

South Florida/Caribbean Network

National Park Service
Inventory and Monitoring Division



Standard Operating Procedure CR16

Capture Images for Relocation of Transect Using Adobe Photoshop and VLC—Version 2.1

Please cite this as:

South Florida/Caribbean Network. 2025. Capture images for relocation of transect using Adobe Photoshop and VLC—Version 2.1. South Florida/Caribbean Network Standard Operating Procedure NPS/SFCN/SOP—CR16. South Florida/Caribbean Network, Palmetto Bay, Florida.

Summary

This procedure is a method for capturing images that will be assembled on a single page, then laminated for use underwater to precisely reposition a sample transect. Laminated maps of the sample sites, and or range and bearing matrices will contain the distance and compass bearing between transects thereby getting the divers within a couple meters of the transect origin pin. However, to “fine-tune” the placement of the transect, it is necessary to use the laminated relocation photos. Several captured images from the video taken during the swimback portion of the video-sampling, when the camera is pointed at a “wide-angle” perspective to the transect (rather than perpendicular), that show the layout of the sample transect with respect to reef features on or near the transects, are assembled in a one page layout.

Revision Log

Revision Date	Author	Changes Made	Reason for Change	New Version #
2015	Jeff Miller	Detailed SOP written with current technology and software used.	Only minor changes occurred before this date based upon technology. Tied to I & M 2.00 version of protocol.	2.0
2020	Stephanie Topal, Morgan Wagner, Jeff Miller	SOP name changed from 16 to CR16. Update to use VLC media player with new relocation photo template.	Renamed according to regional guidance. Reflect new software and user suggestions for template modifications	2.1

Procedure

These procedures create relocation photos (RLP) and can be followed any time. This SOP is not connected with the “dotting” or dot analysis. It does not use images captured as part of the image analysis process (except the possible re-use of the “slate” image defining the sample transect). This procedure can be completed before sampling occurs to use the most recent images for relocation, or the same images can be used for several years (if the bottom structure has not altered substantially, and the existing image sheets are watertight).

Image capture

1. Open VLC, Tools, Preferences and select the Video header (keys Ctrl+P).
 - a. Check the Video snapshots for an accurate Directory and Prefix for the images you are going to capture.
 - b. Naming Convention: ##_YZ_YYYYMM_RLP_XXXXX.png.
 - i. ## = two digits for transect number: 01, 02, ..., 20.
 - ii. YZ – two letter site abbreviation (or three letter, WSP, BKN)
 - iii. YYYYMM – four digits for year, two digits for month.
 - iv. RLP – Relocation Photo
 - v. XXXXX – sequential frame number 00001 is the captured image of the slate.
 - vi. .png – file type. Images are exported as .png files.
 - c. Check the box for sequential numbering.
2. Press “play” or the play button on the diagram or on the playback unit itself to start the video of the transect.
3. Play the video until you see the picture of the slate. Capture slate by pressing the Shift+S keys. Hotkeys (key shortcuts) can be found in the Tools, Preferences, Hotkeys menu.
4. Capture how the tape/pin looks at the origin. Use Shift+S for screenshot capture. The name will default to the prefix you defined in step 2 above. The location of the saved screenshot will be as you defined in step 1a above.
5. Capture the view from the origin down the transect (0 to ~5 meters [0 to ~16.4 feet {ft}]).
6. Fast-forward video to the end of the transect.
7. Capture an image showing what the transect looks like as the swim-back proceeds from approximately 10 meters (32.8 ft) to 7 meters (23 ft), 7 meters to 5 meters (16.4 ft), 5 meters to 3 meters (9.8 ft), 3 meters to origin.

