

Standard Operating Procedure (SOP) #13

Data Entry and Verification

Version 2.01 (June 2, 2022)

Change History

New Version #	Revision Date	Author	Changes Made	Reasons for Change	Previous Version #
2.0	7/28/2021	Kelly Kozar	Removed database references and added information on entering data into Excel® spreadsheet template.	To accurately describe how data is entered for Marine Fish monitoring, which is different than other protocols.	1.0
2.01	6/2/2022	Kim Weisenborn	Updated content to refer to new PACN I&M SharePoint. Updated figures to reflect change. Added sections for downloading/uploading files to SharePoint.	PACN data is no longer stored on a networked server (I:\ drive) and is now stored on the PACN I&M SharePoint site.	2.0

Only changes in this specific SOP will be logged here. Version numbers increase incrementally by hundredths (e.g., version 1.01, version 1.02) for minor changes. Major revisions should be designated with the next whole number (e.g., version 2.0, 3.0, 4.0). Record the previous version number, date of revision, author of the revision, changes made, and reason for the change along with the new version number.

Purpose

This SOP describes the general procedures for entry and verification of field data in the working project database for the Pacific Island Inventory and Monitoring Network (PACN I&M) Marine Fish Monitoring Protocol. Data entry for Marine Fish differs than other protocols in that it is entered into a Microsoft Excel® spreadsheet which is then imported into the combined Benthic Marine Communities/Marine Fish Database by the PACN Data Manager (see the Benthic Marine Community Monitoring Protocol [SOP #14 Data Entry, Verification, and Certification](#) for more information on the database). The following are general guidelines to keep in mind:

1. A [Microsoft Excel® spreadsheet template](#) will be made available for individual park data at the beginning of the field season to facilitate prompt data entry and edits by park staff.
2. Data entry should occur as soon after data collection as possible so that field crews keep current with data entry tasks and catch any errors or problems as close to the time of data collection as possible. Data entry should be completed by the person who collected the data or someone who is familiar with the project and data.

3. As data are being entered, the person entering the data should visually review record to make sure that the data on screen match the field forms. This should be done for each transect prior to moving to the next transect for data entry.
4. The importing query has built-in quality assurance components such as validation rules to test for missing data or illogical combinations. The PACN Data Manager will import each park spreadsheet into the park's yearly working copy of the Benthic Marine Communities/Marine Fish Database and consult with the PACN Marine Ecologist if any errors occur during data import.
5. At regular intervals and at the end of the field season the PACN Field Lead should inspect the data that has been entered to check for completeness and perhaps catch avoidable errors.
6. At the end of the field season, the PACN Data Manager will consolidate the park working copy databases into the master database file.

Excel® Spreadsheet Instructions

Data is entered into a Microsoft Excel® spreadsheet for each park upon returning from the field. The spreadsheet is downloaded from the [Marine Fish Monitoring project workspace](#) in the PACN I&M SharePoint site¹ onto the user's local workspace. The file is to be renamed on the user's local workspace prior to data entry. After data entry, the file is then uploaded back to SharePoint.

