

Figure 33(a)-6 Siesta Key Sediment Budget based upon 50:50 Sand Allocation Plan

Note:

1. Volume changes are based on alongshore distance of 8,400 ft (R-70~ R78) at Siesta Key.
2. The annual volume change rate (-39,100 cy/yr) is based on post closure rates (1985~2001), which are represented the highest erosion rate to apply to post-project developing littoral transport.
3. Due to insufficiencies of the beach profile survey data (i.e. hydrographic survey data), volume changes are estimated from the shoreline change rate by the empirical conversion factor (1.5) from the shoreline change (ft/yr) to annual volume change rate (yd<sup>3</sup>/yr).

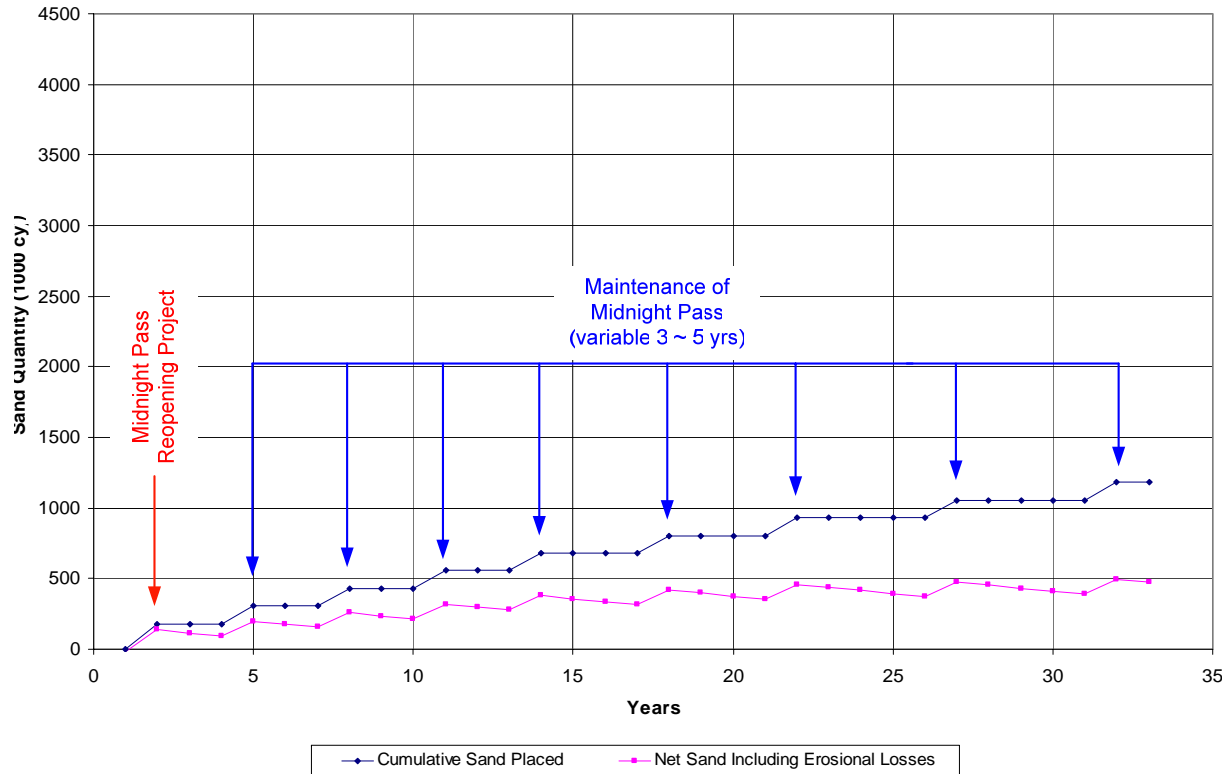


Figure 33(a)-7 Casey Key Sediment Budget based upon 50:50 Sand Allocation Plan

Note:

1. Volume changes were based on alongshore distance of 1,100 ft (R-79~ R89) at Casey Key.
2. Due to insufficiencies of the beach profile survey data (i.e. hydrographic survey data), volume change estimates are based on shoreline change assuming as the empirical conversion factor (1.5) from the shoreline change (ft/yr) to volume change rate ( $\text{yd}^3/\text{yr}$ ).
3. Because it seemed the ebb shoal be transported to Casey Key after the closure of Midnight Pass (1984), the ebb shoal volume need to be excluded to compute the annual volume change rate in Casey Key. The method to estimate the annual volume change rate ( $-21,000\text{cy}/\text{yr}$ ) is that the equilibrated ebb shoal volume (0.63 MCY) which was predicted by Hine (1982) for the pre-closure Midnight Pass, is subtracted from the total cumulative volume for 16 years (1985~2001) and converted to the annual volume change rate.