Regional Operations Centre, Canadian Coast Guard Western

Science Cruise Report: PAC 2022-008

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Department/Group:	Fisheries and Oceans Canada, OSD
Other Participating Groups:	UVic, UBC, Bigelow Lab
Science Cruise Number:	PAC 2022-008
Alternative Cruise Number:	
Ship's Patrol Number:	22-06
Name of Vessel/Platform:	J.P. Tully
Dates:	**From:** Tuesday 09-Aug-2022 **To:** Thursday 25-Aug-2022
Chief Scientist:	**Marie Robert**, 236-464-2074, marie.robert@dfo-mpo.gc.ca
Master:	Rhona Lettau
Fishing Master:	
Appropriateness of Vessel:	Excellent

Time Allocations

Originally Allocated Days **16.00**
Accounting below is given in days and should match the originally allocated days above.

Weather	+ 0.00	
SAR	+ 0.00	Just one quick call
CCG Refueling	+ 0.00	
CCG Ship Repair & Maintenance	+ 0.00	
CCG Crew Changes	+ 0.00	
CCG Other	+ 0.00	
Science Operations	+ 14.75	
Science Equipment Loading/Unloading	+ 1.25	
Science Other	+ 0.00	
Days Gained	+ 0.00	
Days Grand Total	= 16.00	

Time Allocation Comments: We needed more time on major stations because of missing staff but the very good weather compensated.

Cruise Events

Areas of Operations

Juan de Fuca, West Coast Vancouver Island, Northeast Pacific

Scientific Personnel

Name	Notes (Affiliation, Watches, Duties, etc)
Michael Arychuk	DMS, RSO, Watch
David Drapeau	Watch
Rowan Fox	Watch Leader, CTD, TSG, MVP
Ross McCulloch	Watch
Brandon McNabb	Watch
Alastair Roberts	Watch
Bernard Yang	Watch, MVP
Danielle Caleb	Watch, Trace Metal
Rebecca Crawford	Watch
Moira Galbraith	Watch Leader, Bongos, Oxy analysis, MVP
Olivia Melville	Watch
Sara Rauschenberg	Watch
Marie Robert	Chief scientist, data, planning, sampling

Event Log

Tuesday 9 August: Load cube van in the morning, start loading equipment on the ship after lunch.

Wednesday 10 August: Everyone on board for 0830 at the latest. Safety meeting at 0900. Short muster exercise. Science meeting at 1230. Departure of 1030 pushed to 1300, then to 1530. Leave the dock around 1530. Tests of the MVP in Saanich Inlet while waiting for CTD cable retermination to be completed. Short SAR call during dinner time. Saanich Inlet test cast. Station Haro59.

Thursday 11 August: JF2, P1 to P3. Fire and boat drill. Recover/deploy mooring for C. O'Neill.

Friday 12 August: P4 to P7.

Saturday 13 August: P8 to P11, start P12.

Sunday 14 August: Complete P12. P13 and P14.

Monday 15 August: P14 to P16.

Tuesday 16 August: P17 to P19, start P20.

Wednesday 17 August: Complete P20. P21 and P22.

Thursday 18 August: P23 to P35.

Friday 19 August: Start P26.

Saturday 20 August: Complete P26. PA-016. Start heading east, MVP sling.

Sunday 21 August: Heading east, MVP sling. OHS meeting.

Monday 22 August: Heading east, MVP sling.

Tuesday 23 August: Complete MVP sling. Hal, Scott3, Scott2.

Wednesday 24 August: Sailing home.

Thursday 25 August: Arrive at IOS and offload, ship cleared by noon.

Scientific Equipment Report

-Even though the security clearance reactivation procedures for one person were started in June, it seems that some paperwork went missing along the line. When checking on the status of that person just before sailing, documents that had already been sent weeks earlier had to be resent, with the clearance finally being granted the morning AFTER we left, therefore too late. Unfortunately this person missed her last opportunity to collect offshore data in order to complete her Master's degree. The new procedure asking the chief scientist to check on clearances instead of the security officer doing so does not work very well at all. At least the form we have to use should be improved to include sea-going visitors.

