Thom Maughan Sorted By Project

300078 - DMO Divisional Support - AUV

- Discussed the scope of the planned work with Erik. (Week 33)
- Parts kit and BOM for EE Techs. Serial Monster board has been stuffed by James. Will be working with Tad while Erik is out. (Week 49)

300083 - DMO Divisional Support - LRAUV

- Met with Erik, Brian, Brett and Quinn to discuss battery board. Dropped parts to Indtec. Reviewed WHOI software protocol design doc. (Week 7)
- Met with Erik to discuss battery control / monitor board, get schematics. Git access to the Dorado code. (Week 9)
- Picked up LRAUV backplane from Indtec. Charger is due first week in March (Week 9)
- Picked up backplane boards from Indtec, in my office (Week 12)
- Dropped off Charger parts and PO on Thurs 9th. (Week 12)
- Installed MCUXpresso IDE after working thru NXP website issues (Week 12)
- Ordered jtag programmers (Week 12)
- Designed a minimal RS232 multi-drop dev board. (Week 12)
- Meetings with Quinn regarding LRAUV to battery backplane software. We have a plan (Week 15)
- 2 battery backplane boards have been received. To aid software development for i2c mux and multidrop rs232 protocol a small dev board was designed and fabricated. (Week 15)
- Battery charger boards have been picked up at Indtec (Week 15)
- Installed MCUexpresso (Week 15)
- Installed MCUxpresso then switched to LPCxpresso per NXP support, then after meeting with Erik am back to MCUxpresso. (Week 17)
- Meetings with Quinn on protocol (Week 17)
- MCUxpress + MCU-Link now working after a bit of the ole uninstall, reinstall, reboot. (Week 18)
- Purchased a known good lpc11c24 board to verify all is well with the dev+debug setup. Still no joy downloading code to the battery board. In progress going thru the lpc11e13 datasheet against the schematic and layout. (Week 18)
- Working thru hardware issues affecting code download, found and fixed. LPCopen app dev for battery backplane is in progress (Week 19)
- Battery backplane controller firmware, aka, batman. Working on i2c driver coming up to speed on MCUxpresso. (Week 20)
- Board bringup and software dev for lrauv battery management board. (Week 21)
- Parts kit for small dev board (Week 21)
- Created chip support library for lpc11exx. This solved the hard fault when accessing some peripherals. (Week 23)
- Backplane board bringup is done. Thanks to Brett H for the fast response on a dev battery cage. Making progress on battery status code. (Week 23)
- Erik provided an overview of planned battery manager operation, very helpful (Week 23)
- Lrauv batman board bringup. Scanning i2c and working thru i2c mux. Minor assembly problems found and fixed. (Week 26)
- Meetings with Erik on the electronics design and software (Week 26)
- LRAUV BatMan controller firmware. In progress on implementing smbus functions. Board bringup on baseboard is done and charging daughter boards will be tested after smbus functions for charge monitoring are working. (Week 29)

