

WATER COLLECTION PROCEDURE (FIELD)

GET IT TOGETHER:

- 2 coolers with 4L pre-labelled carboys for each sampling site and depth filled with 1L DI water
- 1 cooler filled 1/3 full with ice also containing:
 - filters, syringes, and gloves in the top trays
 - racks with pre-labelled TDN and nutrient bottles for each site and depth
 - two bottles for the DOC samples taken at the each 1m site depth in a ziplock over the ice
- CTD rosette with 4 5L GoFlo[®] bottles (1 per depth and 1 backup) with modified quick connect air pressure valves installed
- ADCP, Fluorometer, and backscatter optics in a cage with enough line to hand cast it 20m
- Labelled, weighted lines marked with the appropriate depths where the sample is to be taken
- Weights to slide down lines and fire the GoFlo[®] bottles
- Pressurizing air system which includes:
 - one full SCUBA bottle and one scuba regulator
 - one polyethylene fine adjustment regulator with 15 psi gauge and at least 3 ports
 - polyethylene tubing with quick connectors to connect to GoFlo[®] bottles
- Spare Parts Tool Box
- Clip board with event log data sheet and site waypoints listed on back

SAMPLE COLLECTION:

- Once on site lines are attached to GoFlo[®] bottles and lowered into proper depth after CTD rack has equilibrated at a depth of 3m for 2 minutes. CTD is then brought to surface and cast is started while bottles are all simultaneously fired
- When bottles have been fired and brought up they are placed back on the rosette rack, two DOC (60ml mouth HDPE bottles), nutrient (20ml scintillation vials) and total dissolved (60ml wide mouth square Nalgene HDPE bottles) samples are collected using in line filtering or Syringes full of water from the Goflo[®]
- **USE NITRILE OR VINYL GLOVES FOR ALL DOC AND NUTRIENT COLLECTION**
- **COLLECT DOC SAMPLES FIRST TO PREVENT CONTAMINATION**
- A pre-loaded 47mm polycarbonate filter cartridge (loaded with pre-combusted 47mm GF/F filter) is placed directly on the 1m rosette bottle using a short length of clean silicone tubing
- Air is removed from the cartridge using the white valve on the top
- Connect pressurized tubing running from a SCUBA cylinder and three stage regulator system to top of GoFlo[®] to push water through filter (2-5psi maximum) and flush the filter with sample water for 10 seconds
- Rinse two 60ml wide mouth DOC bottles (pre-labelled with station information) 3x then fill to shoulder with filtered sample water
- Place bottles in a Ziploc then on top of ice. When back at lab, store DOC UPRIGHT in freezer!
(CHECK THAT ALL BOTTLE LIDS ARE TIGHT BEFORE PLACING BACK IN COOLER)
- Rinse a 140ml syringe three times with sample water, fill the syringe completely and remove the air
- Place a 47mm Swinnex filter holder with a 47mm 0.6um Nuclepore PCTE (or Millipore DTTP) filter on it on the end of the syringe and squeeze through ~20ml of sample to rinse filter and holder
- Rinse the PRE-LABELLED 60ml HDPE bottle 3x with filtered sample water and then fill the bottle to its shoulder, bury in ice in cooler
- Rinse the PRE-LABELLED 20ml scint vial 3x with filtered sample water and then fill the vial about ¾ full, bury in ice in cooler
- Shake DI water in 4L carboy and remove, then rinse 3x with water from the GoFlo[®] then fill the carboy with all remaining sample water
- Return 4L carboy to cooler, keep cool and dark while transporting to shore team

LOG EVERYTHING:

Record ALL information to log sheet. Make a note on the log sheet if any problems were encountered during water collection - ANYTHING. Be sure to log local weather parameters. For surfer/marine mammal rescue, log location and time so we can bill them.

The following is a list of Sites and Depths of water samples currently taken on a monthly basis:

Arroyo Quemado Mooring (bottles labelled QM):

1m DOC,TDN,Nutrients and 4L carboy

5m TDN,Nutrients and 4L carboy

10m TDN, Nutrients and 4L carboy

Naples Reef (bottles labelled NR):

1m DOC,TDN,Nutrients and 4L carboy

5m TDN,Nutrients and 4L carboy

10m TDN, Nutrients and 4L carboy

Arroyo Burro (bottles labelled AB):

1m DOC,TDN,Nutrients and 4L carboy

5m TDN,Nutrients and 4L carboy

Mohawk (bottles labelled MK):

1m DOC,TDN,Nutrients and 4L carboy

5m TDN,Nutrients and 4L carboy

Carpinteria Reef (bootles labelled CR):

1m DOC,TDN,Nutrients and 4L carboy

5m TDN,Nutrients and 4L carboy