-Another person did not get to sail after receiving three inconclusive COVID test results from the nurses at IOS. Although the person had been testing the week prior to sailing as required and obtained only negative results, he was sent home with the order to not come back to work for a week. With the blessing of his section head the person went back to see the nurses the following morning and received a negative result, but opted not to sail in order to not jeopardize the cruise. The nurses had told him that he may have been incubating the virus resulting in the inconclusive results. Further official testing confirmed that the individual shows no signs of ever being infected by the COVID virus. Furthermore, he missed the cruise due to the interpretation of an "inconclusive" test, the causes of which are unknown (instrument error, operator error, etc.). If he had showed up at the ship passed 1400 on crew changed day, when the nurses are gone, and had used a 'self-test' kit as some other people used he would have been part of this cruise.

-The CTD Fluorometer had to be swapped for the spare one near the beginning of the cruise, after station P5. It seems that quite a few cruises in row have had fluorescence issues. It would be good to look at the history of each fluorescence sensor and see if there's one particular sensor that is faulty or if all units are misbehaving.

-While swapping Fluorometer sensors it was noticed that the configuration file had the wrong fluorescence information up to Station P5 included, not corresponding to the sensor being used.

-The phytoplankton sling bottles were only found on the return part of the cruise, once all the sling was completed (aka too late). They were stored in the fridge of the main lab and even though we looked everywhere for them, including the cages in the hold, no one thought of checking that fridge. A couple of Lugol's sles were not taken.

-A heads-up that the fan of the CTD deck unit is making a strange noise after being turned off. It might only need cleaning, or else we have to make sure to have a spare on every cruise.

-The new science server does not have a version of SCS on it, and the old science server was not available. Unfortunately the met station on the Tully is being recorded via the SCS software which means that we don't have any met data for this cruise. Hopefully in February we can have a CCG IT tech on board who can fix the issue, OR OSD can get someone trained on the SCS software since both people who had received the training a few years ago are now retired.

-The TSG stopped recording from 2335 on 13 Aug to 1516 on 17 Aug (UTC). The new display did not show any indication that recording had stopped. It is also not clear at all how to stop/start a new TSG file with the new system.

Radioisotope Report

Radioisotopes (32-Si) were used during the cruise. The Rad-Van was decommissioned at the end of the cruise.

Scientific Successes and Concerns

-As mentioned earlier in this report, this was the first cruise since the beginning of the COVID pandemic where it felt like a "normal full-house Line P cruise", with many first-timers to the program. The training at the beginning of the cruise went really well and everyone was part of the success of this cruise.

-The number of days allocated for this cruise was perfect, taking into account the two missing members of the science team. Since part of their tasks had to be handled by other people, more time was required at each of the major stations so as not to overtax the staff. The number of days and the calm weather made the

timing of the long stations adequate for everyone's health and safety. Many thanks to Danielle, Olivia and Sara for taking more than their planned share of work.

Platform Successes and Concerns

PROBLEMS [SHIP'S EQUIPMENT/OPERATIONS/PLATFORM SUITABILITY]:
-The remote control to operate the A-frame wasn't working properly for the first bongo cast at station Haro59. Fortunately the engineers were able to switch to the spare system and this kept working for the rest of the cruise.

-The hydro winch used for Trace Metal (TM) sling was again the bane of both the deck and the engineering departments. The spooling gear is still not working, despite the winch having been serviced over the summer. Three crew members were required to do a Trace Metal cast, with one operating the winch, one operating the spooling gear with the drill, and the third person being the eyes of the person with the drill.

-The internet connection was constantly cutting off during the first few days of the cruise.

-One Go-Flo cast had to be aborted because of the grey water tank alarm going off. Fortunately it seems that a new system of grey water retention might be in sight for the Tully.

-There are two new sounder computers on board. The EA600 does not seem to be communicating with the sounder. And neither computers can be seen on the Science network, except from the ADCP computer .

