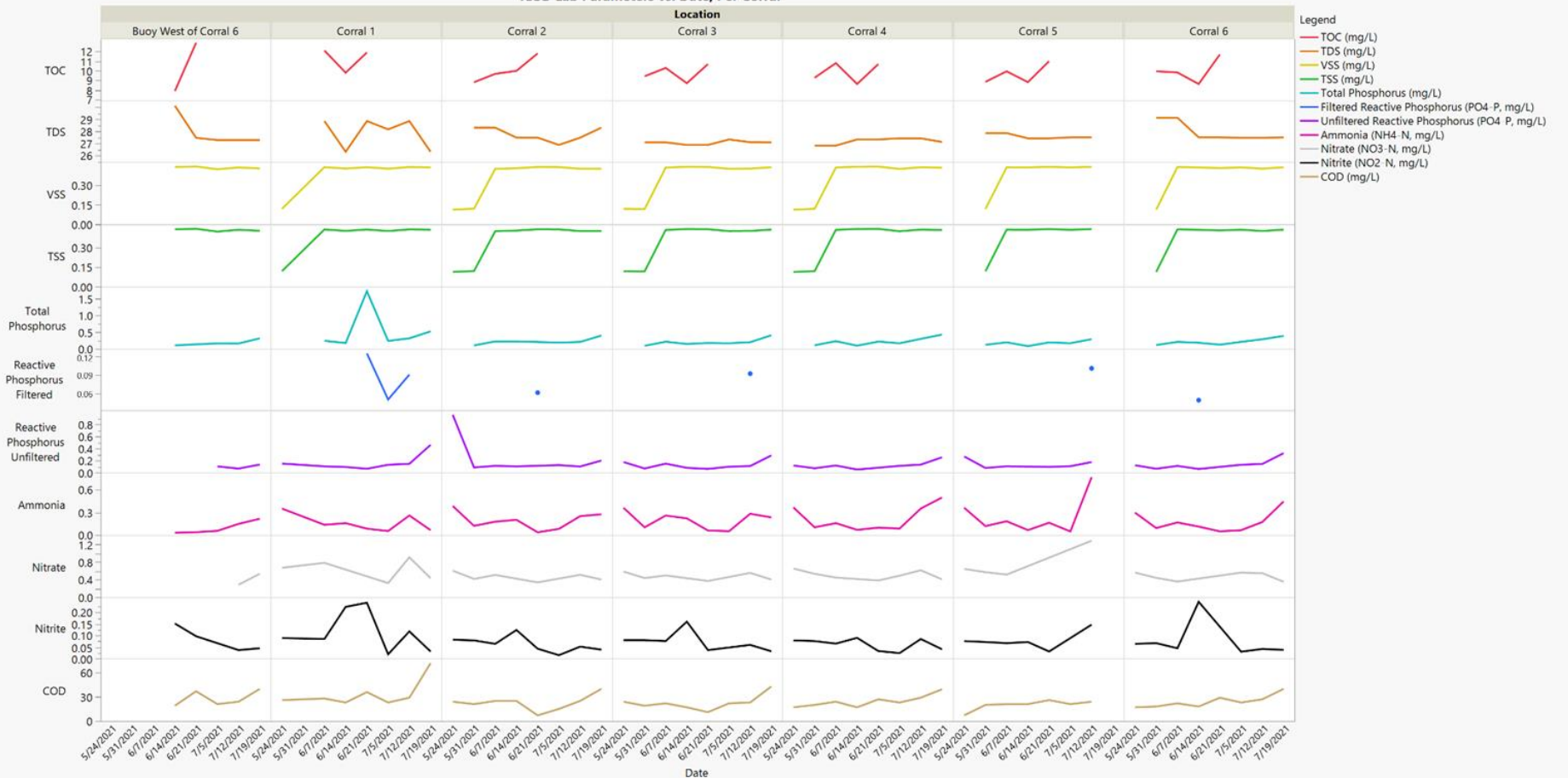


Coordination Meeting

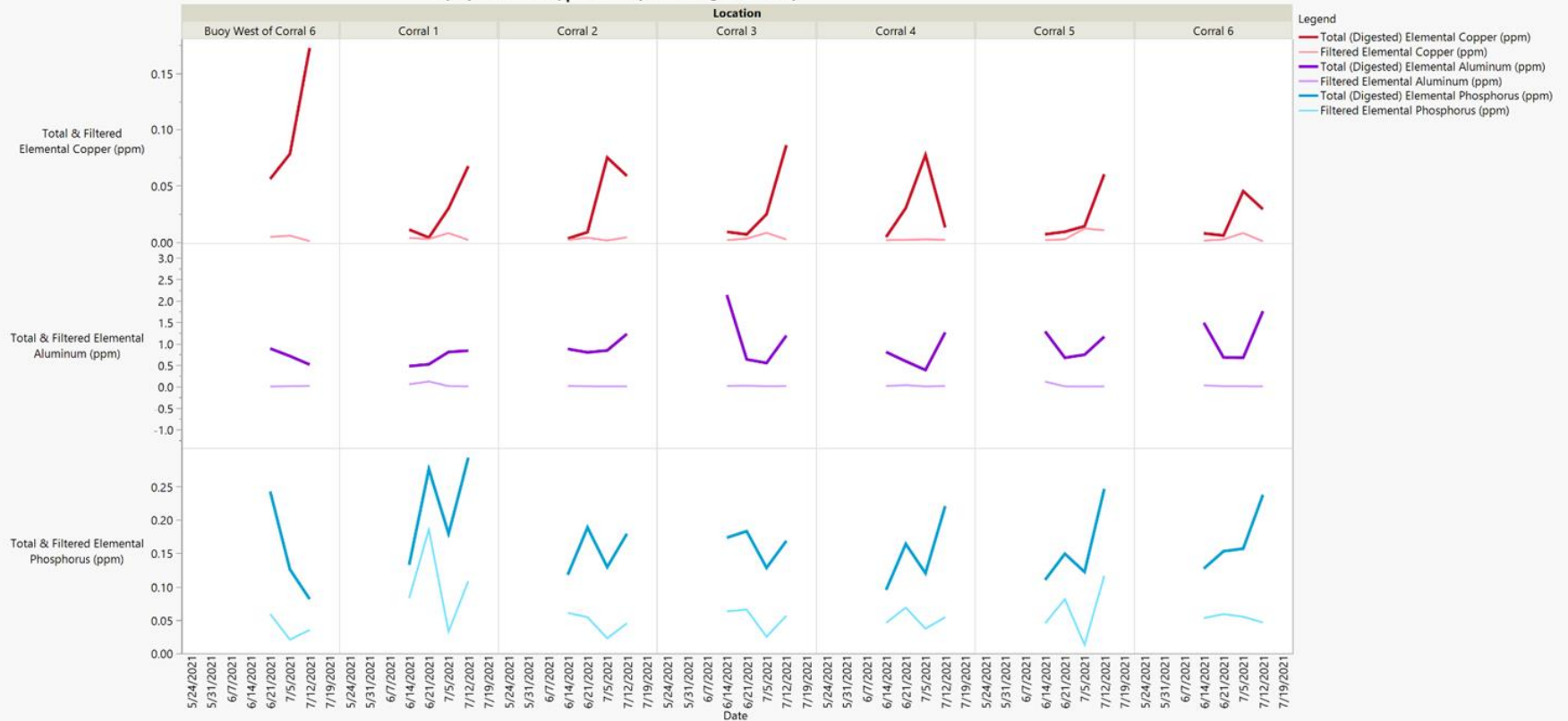
