September Monthly Report

Status	Done
Assignee	Ⓝ Nate L'Esperance
Due date	10/01/2026
Task type	
Notes	This is set as a monthly occurance
Updated at	October 7, 2026 2:43 PM

BLUF

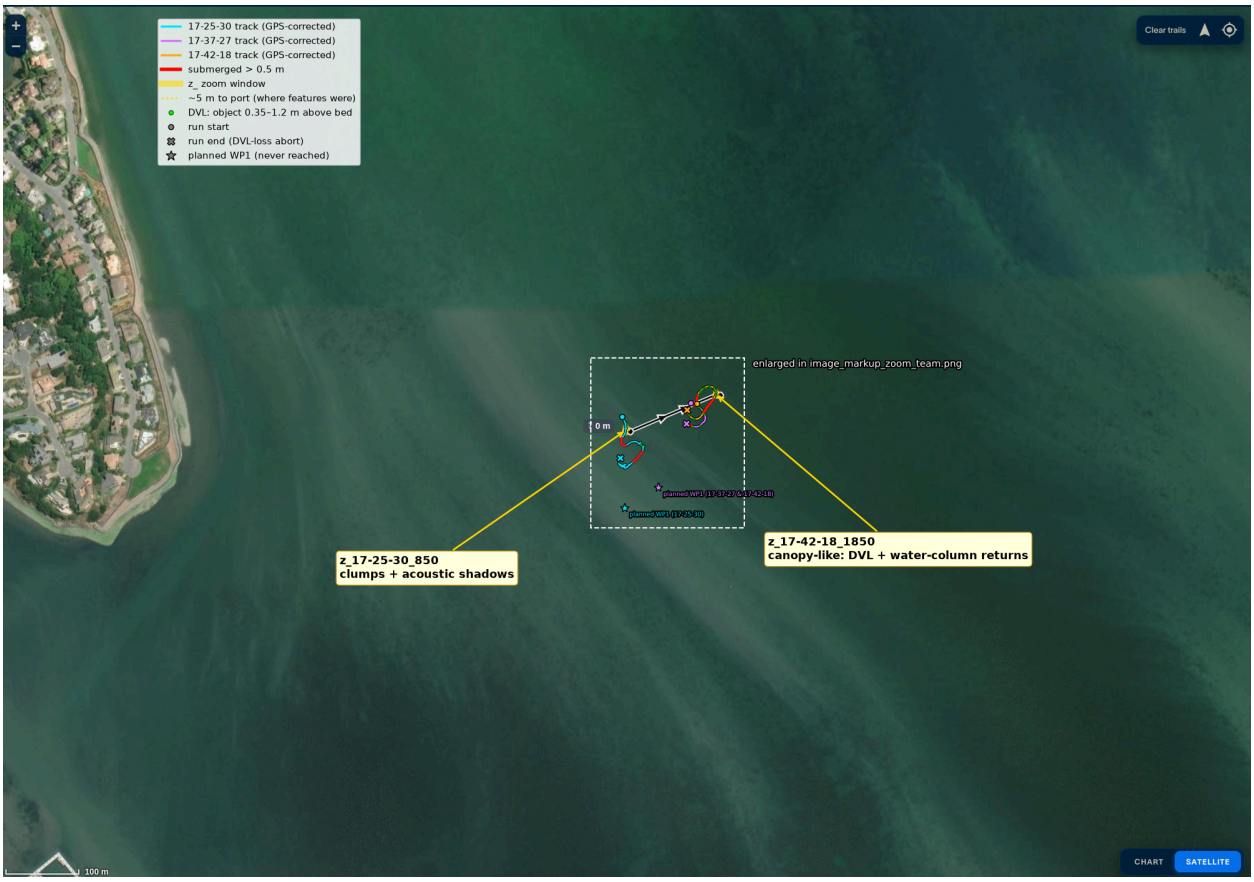
The sonar clearly shows where the eelgrass beds start and stop. About a third of the survey area is mapped so far, and the data is good enough to build the baseline map.

