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GLOBAL POSITIONING SYSTEM (GPS)

I.   General

This receiver is unable to be differentially corrected using local signals without the addition of an auxiliary correction unit. This unit is ultimately capable of accuracy down to ±15 meters; however, the government scrambles these signals for military security reasons, which reduces the effective accuracy of the unit to between ±25 and ±100 meters. Therefore, we will use the unit simply as a guiding tool to identify the general location of subsamples within macrohabitats.

II.   Materials & Methods
    A.   Equipment - Magellan™ NAV 5000DLX™ GPS Receiver
    B.   Calibration - Initialization
        1.   The unit is simply a signal receiver and requires no calibration.
        2.   Calibration of signals is performed continuously by the U.S. Air Force.
        3.   Format the coordinate system by declaring Lat/Long in the setup mode.
        4.   Format the Map Datum by declaring WGS84 in the setup mode.
        5.   The unit only requires a simple initialization before its first use, but retains the information for subsequent usage.
        6.   Follow the instructions in the Under Guide to prepare and initialize the unit.

III.   Procedure
    A.   Operation of the receiver should be performed as stated in the User Guide or the more totable, laminated Field Card.   (*If receiver breaks* - Make note in comments section of data sheet and record coordinates based on a map.)
    B.   Record position at the approximate midpoint of each subsample.
    C.   Coordinates will be reported in Lat/Long format using the WGS84 map datum
        1.   Report a coordinate as degrees (000°), minutes (00'), and seconds (00")
        2.   All coordinates in our study (and hemisphere) are N latitude and W Longitude. Reporting of direction (N,S,E,W) is therefore not necessary
    D.   Keep in mind when reporting coordinates that our unit has an inherent error of as much as ±03 seconds (approximately 100 meters).
IV.   References
    A.   Magellan GPS NAV 5000DLX™ User Guide. 1994. Magellan Systems Corporation, 960 Overland Court, San Dimas, CA 91773

B.   Magellan GPS NAV 5000DLX™ Field Card (laminated). 1994. Magellan
          Systems Corporation, 960 Overland Court, San Dimas, CA 91773

Prepared by: _____

                                                      Bradley Young
                                                      Graduate Research Assistant
                                                      SDCFWRU

Approved by: _____

                                                      Charles R. Berry
                                                      Unit Leader
                                                      SDCFWRU

                                                      _____

                                                      Linda Sappington
                                                      Quality Assurance Officer