07/22/2021

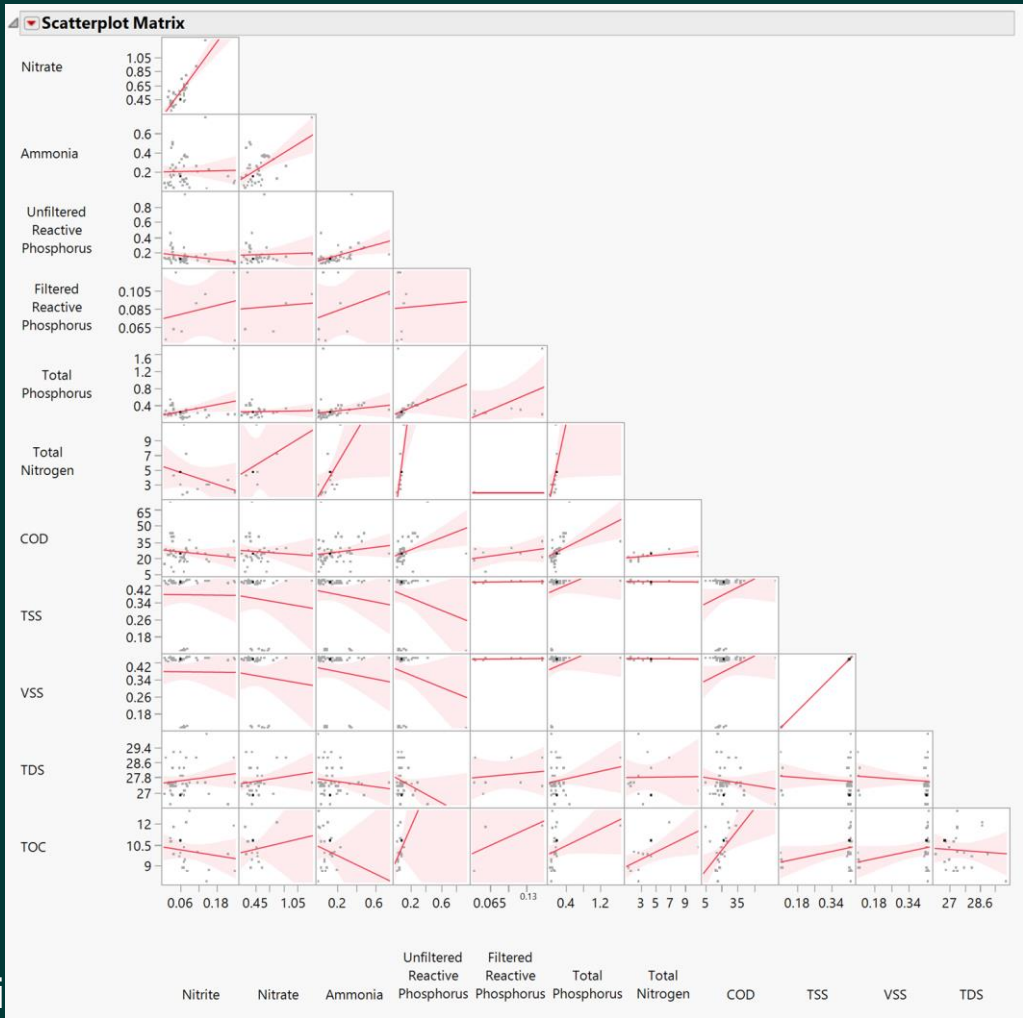
VERY Preliminary Data