Raw data

Files and Imagery:

Raw files: https://drive.google.com/drive/folders/1UrjcGIzc69F0Zv8JLNH3ydlIJDwm3ZYW?usp=drive_link

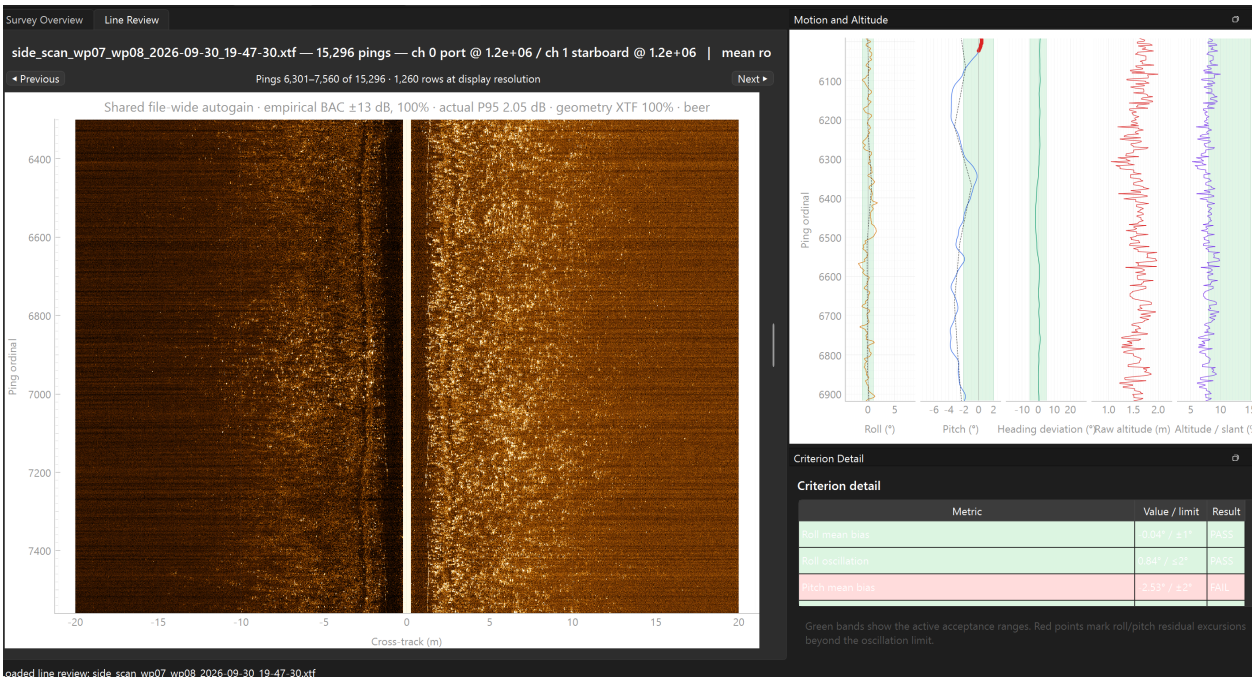
Day 1, Sep 21: Evan's quick-look map and two sidescan frames. Black waypoints are visual markers only; blue lines are the actual path travelled.