Downloading the Spreadsheet from SharePoint

1. Navigate to the "[Datasheets](#)" folder → Park subfolder in SharePoint (Figure SOP 13.1).

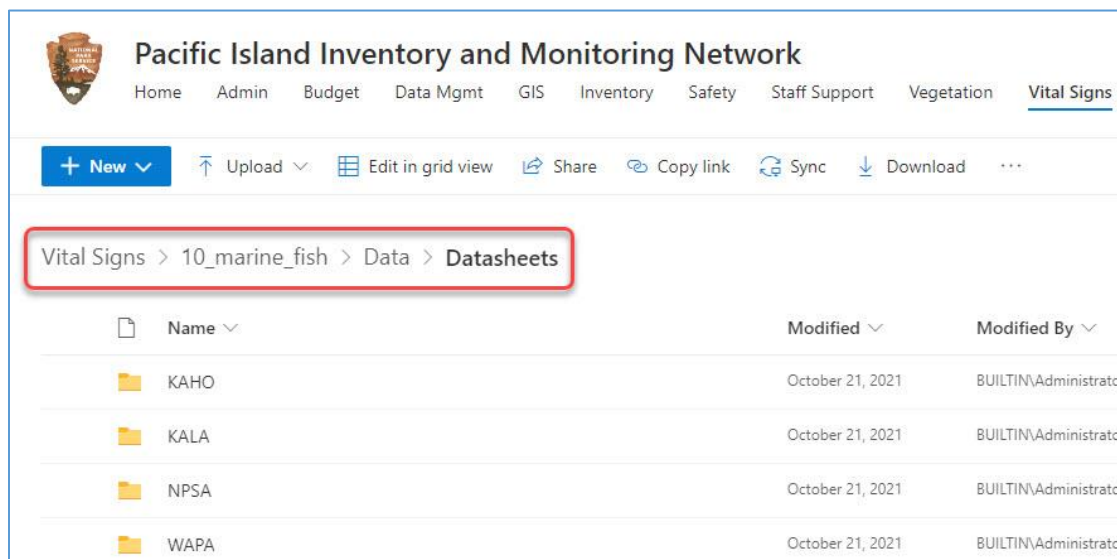


Figure SOP 13.1. Microsoft® Excel spreadsheets are located in Park subfolders within the "Datasheets" folder in the Marine Fish Monitoring project workspace in SharePoint.

¹ PACN I&M SharePoint site, <https://doimspp.sharepoint.com/sites/nps-PWR-PACNIM> (accessed 2 June 2022).

2. Select the spreadsheet file and click the vertical ellipse next to the filename and select **“Download”** (Figure SOP 13.2).

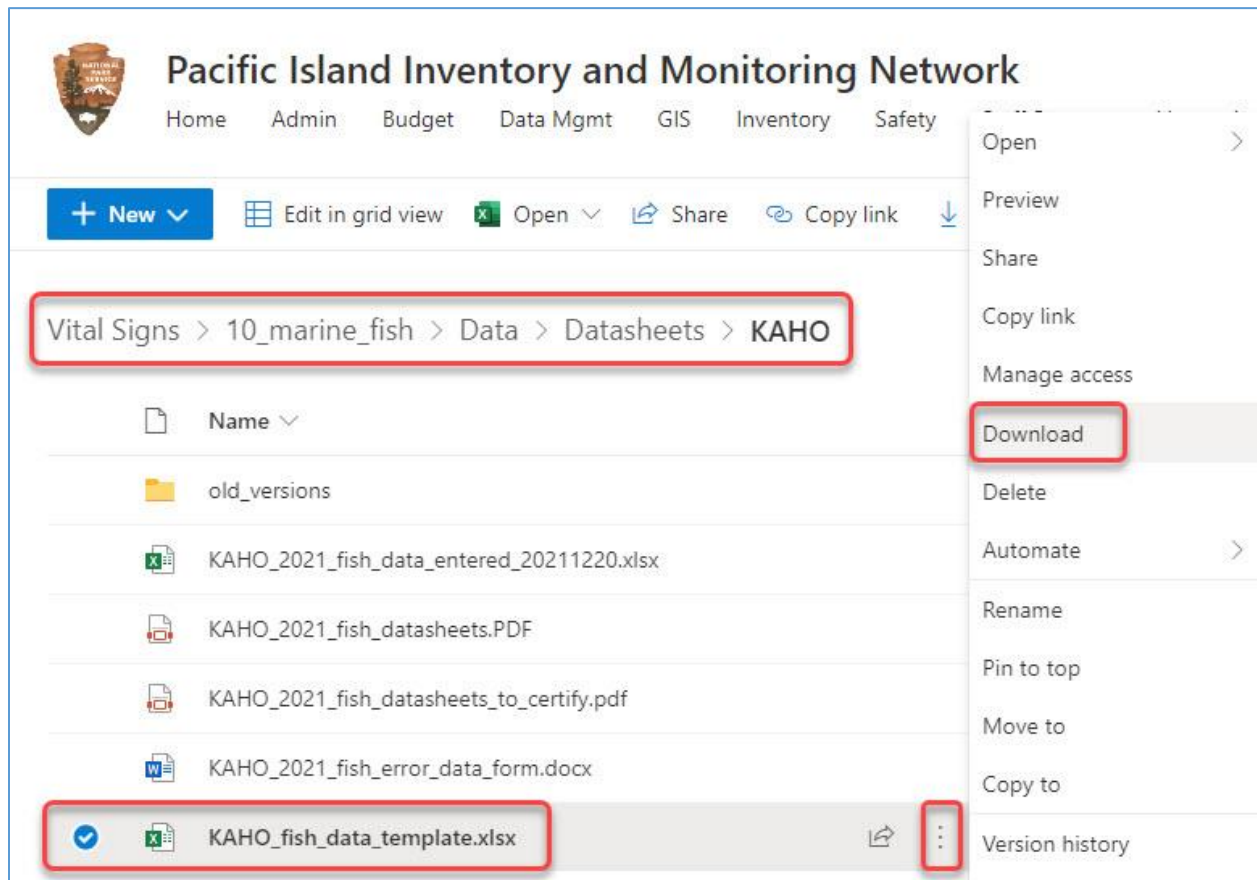


Figure SOP 13.2 Example of downloading the spreadsheet for KAHO from SharePoint.