- LRAUV BatMan firmware development. (Week 30)
- Making progress on I2c and smbus for battery status. (Week 30)
- Ran out of code space on the 24KB lpc11e13. Scrunched some functions but no joy. Tried compiler for size optimization but lost single step debug and code is not working. Found a pin compatible part with 32KB. (Week 30)
- Reading thru NMEA style WHOI protocol for multi-drop rs232. Drafted a more compact, energy efficient and less labor (for me) machine-to-machine proposal based on previous rs485 experience. (Week 30)
- (Week 30)
- Smbus functions implemented and tested for run time monitoring of the lrauv battery packs (Week 31)
- Met with Quinn to discuss protocol for multidrop rs232. In progress on implementation but hitting the end of flash (again). (Week 31)
- Processor swap to upgrade to a 32KB part. (Week 31)
- Starting on the charging board bringup and firmware. (Week 31)
- Updated the backplane processor to add 8KB additional flash - nice to have some code space again. (Week 32)
- Draft serial protocol reviewed with Quinn and implemented. Will broaden the review and iterate. (Week 32)
- Backplane hardware bringup and drivers are work in progress. Basic functions are working. (Week 32)
- Runtime battery status messages implemented (Week 32)
- In progress on charger daughter board. Working with Erik to understand features. Starting charge test on 28 batteries. (Week 32)
- LRAUV BatMan charger testing. Erik's design is working great so far. Using the old and throw away batteries from the LRAUV lab. Basic charge monitoring is in place. Working to understand and implement the more advanced features on the boards. (Week 33)
- Updating test plan for scenarios. Read the battery safety checklist. (Week 34)
- Working on charge termination via smbus (Week 34)
- Working on charge termination and other battery charging smbus features (Week 35)
- Drafted a serial protocol doc and delivered to Quinn (Week 35)
- Working on port expander driver and charge termination (Week 36)
- Tested charger response to low batteries. (Week 36)
- Meeting with Erik, discussions on test plan (Week 37)
- Implementing additional smbus routines (Week 37)
- Worked with Erik on Overvoltage, overcurrent testing of the charger board. (Week 42)
- Changed resistors and 5v converter input voltage, retested (Week 42)
- Worked on firmware (Week 42)
- Worked on overvoltage / surge input hardware (Week 43)
- Tweaked smbus routines and serial protocol (Week 43)
- I2c peripheral drivers (Week 43)
- Debugging surge stopper electronics (Week 45)
- Ahi battery analysis. Drained aft pack as an experiment to reset the SMBus controller in the batteries to fix the i2c address bus hang. ~45A-hr of expected 150A-hr capacity. Next step is to remove the two packs and diagnose at the cell level. (Week 48)
- Working plans to get Ahi's battery capacity for next year Planktivore and also working plans to get new battery backplane installed for testing. We're not going to use BPC2 on Ahi as a test vehicle. (Week 48)
- Delivered Parts and PCBs to Indtec to build two more backplane/charger sets. (Week 48)
- Working thru the list of hardware bringup (Week 49)
- Assembled parts kit, write PO for a 2nd build of 2 backplanes and 2 charger boards at Indtec (Week 49)
- Ran out of code space and found out a few things about library linking with gcc (thanks Erik). Supply chain is improving, lpc11e37 is available that boosts code space from 32k to 128k, whew. (Week 49)
- Review packet health message with Quinn, we'll be changing to a 'Pack health' message from a 'stick average' (Week 49)

- Diagnosing Ahi's battery packs on rev1 BPC1 backplane. Captured bank switching mid-i2c transactions. Two bad banks have been resurrected after removing and re-inserting sticks and in one case, using the stick charger. (Week 50)
- BPC2 health message implementation. (Week 50)
- Parts delivered to Indtec (Week 50)
- Met with Erik to go over the task list and plan for the next month (Week 50)
- Stuffed Serial Monster Killer base board (20 serial ports) and getting it prep'd for Tad (Week 50)

901009 - CANON

- Meeting with Kobun to plan out eDNA work (Week 9)
- Setup admin on deepEdna1 and deepEdna2 for server patching and install (Week 12)
- Edna1 and edna2 servers are online and have accounts setup via IS. Working plans to gather user requirements for software setup. Had a brief discussion with Brian Schlinning about providing requirements review and feedback. (Week 15)
- Organized edna lunch box and parts. (Week 15)
- JHU has received funding, expecting activity to startup on LRAUV in-situ edna (Week 15)
- Meeting with Oxford Nanopore (Week 17)
- (Week 17)
- Scoping install of software stack on edna1 and edna2. Prototyping sans docker on edna1. (Week 18)
- Attended CANON meeting. (Week 19)
- Looking into docker for edna1 and edna2 servers (Week 19)
- Coming up to speed on docker. Got an example docker file from Brian S. (Week 20)
- Researching use of docker and zfs on bioinformatics servers (Week 21)
- eDNA lunchbox battery debug for doest, not needed but we have a task on the list to provide a proper charging circuit with safety review sometime this year. Plan to leverage Planktivore design. (Week 23)
- eDNA server requirements gathering (Week 23)
- Docker experiments and reading. (Week 26)
- Met with Kobun on the eDNA server software and plans. First implementation will mirror the MBON server. (Week 29)
- Investigating use of VMWare for consistency with MBON server and to address concerns about introducing too many new technologies to the user base of the eDNA servers. Docker would come in a subsequent phase. (Week 30)
- Met with Peter in IS to get info from ticket system on MBON server. (Week 30)
- Attended Zack Golds talk and had a follow up discussion. (Week 30)
- Per Kobun, working on deep-edna1 setup following mbon-edna. Looking into VMWare and Docker options (Week 31)
- Meeting with bio-informatics users next wed/thurs to get requirements. (Week 31)
- Peter in IS helped get the software install history off mbon-edna (Week 31)
- Prep for oceanomics server setup discussion with bio-informatics workers. Meeting delayed a week. (Week 32)
- Meeting with bio-informatics squad has been delayed due to Covid. (Week 33)
- Prep for bio-informatics meeting. Meeting delayed to the 30th (covid) (Week 34)
- Drafted a document with the software installed on MBON-edna. (Week 35)
- Met with Katy, Kobun, Sebastian and Jacoby to gather requirements for setting up the two high performance edna processing servers. Discussed docker and git. Plan is to start simple on edna1 and use edna2 for prototyping and experimental software. (Week 35)
- Meeting with ocean omics team to go over near term plans for server setup and to understand their concerns. (Week 36)
- Working with IS on backups, permissions, security patches for the deepednas (Week 36)
- MBON Master software install 'forensics' (Week 36)
- Discussions (Week 36)