8. Capture a final image of the origin pin.
9. Store the captured images in folder for the site, and named for Relocation Photos:
X:\SFCN\Vital_Signs\Marine_benthic_communities\CoralMonitoring\images\transect_relocation
10. Continue to capture all transects using steps 1–9.
11. Typically, nine pictures are captured to relocate the transect; eight, plus the slate.
12. When RLPs have been captured for a transect, close that video file, and open the next transect video file in VLC. VLC program must be closed for frame number to start at 00001.
13. Repeat steps 1–11. Make sure you adjust the prefix name, changing the transect number to reflect the transect you are capturing. Repeat step 12 until all the RLPs for all transects have been captured.
14. When all transect images have been captured, adjust the image quality, as necessary and save images as JPEGs to reduce size.

Assemble photos in Microsoft Publisher program

1. Open template (Figure 1) or any other transect relocation picture series from any site in MS Publisher.

SITE:

Tran ##:

Cen. Pin Depth:



Center Pin → Origin Pin

9.3m

275°

Origin Pin → Terminal Pin

11.1m

280°

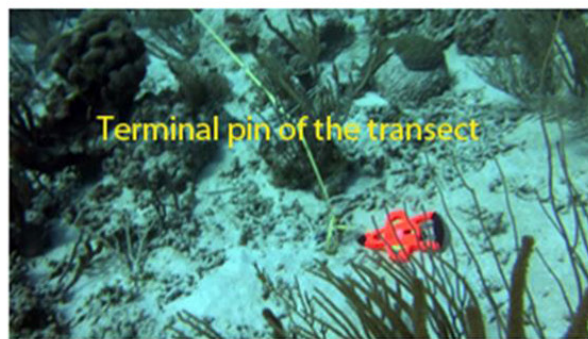
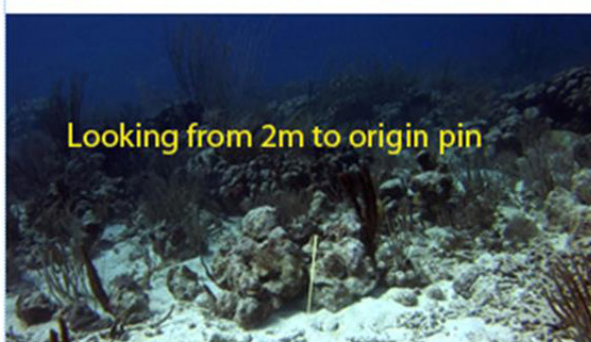


Figure 1. Template of images captured for relocation of transects.

2. Right-click on the first (slate) image. This will open up a dialog box. Select the option for Change Picture.
3. Browse to the folder where the captured, adjusted JPEGs are stored.
4. Select the image that corresponds to that image you right-clicked. You will see that image is inserted into the publisher template page.
5. Repeat this right-click process, changing the photos of the existing sheet with the newly captured JPEGs.
6. Ensure that all location data is correct at the top of the page:
 - a. Site and transect number
 - b. Pin depth(s)
 - c. Distance and bearing from Origin pin to Terminal pin
 - d. Distance and bearing from Center pin to Origin pin (if applicable)
7. “Save As” the newly created sheet with the new images with a different name to a Transect Relocation folder for that transect, site and date.
 - a. Suggested naming sequence for publisher file: YYYYMM_SITE_TRAN##_##_
 - b. 201302_SFR_Tran01_02.pub
 - c. 201302_SFR_Tran02_03.pub
8. When you have completed the changing of all nine images and have saved the document with a new name, select side two of the document and replace images from those pictures in the same way.
9. When both sides have been completed and saved, print the document on waterproof paper, using the double-side printing preference.
10. Trim a small amount of the white margin from the printed page(s). Laminating before trimming will increase the likelihood of the pages leaking after you trim the laminating edges.
11. Laminate the page(s).
12. Trim a small amount from the edges of the laminated pages to facilitate them fitting better on a clipboard. Untrimmed laminated pages typically extend beyond the edges of clipboards.

13. Make small trims on the four corners of the laminated pages to round the pointed edges. The square (or pointed) edges are not only sharp but tend to slice through rubber bands when adjusting the photos on clipboards.
14. A template for relocating transects that includes site information, a title image with metadata, and eight images of coral reef with distinct features to help identify the transect.