

Water Properties Group

Prioritization for equipment requests made through the WaterProperties.ca website

The Water Properties Group is part of the State of the Ocean Section, Ocean Sciences Division at the Institute of Ocean Sciences. We maintain a pool of oceanographic sampling equipment for use by scientists within our division and other researchers in DFO. This document outlines what equipment we maintain and how we assign equipment from our pool.

How Priorities are Set

Priority for any of our pooled equipment is given as follows:

1. OSD time series programs in the Pacific Ocean (e.g., Yelland, Robert, Thomson, Chandler)
2. Other time series programs with OSD interest in the Pacific Ocean (e.g., PBS/SAFE Trudel)
3. OSD non-time series programs in the Pacific Ocean

If none of the above programs request equipment within a reasonable time frame, then we will support:

4. PBS programs in the Pacific Ocean[^] and Arctic programs run by the OSD Arctic Group*
5. DFO programs in other locations within the Pacific region (includes freshwater)
6. Other federal government programs within the Pacific region (e.g., EC, NRCan/PGC)
7. DFO use outside the region
8. Outside programs (e.g., UVic, UBC)

We generally do not lend equipment out to other parties, unless there is an OSD collaborator involved. There are sometimes requests to borrow equipment from private industry and these should be directed to companies that lend out equipment (e.g., ASL in Sidney -- <http://www.aslenv.com/lease.htm>)

[^] PBS MEAD and SAFE divisions contribute an annual fee for general maintenance for CTDs and sensors to the Water Properties group. This includes servicing of the Ricker TSG and Ricker CTD (both exclusive to PBS use), plus other CTDs and sensors borrowed for work on the Neocaligus, Vector, and other charter vessels.

* The Arctic Group maintains their own pool of oceanographic equipment that is separate from the Water Properties pool; therefore this lower priority status is given relative to other OSD programs. Exceptions are for sampling programs run on the S.W. Laurier en route to the Western Arctic that is considered NE Pacific Ocean sampling (priorities 2-4).

Electronic Equipment

CTD's

Includes all CTD and deck unit combinations (SBE 9,11,16,19,25,33).

During peak field season (typically late March to mid-October), the Water Properties Group ensures that certain pieces of equipment are available for OSD use on cruises in the NE Pacific. This includes the following being either on board the vessels listed or in our shop and ready to go during the designated field season:

- 3x SBE9 units (two for Tully use and one for Vector use)
- 4x SBE11 units (3 for above SBE9 CTDs and one backup for Ricker)
- 2x SBE25 units (one each for Vector and Ricker as backup)

Any other CTD and Deck unit equipment in excess of the peak field season requirements or not listed above is available on a first-requested basis, however priority may be given to programs that use the equipment over short-time periods (≤ 28 days). We will try to accommodate requests made within four weeks of the loading date, but requests made earlier will have a better chance of being honoured.

All users of equipment should understand that we expect a reasonable amount of wear-and-tear, but users will be responsible for any significant damage to or complete loss of the units. In addition, if any of the above OSD peak field season requirements are damaged during the season, we may recall borrowed equipment from other programs to support OSD programs, however this will be done as a last resort.

Ricker CTD

The Ricker SBE9/11 package is not included in the above CTD list as it uses a different wiring configuration with the winch on board. Therefore this unit may only be used on the Ricker, unless wiring changes are made. Chief Scientists conducting research on the Ricker should still request the unit as part of their cruise plan as the Water Properties Group may remove it from time to time for calibration and maintenance purposes.

RBR CTD

This new unit (2009) is owned by the Water Properties Group, but is exclusively for use on either the Ricker or Neocaligus in trawl nets by MEAD and SAFE divisions. While the Water Properties Group will maintain this equipment, any damage to the unit or the integrated sensors will be the responsibility of the division that damaged the unit. If this unit is not required on the Ricker or Neocaligus then it may be used on charter vessels or requested by other users (e.g., OSD, EC, NRCan, etc).

Thermosalinigraph (SBE21)

These units are standard equipment on both the Tully and Ricker and they cannot be moved to other platforms. These units do not need to be requested as part of the cruise plan.

Sensors

Includes pH (SBE18), Transmissometers (WetLabs), Dissolved Oxygen (SBE43), PAR, etc.

The Water Properties group maintains several different sensors that may be placed on CTD units as needed. Typical installs of SBE9 units include dissolved oxygen (SBE43), transmissometer (Wetlabs 660 nm), fluorometer, and the standard dual temperature (SBE3+) and conductivity (SBE4C) probes. Additional probes should be requested as required, however these need to either be mounted on the CTD (if possible) or a rosette unit.

Kits

Oxygen Kits

We maintain four oxygen kits, all complete with their own spares kit and typically one complete kit is used per cruise with a spare kit kept at IOS. This spare is usually undergoing maintenance or is used when batches of oxygen chemicals are being mixed. During peak field season, the Water Properties Group reserves three kits for use by OSD priority programs. Additional kits may be lent out to other programs as requested.

Stationery Kits

We maintain two stationery kits for general use on board and these are restocked every fall. They include various log sheets, pens and pencils, three-hole punch, writing pads, tape, and so on. We expect a reasonable amount of stationery to be used during your cruise. Please plan on replacing articles if you use a significant amount of something during your cruise as we just restock them once a year.

Freezing Blocks

Where nutrients are going to be taken and processed later, we offer up to three aluminum freezing blocks. Nutrient tubes are placed in the blocks and samples are typically frozen within an hour in a regular chest freezer. Tubes may then be removed and placed in bags for transport back to IOS. Users should use gloves while loading and unloading the freezing blocks to prevent their skin sticking and freezing to the block.

Sampling Bottles and Flasks

Oxygen Flasks

At present, there are six oxygen flask cases, each containing 24 flasks, being maintained by the Water Properties Group and each case is colour-coded. During peak field season, all six cases are reserved for the use of OSD priority programs. Additional cases may be lent out to other programs as requested.

Salinity Bottles

Salinity sample bottles are stored in cases of 24. During peak field season, the Water Properties Group reserves 50 cases (1200 bottles) for the use of OSD priority programs. Additional cases may be lent out to other programs as requested. *Note that the Water Properties Group works on a cost-recovery basis for salinity samples.*

Rosettes

We maintain four rosette units, some with modifications for the new Tully latching system. These rosettes may hold up to 24 niskins each. During peak field season, three of these rosettes are required (two for Tully and one for Vector). Additional rosettes may be lent out to other programs as requested.

Niskins and Go-Flows

Typically 96 of our niskins are mounted on the rosette units and another 6 are held as spares due to potential leakage and breakage. Additional niskins may be lent out to other programs as requested.

Nutrients

Acid-cleaned nutrient test tubes are provided in bags of 75 each for OSD priority programs. In addition, we have two sets of eight colour-coded nutrient racks (containing 24 numbered test tubes each) used when nutrient samples are analyzed onboard. Test tubes must be identical to VWR catalogue # CA62404-949 and must be acid washed with 10% hydrochloric acid before use. Nutrient tubes are supplied for cruises when nutrient samples will either be run on board with an autoanalyzer or back at IOS by Water Properties staff or contracts issued by the Water Properties Group. *Note that the Water Properties Group works on a cost-recovery basis for nutrient samples.* Nutrient tubes are generally not lent out to programs that will not utilize our services for nutrient processing, and if they are lent out, then either new tubes or acid-cleaned tubes must be returned.