sediment in zone 3 (D_{50} = 0.68 mm) substantiated the presence of larger grain sizes there. When the lagoon widens rather abruptly into zone 4, the flow velocity decreases to 0.1 to 0.2 m/sec. This decrease allows the finer grains to deposit in this region. Qualitative analysis of the sediment in zone 4 substantiated the presence of fine grain sizes here. In addition, calculated volumes of erosion and deposition shown in Fig. 3.15, indicate that the volume of sediment scoured from region 2 (N-2 = 1,500 m^3) was of the same magnitude as that deposited in zones 3 and 4 (S-2 = 2,300 m^3). These observations support the hypothesis that the erosion of sediment from zone 2 serves as the source of sediment deposition in zones 3 and 4.

Zone 5: At all stages of flood flow, sediment is transported into the inlet. In regions of higher flow velocity, only the larger particles are deposited; as the flow velocity decreases, finer particles begin to settle out. This phenomenon is the primary factor in determining the characteristics of the sediment found in zone 5. Maximum velocities measured in the model 15 to 30 m off the south shore of the inlet correspond to values of 0.50 to 0.80 m/sec in the prototype. These velocites and the flow vortices they create near the shoreline along with the previously mentioned wave action (Section 3.2) are of sufficient magnitude to scour the finer sediments from the south shoreline, and deposit them at locations further west within the inlet area. Some of this finer sediment is redeposited along the south shoreline during ebb flow but volume calculations (Fig. 3.15) and field observations indicate a net state of erosion in zone 5. Analysis of sample number 5 (Fig. 2.13), taken from the beach area of zone 5, gave a mean grain size of 0.62 mm. This relatively high value of grain size implies that the finer sediments have been gleaned from this zone.