- Meeting with Neil to go over backup and options. After working thru various scenarios, decided best course of action. (Week 37)
- One on one discussions with oceanomics server users. (Week 37)
- Working with IS on deepednaZ server setup. Re-partitioning is complete and IS tickets have been filed for the backup and account setups. (Week 38)
- Working thru permissions and setup of the deepedna servers. Request was for backup and security patches however additional constraints and permission limitations are encountered. (Week 40)
- Next step is to setup deepedna2 in the same fashion as DeepRip. (Week 40)
- DIscussions with bioinformatics suers (Week 41)
- Setup deepedna2 as base ubuntu 22 with sudo privs for users, many thanks to Peter for the support. (Week 41)
- Working on deepedna2 as an experimental setup mirroring DeepRip. (Week 42)
- Install NVidia support, python, etc. (Week 42)
- Worked with Peter on user account setup and approach for mounting network resources (Week 42)
- Deepedna2 has been resetup with wonderful support by Peter Walker. (Week 43)
- Software installs are complete, working on readme and testing (Week 43)
- Testing and revising mount instructions on deepedna2 (Week 45)
- Trying various benchmarks (Week 45)
- User support for deepedna2 server (Week 47)
- Not much activity. Planning to setup deepedna1 to the same configuration as deepedna2. (Week 48)
- Moving forward with deepedna1 setup to match deepedna2 (Week 49)
- Added Steve Haddock and Shannon Johnson to the deepednaZ (Week 50)
- Deepedna1 is now setup with permission same as Deepedna2 (Week 50)

901713 - Nearshore FOCE

- Support for potential use of MpHOX in cold room aquaria. (Week 32)

901805 - Coastal Biogeochemical Sensing Program

- Investigated noise on Durafet / MFET setup. Borrowed isolation transformer for water bath, recommended static mats. (Week 1)
- Starting m2m interface design (Week 6)
- Joseph found a noise issue on the nanoFET. We chased it down to an incorrect MUX setting in the nanoFET. Fixed and in test. (Week 7)
- Weekly ISFETology meeting / techfest. (Week 7)
- Bug fix affecting nanoFET sampling has passed a multi-day lab test. (Week 9)
- (Week 10)
- Reviewed nanoFET test data (Week 12)
- Code composer studio v12 eval on new laptop. No issues found, however git integration is not yet tested. (Week 15)
- Review nanoFet and provided size reduction recommendations. (Week 19)
- Update to CCS v12 for development on new laptop. Git integration bug looks to be fixed. (Week 19)
- Attended meeting on nanoFET size reduction, gave several suggestions. (Week 20)
- Assist on MFET logging problem (Week 21)
- Troubleshooting Labview serial comm to MFET bug after a run of several days. (Week 23)
- Discussions on nanoFET software/hardware with Irene. Release 4.1.7 which addresses a mux bug. (Week 23)
- Met with Yui on near term plans. BEAMS firmware worked well on the recent Maui deployment. (Week 29)
- Starting rework on serial interface to improve machine to machine interface for labview. (Week 30)
- Getting ready for new nanoFET and collaboration with Scripps. (Week 30)
- Verified nanoFET build, getting ready for Irenes updated version and collab with Scripps. (Week 31)

