Table 1. Annotated list of items in the template (from NPFC-2019-SSC BF02-WP02(Rev 1))

Sheet	Item	Unit/System	Remarks
Observer _name	Observer_ID		
	Observer's_name		
Observer _trip	Trip_ID		
	Observer ID		
	NPFC_vessel_ID		
	Observer's_organization		
	Date_observer_embarked	UTC, YYYY-MM-DD	
	Port_of_embarkation		
	Date_observer_disembarked	UTC, YYYY-MM-DD	
	Port_of_disembarkation		
Trawl	Operation_ID		
	Trip_ID		
	Observer_ID		
	Catch_report_ID		
	Tow_start_date	UTC, YYYY-MM-DD	
	Tow_start_time	UTC, hh:mm:ss	
	Tow_end_date	UTC, YYYY-MM-DD	
	Tow_end_time	UTC, hh:mm:ss	
	Tow_start_latitude_NS		
	Tow_start_latitude_degree		
	Tow_start_latitude_minute		1 minute resolution
	Tow_start_longitude_EW		
	Tow_start_longitude_degree		
	Tow_start_longitude_minute		1 minute resolution
	Tow_end_latitude_NS		
	Tow_end_latitude_degree		
	Tow_end_ latitude_minute		1 minute resolution
	Tow_end_longitude_EW		
	Tow_end_longitude_degree		
	Tow_end_longitude_minute		1 minute resolution
	Type_of_trawl_1	Bottom / Midwater	

Trawl (cont.)	Type_of_trawl_2	Single / Double / Triple	
	Height_of_net_opening	meters	
	Width_of_net_opening	meters	
	Mesh_size	millimeters	Mesh size of the cod-end net, stretched mesh
	Mesh_type		Diamond, Square, etc.
	Gear_depth_at_start_of_fishing	meters	footrope
	Bottom_depth _at_start_of_fishing	meters	seabed
	Gear_depth_at_end_of_fishing	meters	footrope
	Bottom_depth _at_end_of_fishing	meters	seabed
	Status_of_trawl_operation	No_damage / Lightly_damaged / Heavily_damaged / Other	Degree evaluated by time for repairing (lightly <= 1hour, heavily >1 hour)
	Duration_of_the_estimated _period _of_seabed_contact	minutes	
	Intended_target_species	scientific name	
	Intended_target_species _FAO_code	3-alpha code	
Gillnet	Operation_ID		
	Trip_ID		
	Observer_ID		
	Catch_report_ID		
	Set_start_date	UTC, YYYY-MM-DD	
	Set_start_time	UTC, hh:mm:ss	
	Set_end_date	UTC, YYYY-MM-DD	
	Set_end_time	UTC, hh:mm:ss	
	Set_start_latitude_NS		
	Set_start_latitude_degree		
	Set_start_latitude_minute		1 minute resolution
	Set_start_longitude_EW		
	Set_start_longitude_degree		

Gillnet (cont.)	Set_start_longitude_minute		1 minute resolution
	Set_end_latitude_NS		
	Set_end_latitude_degree		
	Set_end_latitude_minute		
	Set_end_longitude_EW		
	Set_end_longitude_degree		
	Set_end_longitude_minute		1 minute resolution
	Net_panel_length	meters	
	Net_panel_height	meters	
	Net_mesh_size	millimeters	streched mesh
	Mesh_type		Diamond, Square, etc.
	Bottom_depth _at_start_of_setting	meters	
	Bottom_depth _at_end_of_fishing	meters	
	Number_of_net_panels _for_the_set		
	Number_of_net_panels_retrieved		
	Number_of_net_panels _actually_observed		
	Intended_target_species	scientific name	
	Intended_target_species _FAO_code	3-alpha code	
Longline	Operation_ID		
	Trip_ID		
	Observer_ID		
	Catch_report_ID		
	Set_start_date	UTC, YYYY-MM-DD	
	Set_start_time	UTC, hh:mm:ss	
	Set_end_date	UTC, YYYY-MM-DD	
	Set_end_time	UTC, hh:mm:ss	
	Set_start_latitude_NS		
	Set_start_latitude_degree		
	Set_start_latitude_minute		1 minute resolution
	Set_start_longitude_EW		
	Set_start_longitude_degree		