SUCCESSES [SHIP]:
-All the deck and bridge crew members, old and new, were fantastic in 'learning the ropes' of the program. The rosette deployments and landings all went very smoothly, no cast had to be interrupted because of large wire angles, and all Go-Flo casts went smoothly despite the TM winch spooling system, with no Go-Flo bottle being damaged by hitting the chains.

-Despite being a little tricky at first, the engineering department adapted to our 'retention requests' within the first few days of the cruise and it all became routine very quickly.

-Once again the CS email account proved invaluable since I could not access my DFO email account for most of the cruise. The "TullyCS" account was therefore the only available account to me. I discovered later in the cruise that the DFO email account can be accessed via Webmail when one is connected to the Fleet domain. So by using the new Chief Scientist computer in Cabin A I can now check my DFO email from the Tully even if my cell phone loses contact. This new Chief Scientist computer is really a great addition. It's also very useful for printing the daily plans directly to the ship's office printer. All that is needed now is a link to scan directly from that printer back to the TullyCS computer!

Safety Concerns

None

Hazardous Occurrences

None

Other Comments

- Many thanks to everyone at IOS who helped either before, during, or after the cruise: Erinn, Robyn, Kenny, Mark, Melissa for the packing and some of you for loading; Scott, Lindsay and Kelly for fork-lifting; Hanna Unger for all your remote help with computer/cell phone/accounts issues; Kyle and Mark for all your help receiving, storing, and lending chemicals; Tanner for receiving/shipping the Bigelow crates. It was, and always is, very much appreciated.
- Thanks to Danielle, Sara and Olivia for doing most of the 'onboard tasks' for those who could not sail.

- And many, many thanks to everyone on board for such a successful cruise. The ship didn't break down and the toilets didn't get plugged (thanks to all engineers and ERAs); every stop was right on station (thanks to the officers); no gear got lost or damaged (thanks to the deck crew); and everyone was more than well fed (thanks to the logistics and galley crew).
- With a special thank you to Scott the Chief Cook for dealing with so many different dietary requests!
- Finally, Captain Rhona, it was a real pleasure sailing with you again, and Chief Martin, really happy that you're now officially "part of the gang".
- Thanks to EVERYONE and see you all in February!
Marie Robert

- My sincere thanks to the captain and crew of the John P. Tully, the chief scientist Marie Robert, my watch leaders, and all personnel aboard who helped make this a successful mission.
Olivia Melville

- We thank Chief Scientist Marie Robert for all of her assistance and support with international logistics, answering a never ending stream of questions, and running a really smooth cruise. The captain and crew of CCGS JP Tully for their professionalism, excellent food, good humor, and their fine ship. Mark Belton (IOS) for assistance with nutrient sling, last minute chemicals, and the fume hood. Kyle Simpson (IOS) for his help with shipping and receiving.
Dave Drapeau and Sara Rauschenberg

- My thanks to the engineers who managed to get the salt water pressure up high enough on the aft deck to clean the nets, much appreciated.
- I would like to thank the crew and captain of the JP Tully for all their help, especially the winch operators sitting through all those deep casts, again, thank you.
Moira Galbraith

- I thank everyone on board who all helped me have a great experience and collect the exciting data. Especially Marie Robert for all the logistics and planning, Rowan Fox for the MVP work, Moira Galbraith for leading the watch shift, and the captain and crew of the ship for a smooth ride and excellent hospitality.
Bernard Yang

- I would like to thank our Chief Scientist Marie Robert for the opportunity to collect sles on the August Line P cruise this year. I would also like to thank our watch leader Moira Galbraith for assistance with taxonomy and collection, and the whole crew for their great company and conversation. Everyone on the ship was very helpful and collaborative, and I'm very grateful to have had the opportunity to join on and work with so many amazing scientists and crewmates.
Alastair Roberts

- We would like to sincerely thank the captain and coast guard crew aboard the John P. Tully, IOS scientists, watch leaders, and our chief scientist Marie Robert for helping facilitate the completion of this work.
Brandon McNabb and Ross McCullogh

Images

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