- Irene's updated NanoFET is built and we are getting ready for software handoff to Scripps for Spray2 development. (Week 32)
- Wirewalker bug investigation. No need for a point release, the fix will be rolled up in the end of August release. (Week 33)
- Loaded code on the new nanoFET, ran some quick tests. (Week 33)
- Helped with Spray corrosion diagnostics and MFET uSD card diagnostic. Recommended updating firmware from 3.3.1 to 4.1.6 and disabling uSD card for Spray since persistor logs the data. If uSD is needed, used industrial 1GB or 2GB cards (Week 34)
- Testing phFET-SOS for nanoFET (Week 35)
- Working on adding calibration coefficients for pressure and K2. User manual entry and file import. (Week 35)
- M2m protocol (Week 35)
- Investigating Spray ground fault. Sent a proposal with options to Yui for an experimental sniffer technique. (Week 35)
- Pressure calibration coefficient manual entry is complete and ready for review. The user can copy from excel and paste into Teraterm. Working on file import. (Week 36)
- Implementing ymodem import of calibration coefficients. (Week 37)
- Calibration coefficient import via Ymodem coding is complete. (Week 38)
- Adding defaults and edit capability for the Cal coefficients (Week 38)
- Testing on new nanoFET and MFET (Week 38)
- Working on m2m serial (Week 40)
- NanoFET user's guide for handoff to Scripps (Week 40)
- NanoFET software testing (Week 40)
- Final touches on ymodem import of pressure-temperature coefficients. (Week 41)
- Working on m2m protocol for lab automation. (Week 41)
- Testing and bug fixing the ymodem upload of PT coeff. Joseph found a but at 9600, fixed and released (Week 42)
- In progress on m2m protocol for lab automation (Week 42)
- In progress on serial protocol for m2m (Week 43)
- pHFET-SOS Users Guide, delivered to Scripps (Week 43)
- Bug fixing (Week 43)
- Re-write of power management state machine. Testing (Week 45)
- Forked code and in v5 implementing new serial protocol for machine to machine. In progress implementing command line functions for config and control of sampling. (Week 45)
- Prelim QA testing of MFETs, found hardware problem. Updating v4.2.x with changes to QA test routine in prep for run of 100 boards. (Week 45)
- NanoFET spi NAND flash driver (Week 45)
- About half done with commandline implementation and sleep management. (Week 47)
- Held a 'users review' with Yui, Jackie, Joseph and Irene to get feedback on usage, names, etc. Great feedback. (Week 47)
- Working towards a beta release first week in Dec. (Week 47)
- Working on commandline mods to address review comments. (Week 48)
- Updating QA procedure for 100 board checkout (Week 48)
- Interview for Liz F. (Week 48)
- Helping Irene debug NanoFET hardware. (Week 48)
- Support for Miguel at Scripps (Week 48)
- Working on addressing review comments and working to release a beta of v5.0 pHFET-SOS by next week. (Week 49)
- Updating QA procedure. (Week 49)
- Working on beta release (Week 50)