TSSD Lab Parameters vs. Date, Per Corral

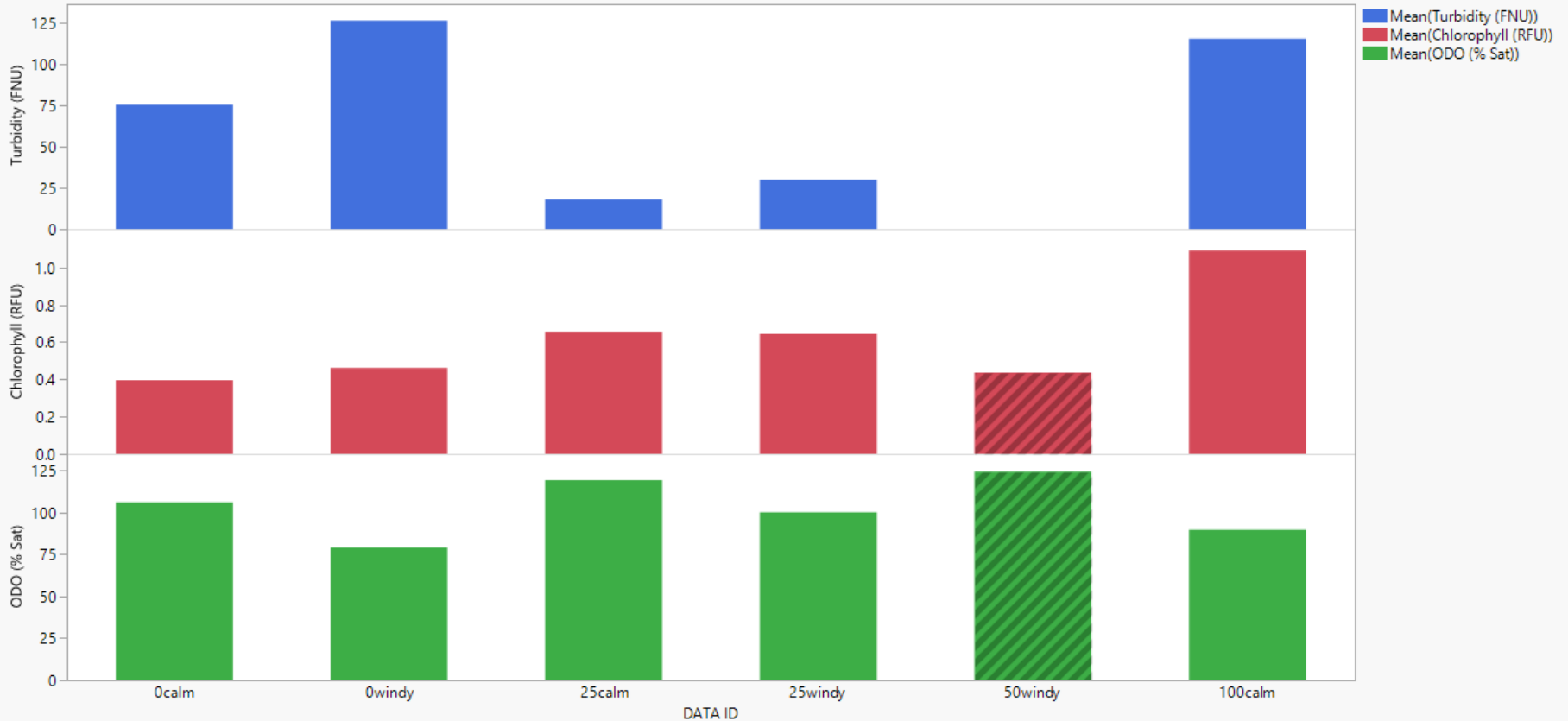