3. A message will appear in the Downloads prompt in the top-right corner of SharePoint asking if you want to open the file or save as. Choose **“Save as”** (Figure SOP 13.3).

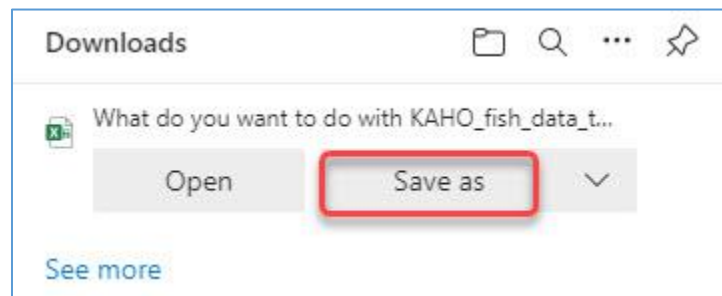


Figure SOP 13.3. Saving the spreadsheet.

4. A window will open prompting you to select a location to save the file. Navigate to the user's local workspace "Marine_fish" folder (e.g., C:\Users\[User_Name]\Desktop\Marine_fish) and click "Save" (Figure SOP 13.4).

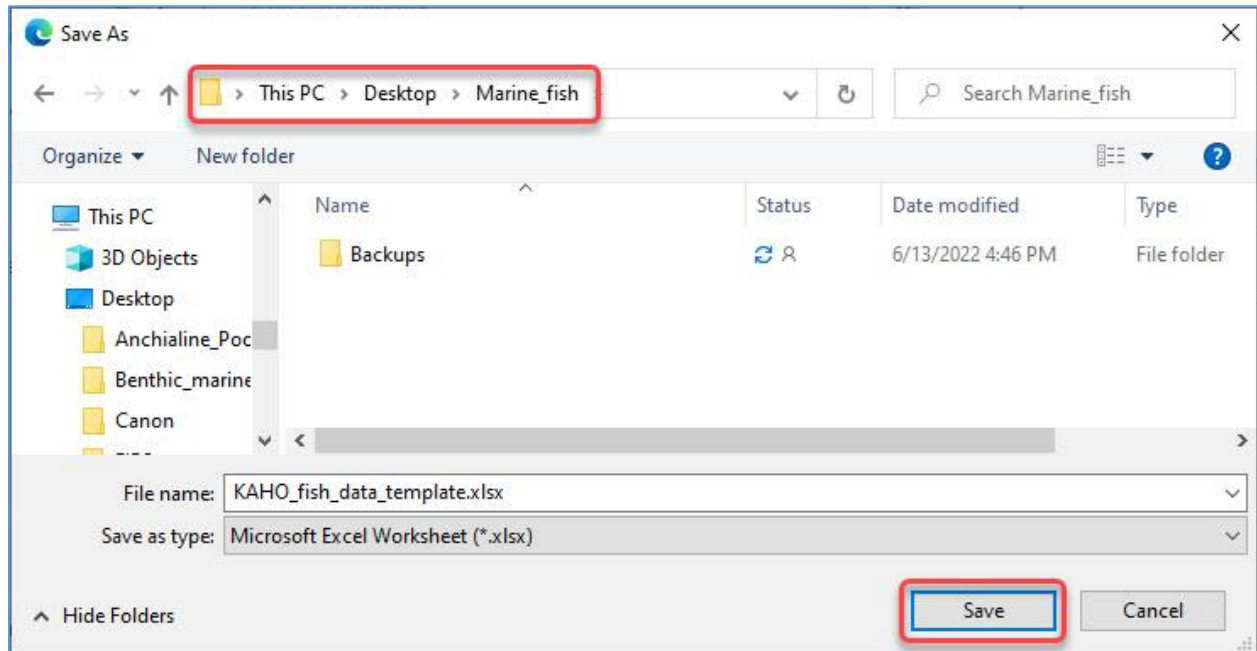


Figure SOP 13.4. Location on user's local workspace on where to save the front-end file.