902004 - Planktivore

- Reviewed and weighed housings - the shop has done a great job. (Week 1)
- Project management (Week 1)
- Camera controller design and layout. (Week 1)
- Several week catchup weekly (big push on electronics design and fab): (Week 6)
- Camera Controller design complete, base board out for fab, delivery next week. (Week 6)
- Power modules are also out for fab. Buck-boost bringup is complete (Week 6)
- Strobe energy and Strobe variable voltage supply boards out for fab, delivery next week. (Week 6)
- Preparing kits for Indec (Week 6)
- Scheduled Tech resource for assembly of bringup board for each next week. Used the google calendar, thanks Jose for helping me get up and running. (Week 6)
- Kitting parts, cam ctrl is ready for assembly. The remaining boards should get here by next week. (Week 7)
- Found a way to lower the ESR on the Strobe Energy board. Finished the design change and layout. Will work housing fitment with Jon before sending out for fab. (Week 7)
- Planktivore kickoff meeting. Also, weekly Planktivore engineering meeting. (Week 7)
- All pcb's in fab / assembly for strobe and camera control. (Week 9)
- Bringup on Camera control started (Week 9)
- (Week 10)
- Housing pressure test ~300m. Passed. Aaron and Jared went out at 3:30pm on Friday, above and beyond expectations. Much appreciated. (Week 12)
- Camera controller board bringup. No design errors found, but worked through a number of pcb assembly challenges due to fine pitch surface mount parts.. Handbuilt vs automated assembly discussions with Jose / Paul / Denis. Jose has approval to purchase a reflow oven for future projects which should solve the problems. (Week 12)
- Software updates for Camera Controller (Week 12)
- Battery charger board assembly. Many thanks to Denis for the help with reflow and soldering. (Week 12)
- Mar 22 was our goal to have all assembled and tested. Were running several days behind but no blocking issues. Assembly of electronics into chassis is starting. (Week 12)
- Working on strobe assembly and wire harness. (Week 12)
- The updated strobe energy board v2.4 modified to fit the housing has been in fab at the pcb house since Mar 6, it is expected next week. Testing and integration is moving forward with the previous version of the board. (Week 12)
- Meeting with Brett H to go over EcoHAB which starts April 3rd. Paragon deployment of battery powered Planktivore v2 will be our first outing. (Week 12)
- Weekly engineering meeting (Week 12)
- Weekly report has been missed for several weeks - here's the backlog. (Week 15)
- Aaron ordered 600m of line for Paragon EcoHAB deployment. (Week 15)
- Aaron is designing and fabricating bracket for Noot battery pack. (Week 15)
- Jose and James have provided first class and timely support for electronics assembly. Hand building boards with subminiature parts designed for automated assembly is challenging! Jose has approval to purchase a reflow oven which will be great moving forward. (Week 15)
- Denis has a reflow setup and was able to resolve our solder challenges in very timely fashion. (Week 15)
- Camera controller is firing the strobes but we've not yet measured light/electrical output. The new v2.4 strobe energy board was delayed by the vendor and we are working thru how to use v2.3. Looks like best path is to modify the microscope endcap. (Week 15)
- Denis and Thom attempted to assemble the microscope chassis into the housings, mechanical issues were found and we have a plan to address those on Mon/Tues modulo multi-tasking on other projects. The interference problems will require some minor rework of the optical chassis. (Week 15)
- Brent / Paul successfully tested XavierNX software with the LRAUV and lcm. (Week 15)
- Paul has a prelim algorithm for automated detection of pseudo-nitzchia (Week 15)

- Paul is working on housing assembly and providing valuable assistance with mechanical, electrical, optics and software. (Week 15)
- EcoHAB Paragon PN (pseudo-nit) sampling is our first deployment goal. 600m of line is inbound expected friday, Aaron has design and is fabricating bracketry and protective measures. (Week 15)
- Optical chassis fit issues are on track to be resolved in the next day or so with lower profile screws and some of Denis's craftsmanship. Once we have the chassis installed, we'll be able to machine the microscope endcaps for the v2.3 energy boards. Pressure testing the machined endcaps is tbd, and dependent on Paragon access. Jon E is on vacation and we'll assess the risk next week. (Week 15)
- Strobe pulse current measurement is not done yet but hopefully today as Thom is taking vacation Wed - Sun in Dallas... (Week 15)
- Camera controller electronics is tested. (Week 15)
- Software for the camera controller has some work but mostly it's removal of the board bringup code. (Week 15)
- LRAUV Galene integration is being worked and the syntactic foam status will be updated after Jon is back. (Week 15)
- Final assembly is moving forward, with issues popping up and thankfully being readily addressed by a capable team. There is a rework needed on the Camera Controller to enable the Console rs232 port, but other than that, it's ready for integration. (Week 15)
- Jon is back from vacation and has the machined syntactic foam and is working the 3D printed 'foil' that goes on the end of the microscope tubes. (Week 15)
- EcoHAB Paragon PN sampling readiness this week is our goal. (Week 15)
- Aaron has received 600m of line and is working on the spool. (Week 15)
- Aaron has designed and is finishing up the Noot battery bracket. Note: we do not have a pressure transducer for depth measurement at this time. (Week 15)
- Brent and Paul have the XavierNX software setup and tested and Brent is replicating for use on Fluum and spare. XavierNX hardware is painfully expensive and difficult to find. (Week 15)
- Paul finished Camera Controller board testing and it was wired up to the bulkhead connectors and XavierNX and running all weekend (burnin). (Week 15)
- Denis, Paul and Jon worked thru mechanical fit issues and as of Monday these are all fixed thru the miracle of 3D printing and a touch of machining on the endcap. (Week 15)
- Working on integrating the strobe/camera integration with Camera Controller and XavierNX,Thom, Denis and Paul found an electrical issue (VarVo at 11.3v is hitting short circuit protection at startup), the fix is to increase the value of a current limiting resistor. These are on order and due to arrive on Wed. (Week 15)
- Jon is working on second rev of the 3D printed hydro foil. (Week 15)
- Fluum progress has been halted and final assembly will happen after we finish priority tasks. We will operate Plantivore v2 at 2usec pulse for first test off Paragon (Week 15)
- Planktivore is assembled (11 Apr 2023 at 7:12pm) and is running overnight ‘soak’ tests. 11 Apr test stopped, but likely due to loose cable and/or windows update. (Week 15)
- Wed 12 Apr 6:07pm test is running on Noot battery supply. Minor mechanical alignment issue, but images are looking good. (Week 15)
- First deployment will be off Paragon, hopefully by Apr 14 if all goes well. (Week 15)
- 38 minute deployment near Wirewalker on Thursday 20th, at 5m depth, Paragon drifting. 700K+ images (Week 17)
- 39 minute deployment near Wirewalker on Tues 25th, 230k+images, yoyo 4 times at approx. 1m/sec to 70m for half, then steady at depth for the other half. (Week 17)
- CANON meetings. Science use case is following the vertical migration from 250m. Galene/Chiton will be used as it covers the larger organism size range. (Week 17)
- Working plans to get on an alternate LRAUV ahead of proposal season to demonstrate use of Planktivore on a science relevant scenario (long shot). This is adding work when resource is stretched thin. (Week 17)
- Preparing Planktivore v1 to be used by Collen’s group off Paragon on May 21,22. (Week 17)