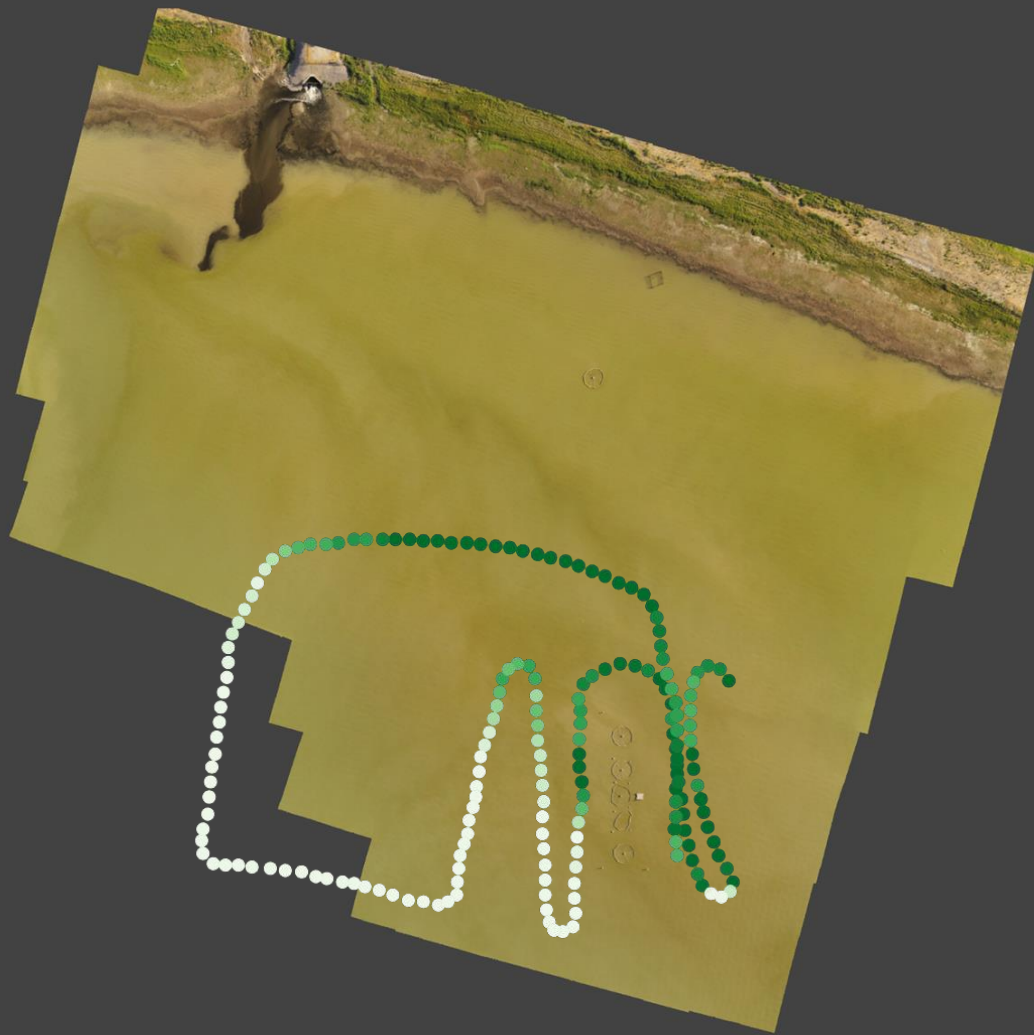
Cu, Al, & P vs. Date, per Corral (From ICP @ BYU's EAL)





