PART VIII

SUMMARY AND CONCLUSIONS

Summary

Dredging and other engineering alterations to the nearshore system have the potential to cause physical and biological impacts to the natural beach, dune and sand-sharing system that are both extensive spatially and long lasting over time. The physical impacts generally occur due to the interference with the natural sand transport system. In cases where sand is removed from this system, the inevitable result is erosion - only the distribution is unknown. In other cases where sand is trapped (perhaps by groins) or prevented from entering the system (by coastal armoring), the total amount of sand in the system remains the same but is redistributed; thus there are localized areas of relative deposition or stability and erosion. The biological impacts are generally closely related to the quality of sand used in beach nourishment projects and the large magnitudes of alterations that can place the system out of balance to a degree that the biota may not be able to adapt. Examples include the use of fine sediment that could impact offshore reefs or result in a beach too compact for turtle nesting.

In particular instances where the natural system is out of balance due to prior engineering actions, beach nourishment with high quality sand can be beneficial by restoring the natural balance in the physical and biological systems.

Conclusions

Within the general policy of the National Park Service to maintain systems in their natural condition, each situation should be considered on a case-by-case basis recognizing that systems may be impacted by prior engineering alterations and that some engineering activities such as sand by-passing and beach nourishment can exert a beneficial impact on both the (altered) physical and biological systems.

Where systems are in their natural state, the general policy of maintaining this natural state is appropriate and consistent with the NPS mandate as stewards