Using the Spreadsheet

1. Rename the Excel® spreadsheet template that was downloaded onto the user's local workspace with the sampling year in the following format:
[PARK]²_[YYYY]³_fish_data_original_[YYYYMMDD]⁴ (e.g.,
KAHO_2021_fish_data_original_20210727.xlsx) (Figure SOP 13.5).

² [PARK] = 4-letter park code (e.g., KAHO, KALA, NPSA, or WAPA)

³ [YYYY] = 4-digit sampling year

⁴ [YYYYMMDD] = 4-digit year, 2-digit month, 2-digit day date stamp

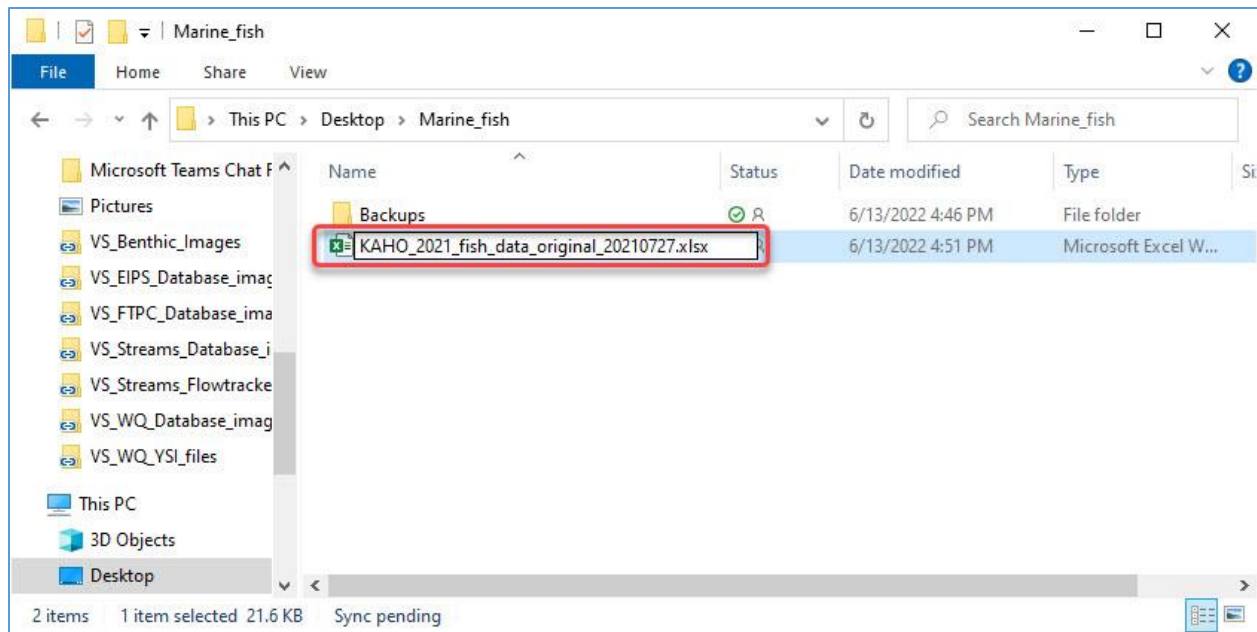


Figure SOP 13.5. Example of renaming the spreadsheet on the user's local workspace.

2. Begin entering data for each transect from the field datasheets. All columns of the spreadsheet need to be populated for data entry into the database. See [Appendix SOP 13.a](#) for an example of the Excel® spreadsheet template and the required fields, which are listed below.
 - a. Year – sampling year
 - b. Date – date the survey was conducted
 - c. Island – island the park is on
 - d. Location – four letter park code
 - e. Depth (m) – Depth in meters at the transect site
 - f. Obsr – fish observer initials
 - g. Station Type – Fixed or Temporary
 - h. Transect# - Transect number from 1 through 15
 - i. Species – 4-letter species code
 - j. Number – number of individuals of the species detected
 - k. Min (cm) – minimum length in centimeters
 - l. Max (cm) – maximum length in centimeters
 - m. AvgLgth – average length of species in centimeters
 - n. Area – Transect/Sampling unit size in m²
3. Species codes entered into the spreadsheet must match those in the database. See [SOP #8 Conducting Marine Fish Surveys](#) for the datasheets for each park and the correct species code for each species.
4. Backups should be made consistently at some point every day that data entry occurs.