Mean(ODO (% Sat)) & 2 more vs. DATA ID





07/09

- “Data tracks”
- This one shows Chlorophyll (RFU), but can do it on other parameters
- Will do more rigorous analysis in ArcGIS

Physical Observations



06/14

- 10am on a calm day

Corral 1



06/14

- More turbid water on the side with tear in skirt

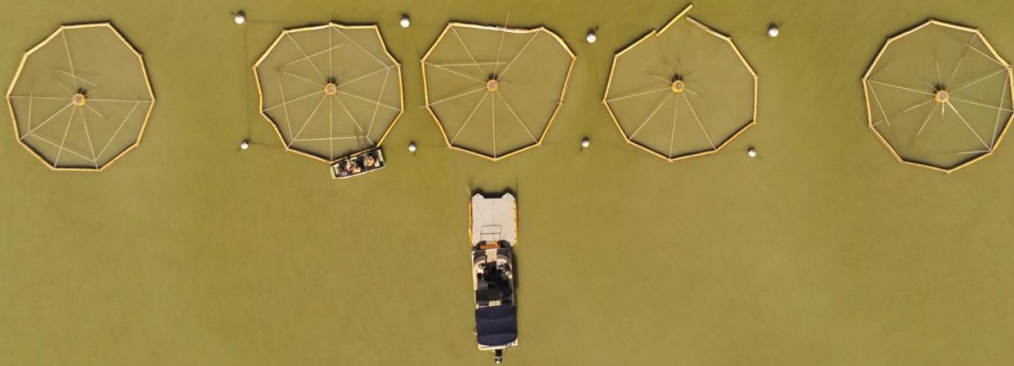


06/24

- 2pm on a windy day
- Only time we have seen effluent reach the offshore corrals

06/23

- turbid water inside the corrals possibly due to carp spawning



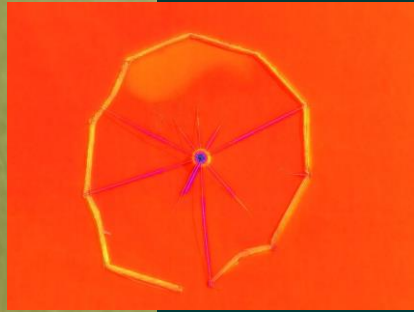


06/23

- Wave action inside corrals is usually different than outside

07/16

- Significant blooms inside of corrals, mostly on North and East ends
- Excess skirt creating shallow pockets of warmer water
- Dolichospermum and others



