



## MANIFEST Software to Facilitate Collection and Transfer of Nesting Beach Survey Data

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**MANIFEST (Mote's Automated Nesting Information Forms for Sea Turtles)** is a computer program designed to facilitate the collection and transfer of nesting survey data for Mote Marine Laboratory's Sea Turtle Conservation and Research Program. Software development and field testing were completed in 2007. Mote's sea turtle nesting survey datasheet was inputted into fourteen screens through MANIFEST on an HP IPAQ RX19955 Pocket PC requiring Microsoft .NET Framework. The host portion of MANIFEST leveraged Microsoft ActiveSync to coordinate the transfer of data collected from the handheld device to the master database. MANIFEST also handled the uploading of previously entered nesting data to the handheld device to be used on the beach for excavations. Future developments include: map-based selection of nesting locations, summary mapping of a season's nesting activity and upgrade of the application to address next season's data points. Due to the specific nature of the data, the MANIFEST applications are currently tailored solely for Mote Marine Laboratory; however other projects could use this as a starting framework for their own data entry. MANIFEST is freely available for download and testing at [www.turtlegeek.com](http://www.turtlegeek.com).

Data is collected in the field, but instead of paper, our datasheets now appear on a handheld device...



...which fits easily in the palm of your hand.



The handheld is then plugged directly into the computer.



Once plugged in, two screens appear.



A close-up view of the screens. Top: ActiveSync connects when the handheld is cradled. Bottom: The MANIFEST host program coordinates the transfer.

Finally, just click the "download" button, and all of the datasheets entered for the day are instantly appended to the master database.

**Conclusions:** Using MANIFEST-style software with handheld computers can save time and effort on beaches with high sea turtle activity densities. While all software required to download is free, the handheld itself is priced from \$250-\$300. Since MANIFEST is based off of a Windows platform, any other handheld device with a Windows Mobile 5.0 operating system could theoretically work, although they have yet to be tested. While only one device was field tested this year, we look forward to obtaining additional devices for use in upcoming seasons.

Below are 17 screen shots of MANIFEST. The first three are summary pages and the following 14 are data entry pages.



\*Although this program can assist in ease of data entry, it is still recommended that hardcopy datasheets are kept for both archival use and as backup until the you have thoroughly tested the software.