- Working with Aaron on Mooring for Planktivore deployment near power buoy. (Week 18)
- Proposal abstract, talking to potential stakeholders for 2024 Planktivore (Week 18)
- Working with Araon on mooring deployment. Sent Mandy our Sanctuary permit details and have prepared notice to mariners message, thanks to Brian K for the template and to Jared for the guidelines. (Week 19)
- Preparing Plantivore V1 for training Crissy Hufford in prep for use by Durkin lab on Paragon May 22,23 (Week 19)
- Requesting additional time for Denis to help with bench setup and strobe tuning (Week 19)
- Board bullets (Week 19)
- Prep Planktivore V1 for use by Durkin lab off Paragon in the coming weeks. Held training for Crissy at the test tank. (Week 20)
- Opportunistic training deployment of Planktivore v1 on Tuesday May 16. CPF recovery, fishing for anchovy, 10 minute dip of Planktivore v1 + Noot. (Week 20)
- Mooring prep (Week 21)
- Project budget and planning (Week 21)
- Abstract prep and presentation for 2024 (Week 21)
- Prep, test and deploy Planktivore v2 on temporary mooring. Aaron did a great job on the design and fabrication of the mooring - well done! (Week 23)
- Mooring recovery planned for Friday (Week 23)
- Recovered mooring June 15 after 3 days. Stella spot tracker went off line (low batteries). (Week 26)
- Data copy is large. Found an issue with the array of 16TB drives where copy fails. Investigating. (Week 26)
- 27 million ROI's in the dataset! (Week 26)
- Project management, budget, one on one meetings to discuss plans. (Week 29)
- LRAUV nose shell is delayed. Elkhorn is indicating 'next week'. (Week 29)
- Met with Brett regarding Ahi. (Week 29)
- Prep'd Planktivore V1 for Durkin lab deployment on 7/19. Next step is data processing. (Week 29)
- Pressure test for Planktivore V1 and V2 schedule is in place for Aug 8,9. (Week 29)
- Prep for 'Club Plankton' booth at open house. (Week 29)
- Aaron has assembled the 2nd housing for pressure test on Aug. 8. (Week 30)
- Reviewed Jon's pressure transducer 'add on'. Submit for fab should be in the next day or so with 6 week shop turnaround. (Week 30)
- Paul has started processing on Durkin Lab deployment data. Planktivore V1 will be disassembled, tight tolerance face plates installed, filled with golf balls for pressure test along with Planktivore V2. (Week 30)
- Opened housing and removed Xavier and optics benches, Aaron prep'd planktivore V1 and V2 for pressure test planned Aug 8. (Week 31)
- Working with Brett on clamshell nose cone for Ahi. Schedule from Elkhorn has been slipping and have worked with Stan on next delivery date. AIming for Planktivore v2 on Ahi in mid-Sep. (Week 31)
- Open house prep. Many thanks to Paul for the excellent posters and for Lael, Jonah Gomes, Paul and Denis for staffing the booth and tear down. (Week 31)
- Pressure test of Planktivore V1 and V2 on 9 Aug. (Week 32)
- Working thru supplier issues with payload clam shell nose cone. Stan is sending pictures and has handed it off to the painter. (Week 32)
- Aiming for a mid-September planktivore deployment (Week 32)
- Both Planktivore V1 and V2 passed the pressure test in Port Hueneme. (Week 33)
- LED board hardware design updated and ready to send out for fab. (Week 33)
- Planktivore+Ahi GoToSea weekly meeting setup - goal is mid-Sep deployment (Week 33)
- Received the 'Plankti-Shell' from Elkhorn, looks good. Will test fit when paint is fully cured. (Week 33)
- Met with Jim Barry regarding next years Coral deployment. The request is early in the year so am working to eval the state of the Deep BRS battery. (Week 33)
- Working towards mid-Sept deployment. Plankti-shell was delivered and fit test surfaced minor issues. Brett had Stan do a fast turnaround fix. (Week 34)