Longline (cont.)	Set_start_longitude_minute		1 minute resolution
	Set_end_latitude_NS		
	Set_end_latitude_degree		
	Set_end_latitude_minute		1 minute resolution
	Set_end_longitude_EW		
	Set_end_longitude_degree		
	Set_end_longitude_minute		1 minute resolution
	Total_length_of_longline_set	meters	
	Number_of_hooks_or_traps_for_the_set		
	Bottom_depth_at_start_of_set		
	Bottom_depth_at_end_of_set		
	Number_of_hooks_or_traps_actually_observed_during_the_haul		
	Intended_target_species	scientific name	
	Intended_target_species_FAO_code	3-alpha code	
Retained_catch	Catch_report_ID		
	Operation_ID		
	Observer_ID		
	Species_name	scientific name	
	Species_FAO_code	3-alpha code	
	Live_weight	Kilograms	
Discard	Catch_report_ID		
	Operation_ID		
	Observer_ID		
	Species_name	scientific name	
	Species_FAO_code	3-alpha code	
	Estimated_weight	Kilograms	
	Estimated_volume	cubic meters	
Protected_species	Catch_report_ID		
	Operation_ID		
	Observer_ID		
	Species_name	scientific name	
	Species_FAO_code	3-alpha code	
	Life_status_upon_release	Vigorous / Alive / Lethargic / Dead	

Protected _species (cont.)	Photograph_taken	Y/N	
	Specimen_sampled	Y/N	
	Tag_recovery	Y/N	
Retained _catch _actually _observed	Operation_ID		
	Observer_ID		
	Species_name	scientific name	
	Species_FAO_code	3-alpha code	
	Live_weight	Kilograms	
Discard _actually _observed	Operation_ID		
	Observer_ID		
	Species_name	scientific name	
	Species_FAO_code	3-alpha code	
	Estimated_weight	Kilograms	
	Estimated_volume	cubic meters	
Protected _species _actually _observed	Operation_ID		
	Observer_ID		
	Species_name		
	Species_FAO_code	3-alpha code	
	Number_of_individuals		
Measure ment_info rmation	Measurement_ID		
	Catch_report_ID		
	Operation_ID		
	Observer_ID		
	Species_name	scientific name	
	Species_FAO_code	3-alpha code	
	Total_weight_of_sample	Kilograms	
	Type_of_length		FL (fork length), TL (total length) etc.
Length _frequenc y	Measurement_ID		
	Sex		If sex-stratified size-frequency is recorded
	Length_class	millimeters	Lower limit of the length class
	Length_class_interval	millimeters	
	Number_of_individuals _in_the_length_class		

Individual_measurement	Measurement_ID		
	Body_length	millimeters	
	Body_depth	millimeters	
	Sex	Male / Female / Indeterminate / Not_examined	
	Maturity_stage	Immature / Mature / Ripe / Ripe-running / Spent	
VME	Catch_report_ID		
	Operation_ID		
	Observer_ID		
	Taxon	Alcyonacea / Antipatharia / Gorgonacea / Scleractinia / Others	
	Species_name	scientific name	identified as far as possible
	Species_FAO_code	3-alpha code	
	Number_of_individuals_or_colonies		
	Estimated_weight	kilograms, wet weight	
	Estimated_volume	cubic meters	
	Photograph_taken	Y/N	
	Specimen_sampled	Y/N	
	Specimen_ID		If sampled

Table 2. Descriptions of data sheets included in the proposed template.

Sheet name	Description	Unit of observations (row)
Observer_name	Information on observers.	Each observer.
Observer_trip	Information on observer activities.	Each observer in each trip.
Trawl	Information on trawl operation and gear.	Each tow.
Gillnet	Information on gillnet operation and gear.	Each set.
Longline	Information on longline operation and gear.	Each set.
Retained_catch	Information on retained catch.	Each species in each unit of catch report.
Discard	Information on discarded catch (including scientific samples), excluding protected species and VME-related taxa.	Each species in each unit of catch report.
Protected_species	Information of protected species (such as reptiles, mammals and seabirds) caught as bycatch.	Each individual in each unit of catch report.
Retained_catch_ actually_observed	Information on catch which are retained, when only a fraction of catch is observed and recorded.	Each species in each tow/set.
Discard_ actually_observed	Information on catch which are discarded, when only a fraction of catch is observed and recorded.	Each species in each tow/set.
Protected_species_ actually_observed	Information on protected species (e.g. mammals, turtles and seabirds) caught as bycatch, when only a fraction of catch is observed and recorded.	Each individual in each tow/set.
Measurement_ information	Information on biological measurement and sampling.	Each measurement.
Length_frequency	Body length data, when only length frequency is available (e.g. recorded by punch cards)	Each size class in each measurement
Individual_ measurement	Body length and other biological data, when recorded individually.	Each individual measured.
VME	Information on VME indicator taxa and other benthic invertebrates caught as bycatch.	Each species/taxa in each unit of catch report or operation.