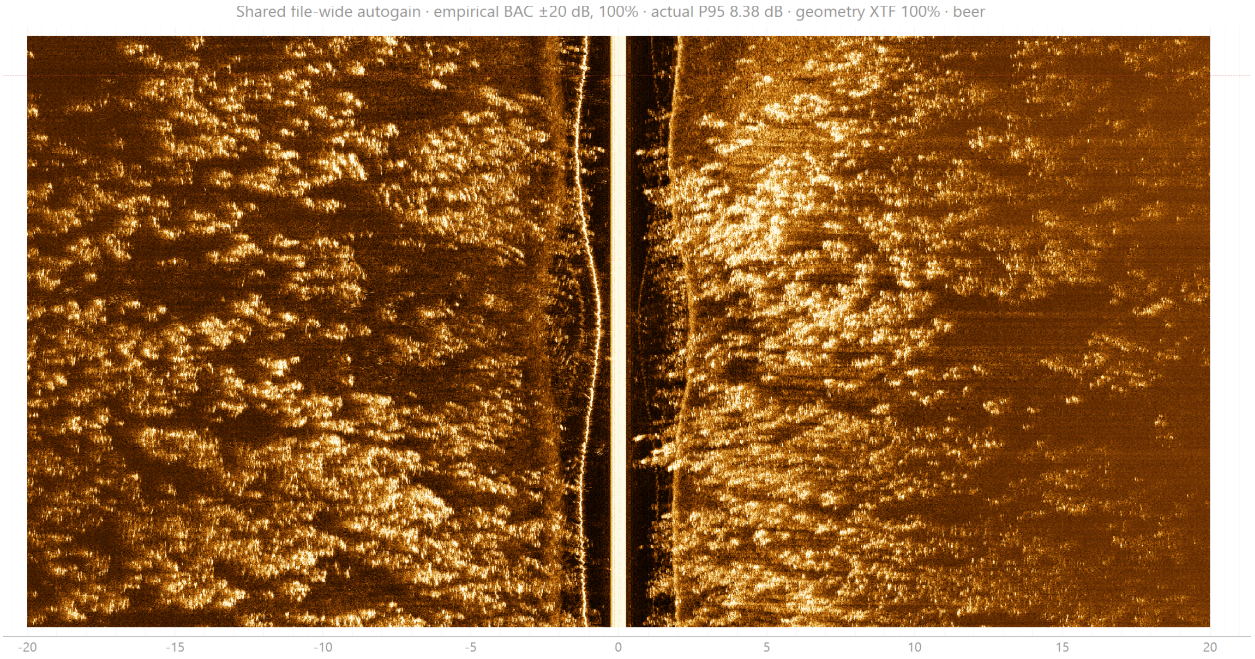


Sep 29: Jamie's first-run screenshot. Shows the seagrass tapering out and a large object with a strong reflection and shadow, probably a cement pile.

