

902304 - Piscivore Cam

Week 52

1. Brian Schlining
 - a. [Code for merging LRAVU data with Piscivore annotations](#) is done. [Positions are all loaded into VARS](#).

Week 51

1. Brian Schlining
 - a. Working on a pipeline to merge ancillary data with video annotations.
2. George Stern
 - a. Quotes and planning for spending remaining funds

Week 50

1. Brian Schlining
 - a. Meeting to discuss merging LRAUV data with piscivore video annotations.

Week 48

1. George Stern
 - a. Rhonda Software meetings, contract review - finally signed and PO issued

Week 47

1. Paul McGill
 - a. Had pre-meeting meeting to discuss requirements doc for Rhonda Software and will have Zoom with them in Kazakhstan tonight

Week 45

1. Brian Schlining
 - a. Loaded about 1/2 million ML proposals into VARS for this years deployments
2. George Stern
 - a. Rhonda software legal agreements and coordinating next steps

Week 44

1. George Stern
 - a. Completed MOU/project development plan for Rhonda Software and requested updated bid

Week 43

1. George Stern
 - a. Incorporated first round of feedback into MOU

Week 42

1. George Stern
 - a. Memorandum of Understanding/Scoping for Rhonda Software contract

Week 38

1. George Stern
 - a. Proposal planning

Week 37

1. George Stern
 - a. Talked to Rhonda Software about the quote
 - b. Reviewed OnSemi Apps' suggestions regarding more available/mature image sensors than the bleeding edge, automotive part we had been targeting

Week 34

1. George Stern
 - a. Meeting to discuss Rhonda Software bid, development options and funding

Week 33

1. Brian Schlining
 - a. [Imported latest deployment](#)
2. George Stern
 - a. Began looking at Rhonda SW bid
 - b. Begged Framos to provide access to Sony image sensor software manual and datasheet, need to escalate with Sony... thankfully we have access to OnSemi hyperlux series or choices for the next Pcam camera system would all be terrible.

Week 32

1. George Stern
 - a. Met with Rhonda Software to get a proposal bid

Week 30

1. George Stern
 - a. Continued effort to get NDAs and proprietary datasheets for potential image sensor candidates

Week 29

1. George Stern
 - a. Camera sensor NDAs to get access to datasheets

Week 28

1. George Stern
 - a. More computer vision chip research and trying to get proprietary camera data sheets
 - b. Proposal write up for camera testing and quote for camera drivers

Week 27

1. Paul McGill
 - a. Participated in 2025 proposal planning
2. George Stern
 - a. Research TI Jacinto platform for machine vision
 - b. Working with camera vendors to identify optimal sensor test platform
 - c. Proposal meeting

Week 25

1. Paul McGill
 - a. Attended two meetings with potential vendors for next-gen cameras
2. Brian Schlining
 - a. [Imported the most recent deployments.](#)
3. George Stern
 - a. Reviewed evaluation kits from multiple vendors for ambarella chipsets and tried to contact all of them; met with the only 2 that responded

Week 23

1. Paul McGill
 - a. Corrected wrong version of firmware on camera controller
 - b. Helped with Piscivore camera deployment on Mon
2. George Stern
 - a. New light baffle design, fabrication and testing
 - b. Final light + sensor assembly and test tank test before fielding
 - c. Ambarella computer vision product line research

Week 22

1. Paul McGill
 - a. Found another timing bug in camera controller code, fixed it, and have been running verification tests

- b. Loaded correct firmware into two cameras for Monday's deployment on LRAUV
- 2. George Stern
 - a. Mechanical design and fabrication of the sensor enclosure
 - b. tweaked layout and fabricated new light sensor board to increase light sensitivity in darker conditions

Week 21

- 1. Paul McGill
 - a. Testing on camera controller software v1.3.1 continues
- 2. George Stern
 - a. Preliminary light sensor schematic capture, board design, build, integration and testing
 - b. Light thermal testing and mechanical build
 - c. Many wasted hours trying to find optically clear, pliable, water resistant, electronics rated potting compound with a lead time <2wks
 - d. Boost converter testing

