Data Management and Data History

After sampling is completed, data are stored and summarized using Microsoft Access. Detailed instructions for data entry are described in Volume 2 of this handbook. This section explains what changes have been made in sampling methods and database management since the program was started in 1982. For the most part, few changes have been made, and the changes that were made still enable the data to be comparable between years. However, a clear understanding of both the changes in sampling methods and database management are necessary for accurate analysis and interpretation of the data.

General Information

Establishment of Transects

In August and September 1981, a total of 45 SCUBA divers conducted 643 dives to locate and establish the 13 original 100 m permanent transects (Table 1). The divers used the NPS vessel Pacific Ranger as a platform of operation. Six week-long cruises were conducted, with eight to ten divers on each cruise. Five diving biologists from the California Department of Fish and Game assisted the NPS in selecting and establishing the transects. During the remaining cruises, 33 divers from the NPS Western Region dive team and seven scientists from local universities and the National Marine Fisheries Service established the permanent transect lines on the sea floor. Establishment of each transect line consisted of a sequence of operations involving specialized equipment and skills developed specifically for this project (Appendix B). One additional transect was added in 1983, two in 1986, one in 2001 and 16 in 2005 (Table 1). The first five years of this program (1982-1986) was considered its design phase. During this period, there were several changes made to the protocols with regards to the number of samples and species monitored. Although the data are comparable, it is essential for the person analyzing the data to understand the changes and to adjust the analysis accordingly.

The 16 additional sites added in 2005 were for the collection of baseline data in and adjacent to four of the Marine Reservess that were established within park boundries in 2003. The new sites are monitored using the same protocols that have been employed at the other KFM sites.

Database Management

Since the beginning of this project in 1982, advancements in technology and the large volume and complexity of the data collected has motivated this project to change database programs several times. In 1982, database management was conducted in Dbmaster. In 1985, the data was reentered into Dbase. The most recent change was in 1995 when the data was transferred from DbaseIII to Microsoft Access. Access was chosen to serve the Park's interest in using a relational database to link all of Resources Management's data. In 2011, NPS Inventory and Monitoring data managers reconstructed the Access database to better meet the National requirements and greatly improve the database. Database management has been an important component of this program and much time and effort has gone into keeping the data accessible and accurate.

General notes regarding the transition from Dbase to Microsoft Access

Prior to using Access, the data per quadrat (for the 1m quadrat, band transect and random point contact data) were summarized and entered in one count field labeled "count". With the creation of Access, CountA, CountB, CountC, and CountD were created for adjacent quadrats, or

transects, so that summarization of the data could be conducted by computer, rather than manually. Further explanation of how the data are collected and entered is described in the Sampling Method Protocol and Data Entry sections of this handbook.