

South Florida/Caribbean Network

National Park Service
Inventory and Monitoring Division



Standard Operating Procedure SEA01

Sample Frame and Habitat Classification—Version 1.1

Please cite this as:

South Florida/Caribbean Network. 2022. Sample frame and habitat classification—Version 1.1. South Florida/Caribbean Network Standard Operating Procedure NPS/SFCN/SOP—SEA01. South Florida/Caribbean Network, Palmetto Bay, Florida.

Purpose

The purpose of this standard operating procedure (SOP) is to describe the sample frame and habitat classification used for allocating samples in this protocol. Stepwise procedures for creating a merged shapefile with appropriate habitat classification and depth information are described in SOP SEA03 *Creating a Seagrass Layer, Merging with Bathymetry Layer, and Assigning Strata—Version 1.1* (SFCN 2022).

Revision Log

Revision Date	Author	Changes Made	Reason for Change	New Version #
3/31/2021		Format Update	Format Update	1.1

Procedures

- The sample frame includes all mapped soft-bottom habitat within park boundaries, shallower than 30 meters (98.4 feet [ft]) and excluding areas that are not safely feasibly to sample (i.e., high boat traffic areas and areas unreachable by boat are excluded) and areas with water quality concerns (i.e., Salt River Bay). The sample frame equals this defined target population. Areas that are considered to have become temporarily bare (e.g., blow outs from a storm) are still considered part of the sample frame.
- The benthic habitat maps used in the Florida Reef Fish Protocol (Brandt et al. 2009) and the Virgin Islands Reef Fish Protocol (Bryan et al. 2013) are used for this protocol. At the time of this writing, for the parks in the Virgin Islands (VIIS, BUIS, SARI), the NOAA benthic habitat maps are used (Kendall et al. 2001; Zitello et al. 2009). In Biscayne NP, the map product by Estep et al. (2017) is used.
- Initially, monitoring efforts are focused specifically on areas within park boundaries. In the future, depending on resources, management needs, and budget, sampling in areas outside park boundaries will be considered.
- Bathymetric and multibeam SONAR data will define areas within safe repetitive dive limits (< 30 meters [98.4 feet {ft}]).
- Only soft-bottom habitat classifications will be used in this protocol that define seagrass as the major biological cover found on either mud, sand and sand with scattered coral and rock. Seagrass habitat is defined as having 10% or more of the mapping unit dominated by any single species of seagrass or combination of species.

Literature Cited

- Estep, A. J., R.J. Waara, L. J. Richter, M. W. Feeley, M. E. Patterson, A. D. Davis, J. Miller, B. D. Witcher, J. M. Patterson, R. M. Vargas, and A. J. Atkinson. 2017. Biscayne National Park offshore benthic habitat mapping project. Natural Resource Report NPS/SFCN/NRTR—2017/1390. National Park Service, Fort Collins, Colorado. Available at: [DataStore - Published Report - \(Code: 2238539\) \(nps.gov\)](#) (last accessed February 2022).
- Kendall, M.S., C. R. Kruer, K. R. Buja, J. D. Christensen, M. Finkbeiner, R. A. Warner, and M. E. Monaco. 2001. Methods used to map the benthic habitats of Puerto Rico and the U.S. Virgin Islands. NOAA Technical Memorandum NOS NCCOS 152. Center for Coastal Monitoring and Assessment, Silver Spring, Maryland.

- South Florida/Caribbean Network (SFCN). 2022. Creating a seagrass layer, merging with bathymetry layer, and assigning strata—Version 1.1. South Florida/Caribbean Network Standard Operating Procedure NPS/SFCN/SOP—SEA03. South Florida/Caribbean Network, Palmetto Bay, Florida. Available at: <https://irma.nps.gov/DataStore/Reference/Profile/2285057> (last accessed February 2022).
- Zitello, A. G., L. J. Bauer, T. A. Battista, P. W. Mueller, M. S. Kendall, and M. E. Monaco. 2009. Shallow-water benthic habitats of St. John, U.S. Virgin Islands. NOAA Technical Memorandum NOS NCCOS 96, Center for Coastal Monitoring and Assessment, Silver Spring, Maryland.