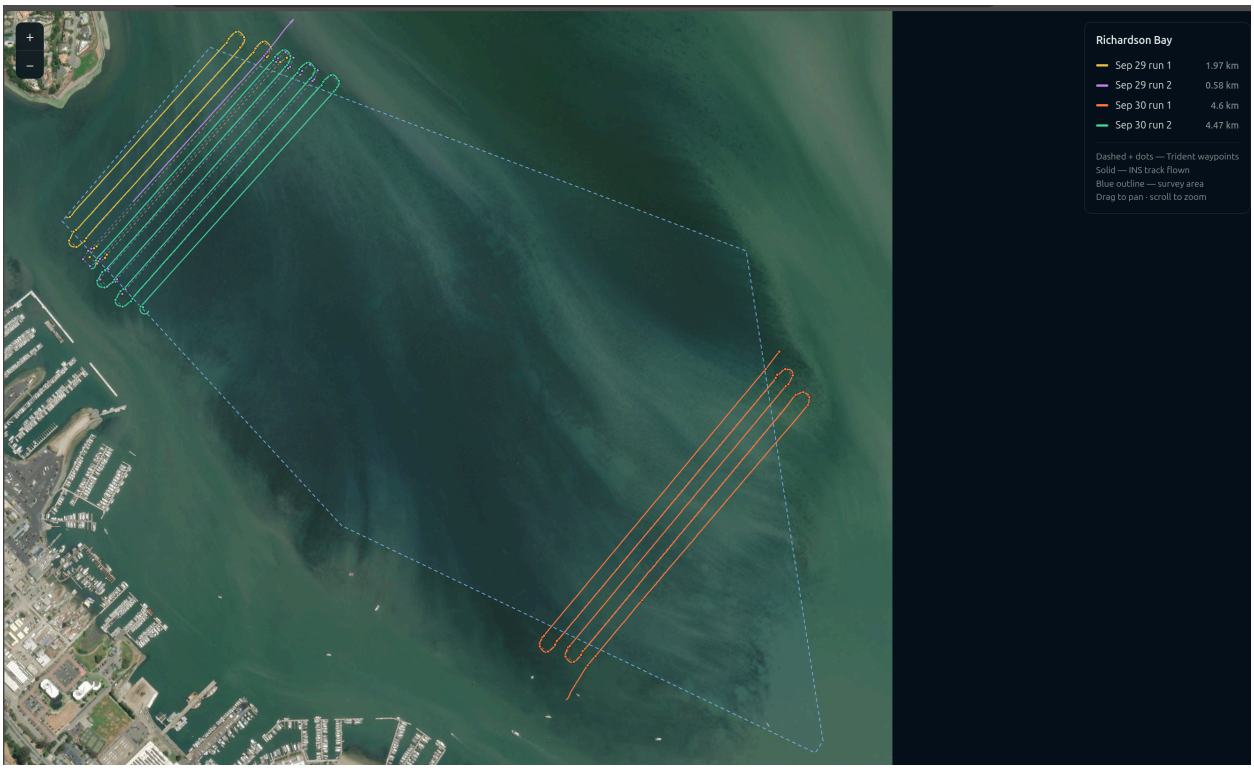


WP03-04 snippets . Clumps of eelgrass with altitude noise, and speckle heading into the shallows.





Cumulative through Sep 30: Coverage map against the full survey boundary



Extent Mapping and Side Scan Sonar:

- Survey 1 (Sep 21 to 22) was a shakedown; data does not count toward the series.
- Survey 2 (Sep 29 to present) is the first counted survey. Data is in Drive, one folder per day.
- The 600 kHz side scan shows bed edges and clumps at full range and is the mapping channel. 1200 kHz reaches only 10 to 12 m per side over eelgrass and won't be used.
- Sep 29 to 30 files are being re-exported at 600 kHz. Formal processing starts when Survey 2 is complete.

Hours on the water

13-14 hours, to be confirmed.

Days on the water

7 days: Sep 21, 22, 29, 30 and Oct 1, 2, 6. Oct 7 in progress. 4 full survey days, 1 partial.

Number of vehicles used

1 Mako AUV (RS1) with side-scan sonar and INS.

Area covered

About 30% of the 142.8 ha survey boundary as of Oct 2. 28.6 ha and 11.6 km of track confirmed through Sep 30, plus a 6 km run on Oct 2. About 9 more tracks of 5 to 6 km remain to finish Survey 2.

Open question: the grant says 75 acres; 142.8 ha is about 353 acres. Confirm which boundary we report against.

Unforeseen events

- Survey 1 moved from Sep 16 to 18 to Sep 21 for more vehicle tuning and testing.
- RBRA boat was too compact to launch and recover the vehicle. Switched to the Ulysses boat from Sep 22.
- Float line caught in the propeller on Sep 22 and Sep 29, ending runs early. A new low-drag float fixed it.
- Sep 29: Marin Sheriff boat approached the float thinking it was a swimmer. Deputy briefed; USCG Sector SF now broadcasts an hourly Ch16 notice on survey days.
- Oct 1: a fishing boat crossed the survey line and ignored radio and horn, forcing the vehicle to surface. 45 minutes lost.
- Boats cut across the bay outside the channel at high tide.
- Sailboats anchored in the eastern triangle block that section. Plan needed with Jim.
- Oct 5 to 6: gear loaned to another project, boat maintenance and Fleet Week. No survey tracks.

New tech capabilities

- Retuned controller: roll and heading error under 1 degree, pitch under 2 degrees.
- Line-keeping: mean 0.59 m, max 1.83 m off planned survey lines.

- New low-drag tow float lets the vehicle hold its 1.5 m/s survey speed.
- Motor-stall shutoff: vehicle turns itself off if held at the surface, which cuts handling at launch and recovery.
- Filter for boat-wake bubbles that were causing false altitude readings.
- Nautical chart overlay in mission planning, matched to the boat's plotter.
- Surface Vessel: We would like to test our first iteration of an Unmanned Surface Vessel on shallower areas of the Bay where Mako has a hard time reaching. Want to confirm that this is not out of scope.

Weather

None recorded. Afternoon wind and darkness ruled out evening tides, so all work moved to morning high tides.

Tide

Surveys run around morning high tide, about 3 hours in the water: mid-depth on the rising tide, the northern shallows at peak, deeper water on the drop. Minimum workable depth is 1.5 m. Departures moved to 7:00 am.

Other Images and Media





