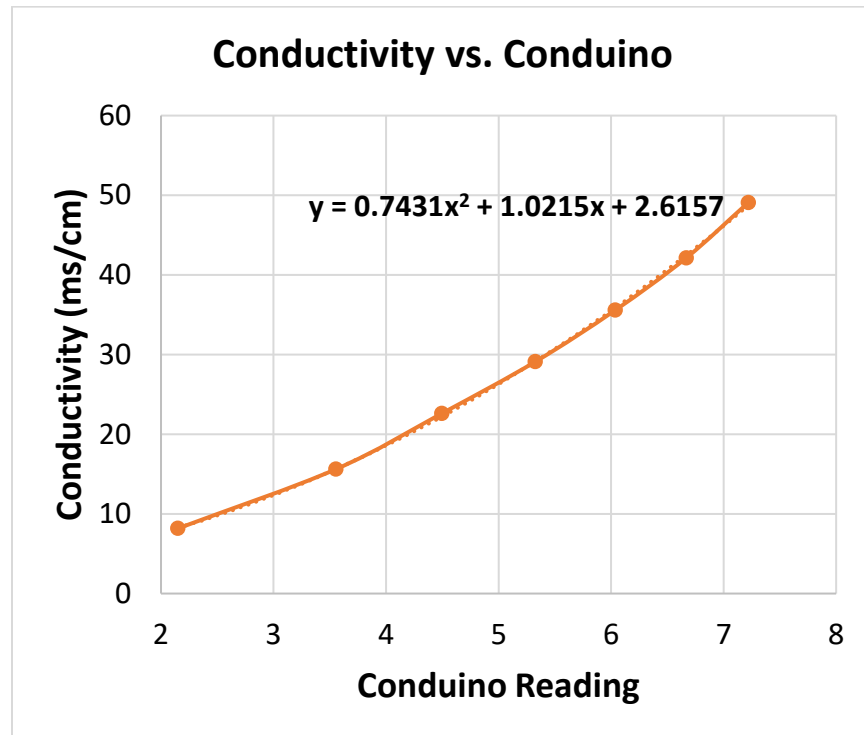
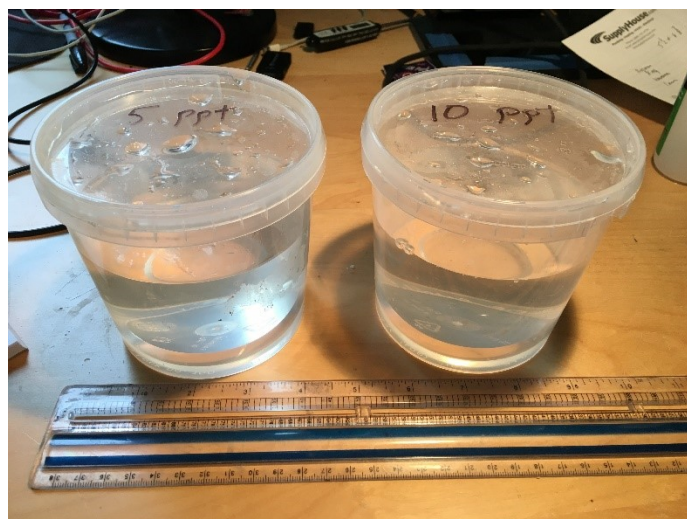


Conduino Calibration

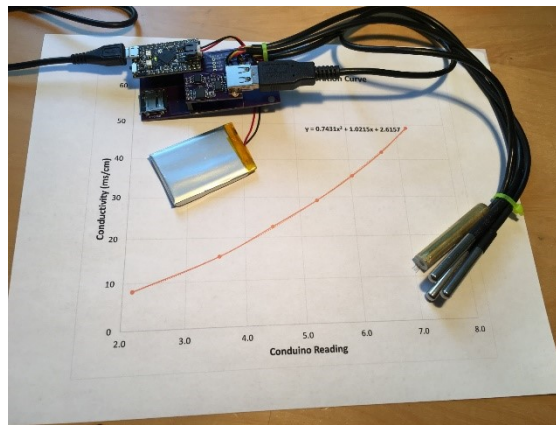
Calibration Curve:



Seven known salinity samples were used to generate this curve: 5, 10, 15, 20, 25, 30 and 35 ppt salt concentration. To make the samples, weigh out half of the intended salt concentration (e.g. 2.5g, 5g, 7.5g etc.) and then add water to make the total weight 500g (or if you have a big vessel, go up to 1000g with the full salt weight).



To take calibration measurements, use a temperature sensor along with the Conduino. Here, three temperature sensors were attached to the Conduino to be averaged during calibration. While constantly stirring the solution with the Conduino/Temperature sensor bundle, run the Arduino sketch and write the sensor values to the Arduino serial monitor. When the readings stabilize, cut a chunk of data and paste it into a txt file, and then import the txt file into Excel for averaging.



Use an online calculator to calculate a conductivity value based on temperature (sensed) and concentration (known):

<http://salinometry.com/stp-conductivity-calculator/>

Plot the data points for the 7 known samples as Conductivity vs. Conduino Reading. Add a trendline, in this case a polynomial, and add that to the sketch, or use it in a salinity calculating spreadsheet.

Data Sample:

Salinity (PPT)	t1	t2	t3	Conduino Reading	Conductivity from salinometry.com	T average
5	20.56	20.60	20.62	2.150	8.171	20.59
10	20.75	20.81	20.87	3.554	15.608	20.81
15	20.65	20.69	20.75	4.494	22.598	20.70
20	20.23	20.25	20.31	5.326	29.100	20.26
25	20.14	20.19	20.25	6.036	35.572	20.19
30	20.37	20.44	20.45	6.667	42.122	20.42
35	21.12	21.15	21.19	7.220	49.090	21.15