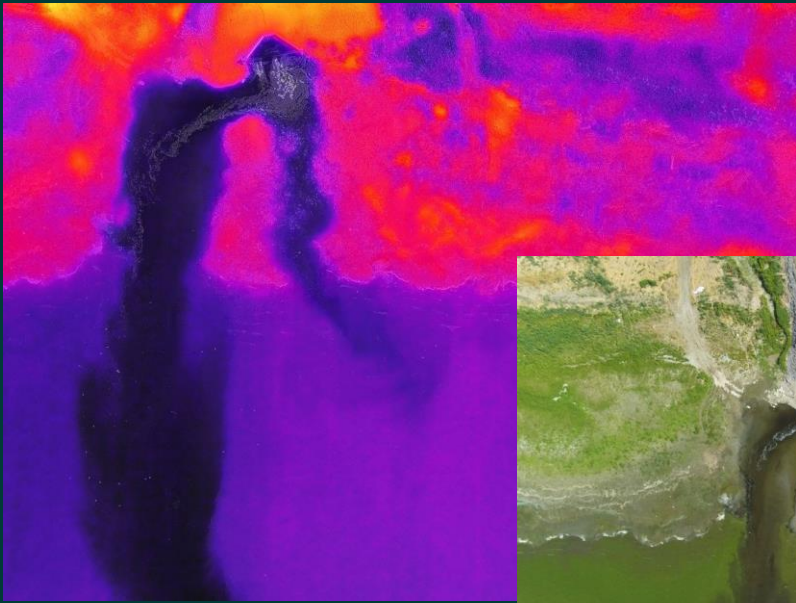


06/24

- Carp electroshocking day
- Carp were “below minimum detection limit”
- We saw carp in the corrals frequently during spawning season
- They like to eat the algae off the skirts and floats

07/21

- Effluent significantly colder than lake around 11am



Corral Damage



Corral 2



06/29

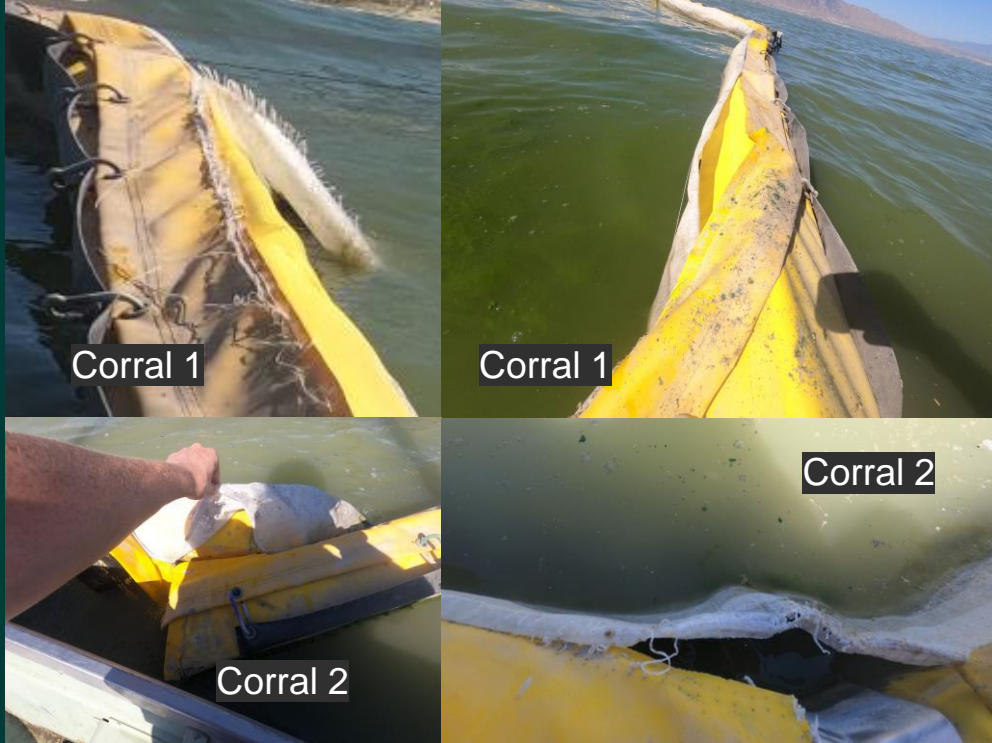
- Struts ripping the skirts
- Rip in Corral 2 skirt is about 3 feet long
- Rip in Corral 5 skirt is from the surface to the bottom