Week 20

- 1. Paul McGill
 - a. Testing bug fixes for camera controller code—each test takes days, but so far, so good
 - b. Trying to figure out how to increase resolution for video from Raspberry Pi cameras
- 2. George Stern
 - a. Tested existing Pcam LED to verify it couldn't support 10x increase in power
 - b. Layed out a new AI backed led pcb with boost converter and analog light sensor/dimmer and ordered parts
 - c. Preliminary design of a housing/potting form

Week 19

- 1. Paul McGill
 - a. Finally found the weird timing bug in the camera control firmware. Problem is caused by bug in Arduino real-time clock library and I'm programming around the issue. Now bench-testing the fix.
- 2. Brian Schlining
 - a. Ingested the [recent deployments](#) to m3.
- 3. George Stern
 - a. Collected first images from 7 potential image sensor/complete camera candidates and ran initial low light testing on 5 of them against the current GoFish cam. Waiting on 2 more likely better sensors to be stocked to complete testing

- b. Disassembled and ran some tests on 2 cameras which performed much better than the existing gofish cam to check compatibility with the existing system; unfortunately no easy swaps
- c. Researched electrical and magnetic field reception in salmon/tuna and sharks and existing fishing attractors

Week 18

- 1. Paul McGill
 - a. Continuing to troubleshoot software bug in controller software.
- 2. Brian Schlining
 - a. [Piscivore video imports](#)

Week 17

- 1. Paul McGill
 - a. Troubleshooting timing problem on v1.3.0 of camera controller code
- 2. George Stern
 - a. Final potted LED board tests and lure scatter testing with new light
 - b. Found better spec'ed lipo which will hopefully be more tolerant of overcharge
 - c. Test preparation for future pcam camera sensor shoot out
 - d. Pcam random delayed start troubleshooting

Week 16

- 1. Paul McGill
 - a. Troubleshooting issues with flakey camera controller
 - b. Met to discuss development of next camera version
- 2. George Stern
 - a. LED board build and initial testing

Week 15

- 1. Brian Schlining
 - a. Updated video registration job and docs with changes made to the directory structures. Current structure documented at <http://m3.shore.mbari.org/videos/M3/Projects/Piscivore/>
- 2. George Stern
 - a. custom lighting design for deployment on monday

Week 14

- 1. Brian Schlining
 - a. [Video import for recent deployments](#)

Week 12

1. Paul McGill
 - a. Helped Jared to troubleshoot problems with latest camera builds
2. George Stern
 - a. Processor stack troubleshooting/build support

Week 11

1. George Stern
 - a. Camera build support and testing

Week 10

1. Paul McGill
 - a. Got three processors labeled, programmed, and attached to new I/O board to build new cameras.

Week 9

1. Paul McGill
 - a. Investigating camera recording software

Week 8

1. Paul McGill
 - a. Getting new PCam 2.0 I/O boards built. Tested first article and gave the go-ahead to build two more.
2. George Stern
 - a. PC2 build support and specs

Week 7

1. Paul McGill
 - a. Created documentation for build of PCam v2 I/O board
 - b. Put together build kit and submitted parts to e-techs to build new controllers

Week 6

1. George Stern
 - a. PCv3 system care abouts doc and PCv2 camera build help
 - b. Kick off meeting

Week 4

1. Paul McGill
 - a. Getting parts together for building two more cameras

2. Brian Schlining
 - a. Import of latest missions videos into our asset management system
3. George Stern
 - a. Updated electronics fabrication planning

Week 3

1. Paul McGill
 - a. Commencing long-term testing of new controller software.
 - b. Troubleshooting intermittent controller battery connection issue on rear-facing camera

Week 2

1. Paul McGill
 - a. Made some more mods to Piscivore controller code, now bench testing over multi-day operations.

Week 1

1. Paul McGill
 - a. Added requested feature to camera software which will delay deployment for given number of days. Code is done but will take most of the week to test.