- a. Create a folder on your local workspace “Marine_Fish” folder called “Backups” (e.g., C:\Users\[User_Name]\Desktop\Marine_fish\Backups).
 - b. After data entry each day, put a copy of the park spreadsheet into the “Backups” folder.
5. The next time data is entered, update the date stamp on the file name (“YYYYMMDD” in [PARK]²_[YYYY]³_fish_data_original_[YYYYMMDD]⁴) to the current date.
6. Once data entry is finished, upload the file into the appropriate Park subfolder within the “[Datasheets](#)” folder in SharePoint.

Uploading Spreadsheet to SharePoint

1. Navigate to the Park subfolder for the park’s data you are working with, located in the “[Datasheets](#)” folder in SharePoint (Figure SOP 13.1).
2. From the toolbar at the top, click “**Upload**” > “**Files**” (Figure SOP 13.6).

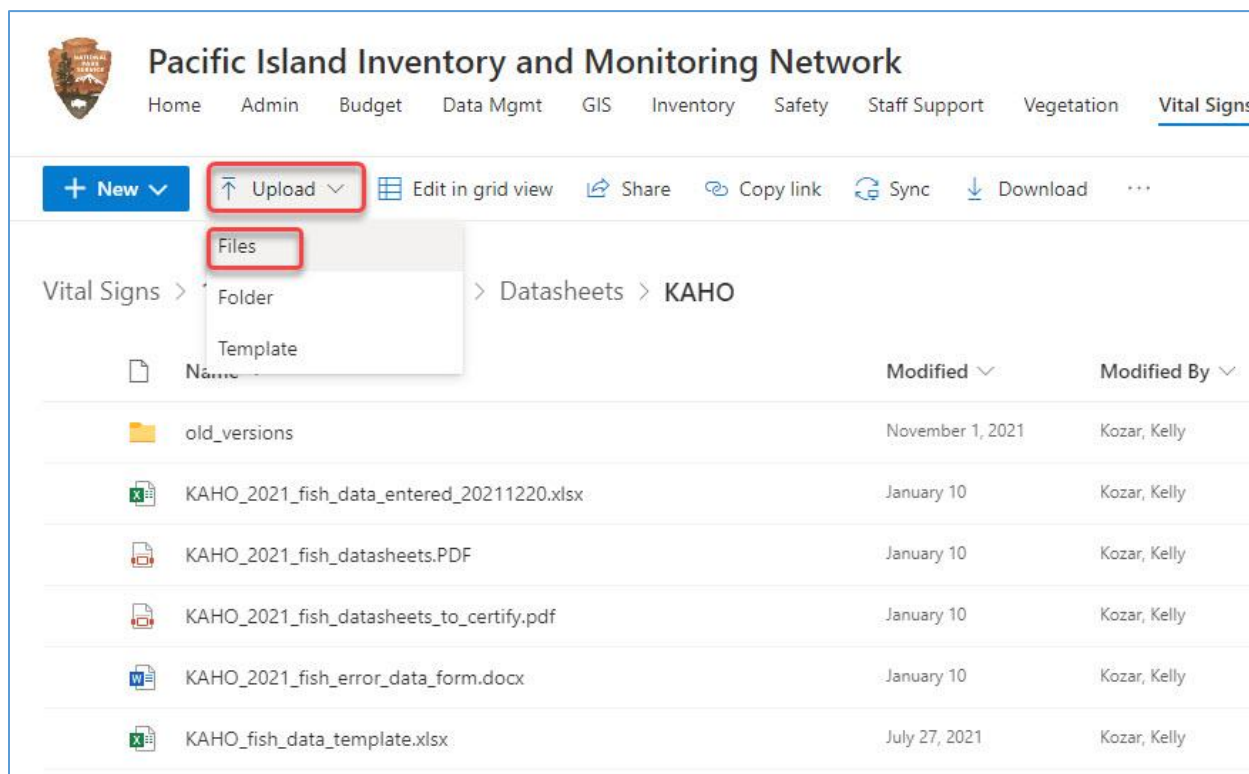


Figure SOP 13.6. Uploading spreadsheet to SharePoint.

3. A window will open prompting you to select the file from your PC that you want to upload to SharePoint. Navigate to the user’s local workspace “Marine_fish” folder (e.g., C:\Users\[UserName]\Desktop\Marine_fish) and select the spreadsheet, then click “**Open**” (Figure SOP 13.7).