Corral 5

07/21

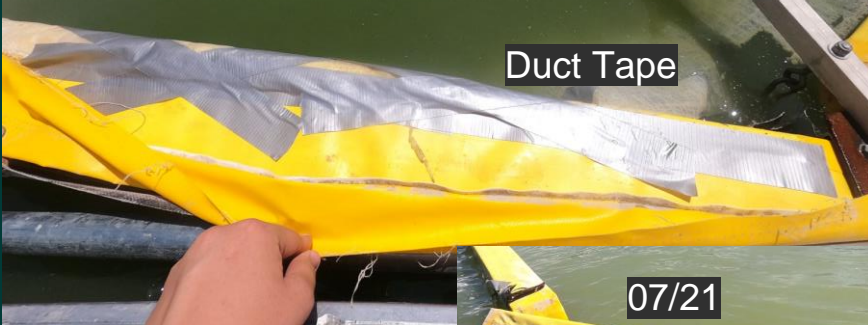
- stitching connecting the tarps to the floats is unraveling (all corrals)





07/21

- stitching connecting the tarps to the floats is unraveling (all corrals)



07/14

- tried to repair with extra strong waterproof tape
- corrals were too wet for the tape to cure despite scrubbing and drying the floats and tarp



Corral 5

07/21

- brackets failing to hold floats in place



07/21

- brackets failing to hold floats in place



07/21

- Reinforcement bars on Corrals 3 and 5 snapped at the joints
- Some are still attached, others sank



07/21

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Corral 5

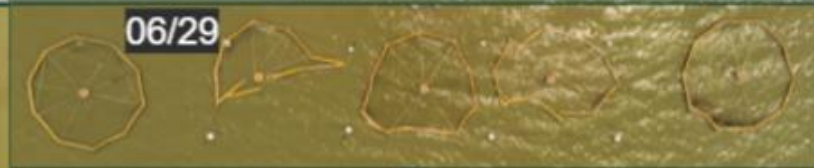
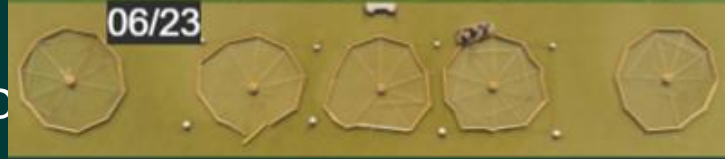


