Final Report

* **In cooperation with the NPS key official, design a set of efficient and user-friendly data collection software applications which will record at least the non-text based fields from the data forms and store them in a format which allows simple and efficient transfer to a spatial database.**

Designed application using Pendragon Forms software version 5.1 which recorded data into a Palm handheld. The data on the Palm handhelds was then synchronized to Access database on semi-rugged TufTab tablet computers and then field crews copied the Access file each evening to a rugged USB thumb drive. The final version of this Access database, “FORMS32k.MDB’ is included on CD with this report. Please note that Pendragon Forms software needs be installed on a computer in order to properly view/edit this database application.

* **In cooperation with the NPS key official, test the applications to assure that they are recording appropriate data in an accurate and efficient manner.**

Based on design requirements and feedback from NPS official and field crew, reasonable amount of in-house testing was completed.

* **Create a method for synchronizing data in the handheld computers to a larger database on either a portable computer or an office desktop computer.**

Pendragon Forms software could be configured to allow data collected on Palm handheld to be synchronized with an Access database that was stored on a tablet computer.

* **Take comments from GRCA staff and, if necessary, modify the field data collection applications and synchronizing applications in order to refine their functioning.**

Received timely feedback on application design and any application errors which were corrected in a new application version and given to NPS official.

* **Create draft and final reports describing the programming used to create the applications and provide the code used in the applications.**

Created screenshots of application as seen on Palm handheld which were later used as training documents (included in this report). Created charts for all application forms explaining the details of all data recorded and any code (i.e. scripts) used with each field value (included in this report).

* **Prepare for and give a one- to two-day workshop on the applications for field crews in the spring of 2008 to ensure that the primary users of the application fully understand its functioning.**

Gave workshop to field crew and NPS officials at NPS Meadview office, February 2008.

* **Prepare for and give a short (30-min) presentation on the development of the applications and their functioning to upper-level GRCA management staff.**

Gave presentation to NPS staff at Science and Resource Management Center, South Rim, June 2008.

* **Provide experienced field crew for up to three separate days of field testing of drafts of the field data collection applications to assure that they are recording appropriate data in an accurate and efficient manner.**

After modification to the original agreement, field crew were paid to “field” test application for further feedback on application design which was this incorporated into new application versions. This testing phase also allowed field crews hand-on time to get familiar with the application before field season.

* **Include the reviews and responses to the reviews in the draft final and final reports for the original agreement (NAU – 1610).**

Reviews and responses are included in this report.