- Aaron replaced 3d printed (fragile) brackets with metal. Aaron also prep'd and pressure tested the deep brs housing. I'm in progress on battery safety checklist on Craig O's battery module. (Week 34)
- Battery ChargR board testing. One works, the other worked for a short time then failed. More testing on the one that works. (Week 34)
- Opened Planktivore V2 housing for adding ChargR, Li-on battery pack and fixing a wire. (Week 34)
- Disassembled Planktivore V2. (Week 35)
- ChargR testing. Hand asembled board failed. Paul built another set. Ran several charge / discharge cycles. Mounted ChargR, battery bracket and battery. (Week 35)
- Added ethernet switch (Week 35)
- Testing with a plan to button up housing on Thursday. Working towards a mid-Sep deployment. (Week 35)
- Working on abstract for ocean sciences in Feb. (Week 36)
- Bench test has been running for days. Plan is for housing to be closed this week and Planktivore V2 to be relocated to LRAUV lab. (Week 36)
- Reviewing the deep brs battery design and battery safety checklist. (Week 36)
- Finalizing battery backup testing, troubleshooting a problem with one of the strobes. Found ROHS soldering problem on one board and a board that failed. (Week 37)
- Prep for LRAUV deployment. Fault found with the battery charging module. The small component size on the board, footprint, and soldering / hand assembly are suspects in the case. (Week 38)
- Battery charger removed from test deployment. Housing has been sealed and Planktivore tested and wheeled into LRAUV lab (Week 38)
- LRAUV Ahi checkout is complete and housing assembly is next step. Once the LRAUV housing is in place we will attach Planktivore. (Week 38)
- Air weight and estimate on water weight indicate we need far more foam than originally designed. Working with Aaron. Hoping to get into the test tank this week. (Week 38)
- Planktivore on LRAUV Ahi deployment on Tuesday 3 Oct 2023 after a push by Chris W and Aaron S. Observed ground fault diagnosis which turned out to be a flooded compass. Planktivore was clean on ground faults. LRAUV team efforts greatly appreciated. (Week 40)
- Gathered lessons learned. (Week 40)
- LRAUV operator training. (Week 40)
- Debugging hdd issues on DeepRip (Week 40)
- Milestone: deployment of Planktivore on LRAUV Ahi. Ironed out a few wrinkles and then had a clean 12 hour mission with 1+ Million plankton images!!! Many thanks to the LRAUV team for the support and guidance, (Week 41)
- Scrubbed plans for deployment this week. Will try again next week. (Week 42)
- LRAUV Ahi + Planktivore prep and deployment on Tuesday afternoon. (Week 43)
- Watch standing, discussions. Water is very clear. (Week 43)
- 2nd Planktivore deployment Oct 24-27. Water was quite clear based on observation and EcoPUCK. Looks like we recorded 1+ million rois. (Week 45)
- Improved watch standing and understanding LRAUV commands. (Week 45)
- Attended plankton image / data management meeting hosted by Henry Ruhl. It is apparent we have a resource gap in 2024 for providing automated plankton identification. We are working to align with other efforts. Taxonomist(s) who can identify plankton is a critical role. (Week 45)
- Rebuilt Planktivore v1 and with help from Aaron S. got it tested and delivered to the Durkin lab for two days of 100m deployments. (Week 48)
- Working on hardware updates. (Week 48)
- Budgets and labor. (Week 48)
- Updating board designs to unify firmware / pin muxing between Planktivore v1 and v2. Planktivore v1 will have the faster strobes which will enable 1m/s (up from 0.25 m/s) (Week 49)
- Fab packages, boms, etc. (Week 49)
- Board design updates, fab and assembly packages (Week 50)
- Year end budgets (Week 50)
- Coming up to speed on plankton identification and recommendations by committees. (Week 50)

