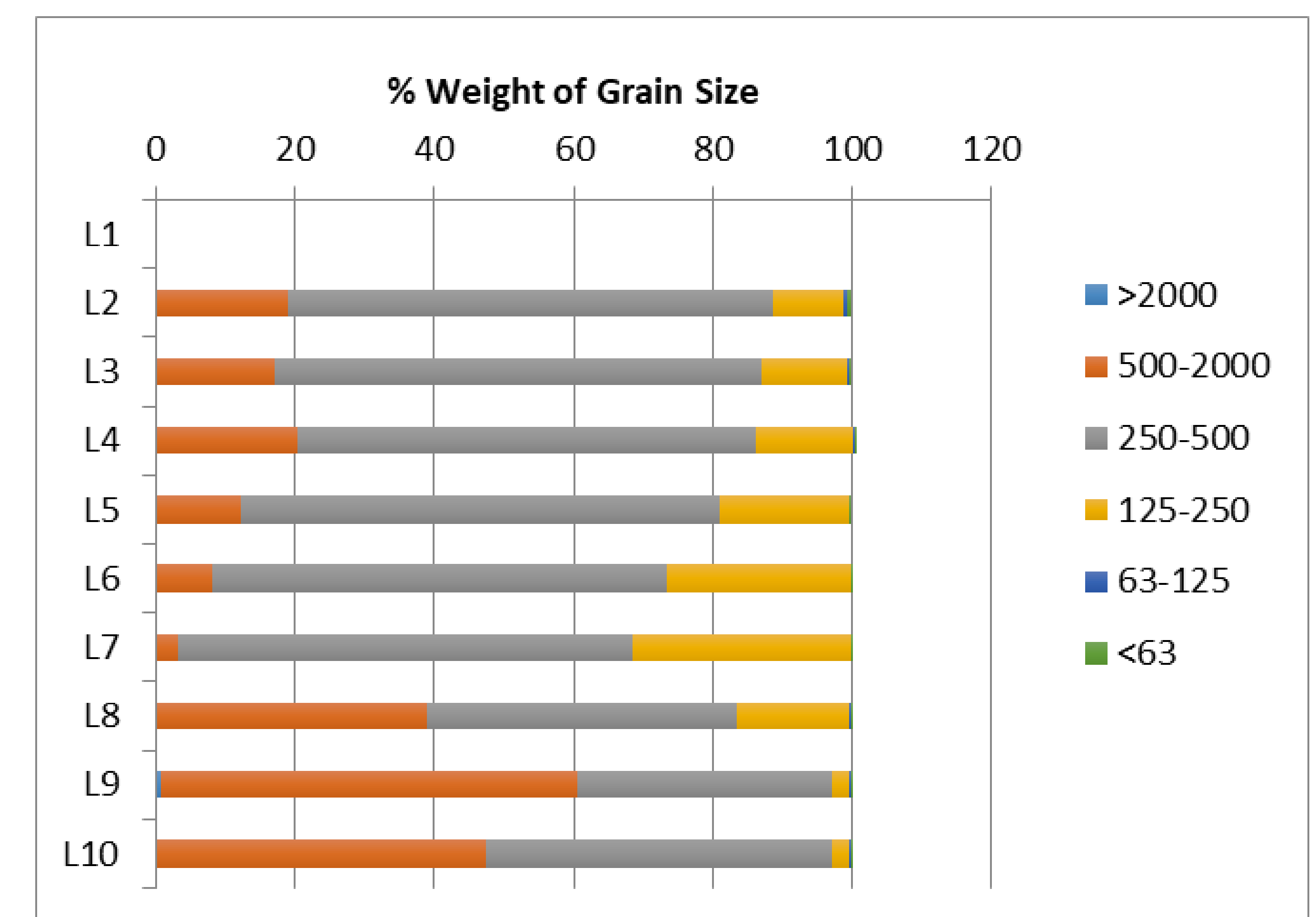


Figure 5: The results of Unit 2 show more smaller grains in the top levels, level 7 and up, and bigger sizes in the lower levels, levels 8-10.