Corral 5

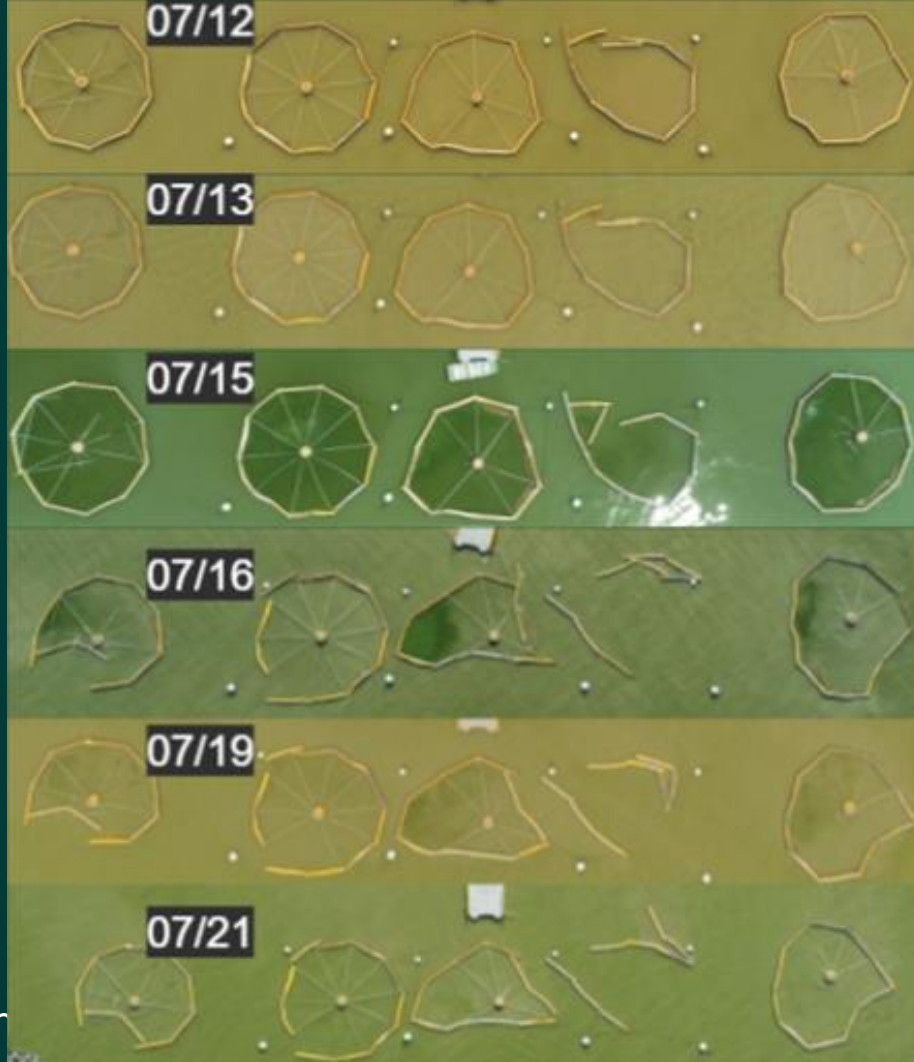


07/21

- Corral 5 is missing 2 yellow floats since July 15th
- Most of the skirt is disconnected from the floats
- All reinforcement bars are gone



TSSD



TSSD Utah Lake Limn

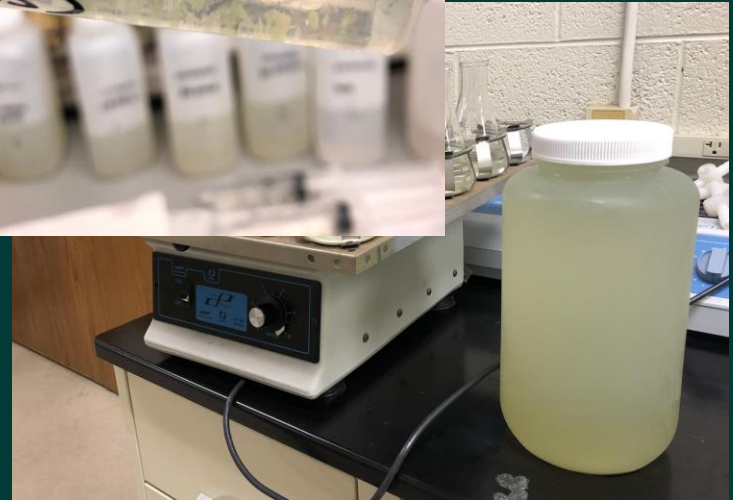
Bench Scale Testing

Overview

- Obtained ACH sample from Thatcher Company Dosages on 6/8/2021
- Doses in terms of Al:P ratios, based on Jacobs whitepaper:
 - [Geochemical Augmentation with Alumina for Total Phosphorus Attenuation in Lakes and Reservoirs: A Summary of Jacobs Experience 2015 to 2021](#)
- Analysis using the BYU EAL's ICP machine, potentially SRP
- Goal: fine-tune dosage, evaluate water chemistry over time and in relation to the lake sediment
- Working with Dr. Williams to develop a procedure and plan

Procedure

- Obtain lake water in a 2 L Nalgene bottle
- Run reactive phosphorus on lake sample (Hach TNT Vials)
- Calculate dosages
- Prepare dilution
- Portion 150 mL lake water into erlenmeyer flasks, place in shaker table
- Dose flasks
- Mix at speed of lake movement for 30 mins



Testing & Results

- Digested sample - Filtered sample \approx absorbed phosphorus
- 1st test (spectrophotometer): Al:P ratios of 1:1 - 6:1
- 2nd test (ICP): Al:P ratios of 0.25:1, 0.5:1, and 1:1 (triplicated), and ACH stock & diluted solutions
 - Machine issues