Out of Office

- Jan 4 - 8 CES
- mid-Feb vacation
- Take son to school day (2/8, 3/8, 4/5), work at home am, on campus 1-4
- Working from home last week during quarantine
- week vacation possibly in March.
- Take son to school day (3/8, 4/5), work at home am, on campus 1-4
- Vacation June 28 - July 12
- March 29 -31
- End of April camping
- Vacation June 26 - July 12
- Apr 27-30 Camping Pismo
- Vacation June 26 - July 12 Vacation / Elder care
- Vacation Sep 24 - Oct 2 Vacation / Wife care
- Vacation Sep 24 - Oct 2 Vacation
- Vacation Sep 24 - Oct 2 Ohio
- Vacation Oct 12 - 16 Nevada Eclipse
- Vacation Sep 27 - Oct 2 Ohio
- Vacation Oct 12 - 18 Nevada Eclipse
- Vacation Sep 27 - Oct 2 Ohio.
- Jan 9 - 12 CES
- Feb 18 - 23 OSM24
- Oct 11 Jury/sick
- Vacation Oct 12 - 18 Nevada Eclipse (maybe not)
- Vacation Oct 12 - 18 Cancelled
- Vacation in Nov. TBD, Colorado
- Vacation in Dec, couple days around Xmas
- Feb 9 - 14 Vacation Colorado
- Vacation in Nov. TBD, Colorado (cancelled)

Overhead

- DMO requested help with a XOJO modbus GUI for FO Micro board. Put together a prelim and reviewed with DJ. Moving forward with making it an official app. (Week 7)
- Xojo app for Ventana FO controller. DJ is moving forward with can closure sooner that expected. Next window for test is in August. I will test on the loaner board in prep. (Week 9)
- Weekly techfest, ISFET is being study in depth (Week 10)
- DMO Support for Ventana. (Week 12)
- ISFETology / techfest. (Week 12)
- Weekly ISFETology / techfest (Week 15)
- Greg Voogd provided Crane checkout (missed previous trainings due to covid exposure) (Week 17)
- Working on Planktivore abstract. Discussions with stakeholders. Many thanks to Paul for work on the abstract text (Week 19)
- Planktivore Abstract for proposal. Board Bullets (Week 20)
- Orcad and EDM installed with a much appreciated overview by Jose. (Week 20)
- Reflow oven test. (Week 21)
- Cleanup. Moved the towbody to the Waveglider shed, microscope is stored in office. (Week 23)
- Planktivore 2024 proposal (Week 26)
- Proposal was finished and submitted. Many thanks to Paul Roberts. (Week 29)
- Crane training 7/25 (Week 30)
- Intern presentation feedback (Week 32)

- Xojo for DJ's mux board (Week 32)
- DMO Support Ventana. Support DJ getting Ventana Ground Fault Xojo app up and running. Found a number of problems on my Wago stack. Working on another Xojo App to control the FOmicro modbus board. (Week 33)
- DMO Support Ventana. Wrote Xojo Modbus app for exercising the FO Micro card. Fast turnaround was possible with help - thanks Kevin G, Kent H and Mike R for the assist. Delivered on Tues. (Week 34)
- Abstract for Ocean Sciences (Week 37)
- Staff council (Week 50)