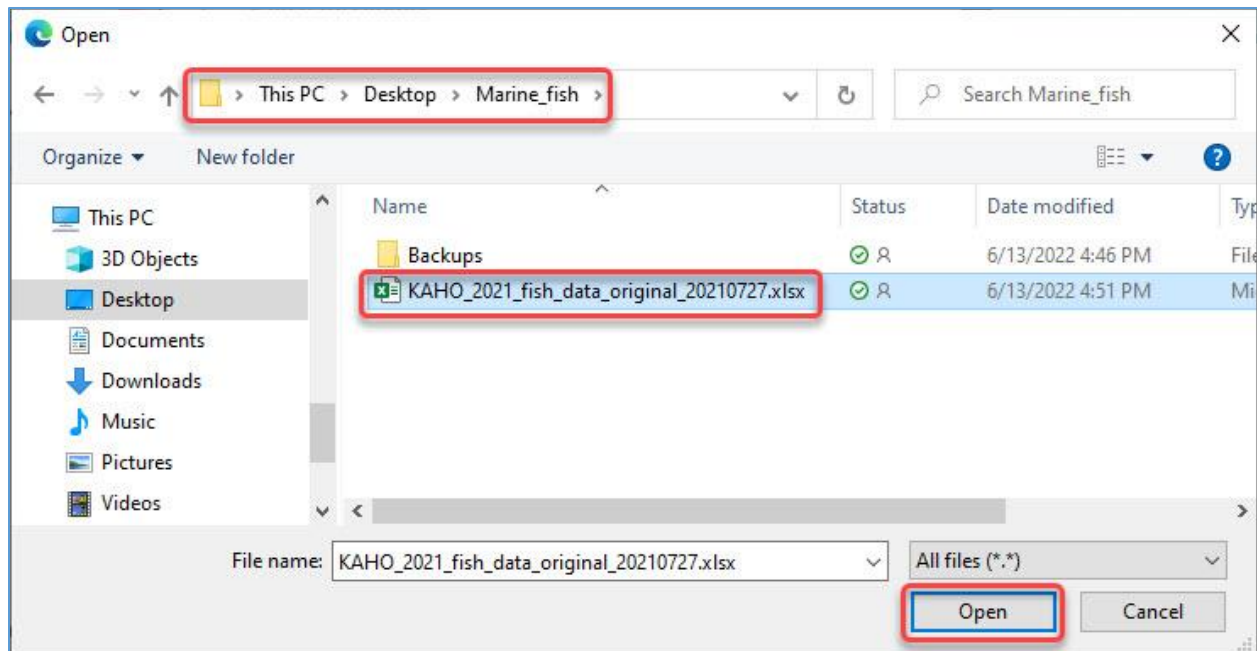


Figure SOP 13.7. Uploading the spreadsheet from the user's local workspace to SharePoint.

4. The files or folder will upload, and a confirmation message will appear.

Data Verification

Quality control of data is a critical step in data management. Verification of data (ensuring data on [field datasheets](#) match data entered into the spreadsheet) is the responsibility of the PACN Marine Ecologist and designees.

Data verification checks that the digitized data match the source data. The following guidelines regarding data verification should be followed:

1. The PACN Marine Ecologist is responsible for specifying in the project protocol one or more of the data verification methods available and ensuring proper execution. At the discretion of the PACN Marine Ecologist, additional verification methods may be applied
2. Someone other than the person who entered the data will be responsible for reviewing 100% of all fish data entry records for each park each field season. Review will be accomplished by comparing the original field datasheets with the Excel® spreadsheet.
3. Download the Excel® spreadsheet with the entered data from SharePoint to the user's local workspace (see steps in [Downloading the Spreadsheet from SharePoint](#) section for downloading steps).
4. Begin comparing the entered data to the data on the [field datasheets](#). Update any errors that are found. At this stage, there is no need to document errors, just update the spreadsheet.

5. Once all the data has been verified, update the file name with the current date (“YYYYMMDD” in the file name).
6. Upload the file with the verified data into the appropriate Park subfolder within the “[Datasheets](#)” folder in SharePoint (see [Uploading Spreadsheet to SharePoint](#) section for uploading steps).
7. Notify the PACN Data Manager that the data is verified so they can begin the certification process (see [SOP #14 Post-season Data Quality Review and Certification](#)).
8. The geospatial component of the Benthic Marine Communities/Marine Fish Database will be verified each field season by the PACN GIS Specialist. The PACN Data Manager will export the transect information into an Excel® Spreadsheet for the PACN GIS Specialist to analyze in ArcGIS® Desktop software (as of publication, the version in use is ArcGIS Pro® 2.7.3). Any edits will be made by the PACN Data Manager in the database.

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