StatenX
2018 Results

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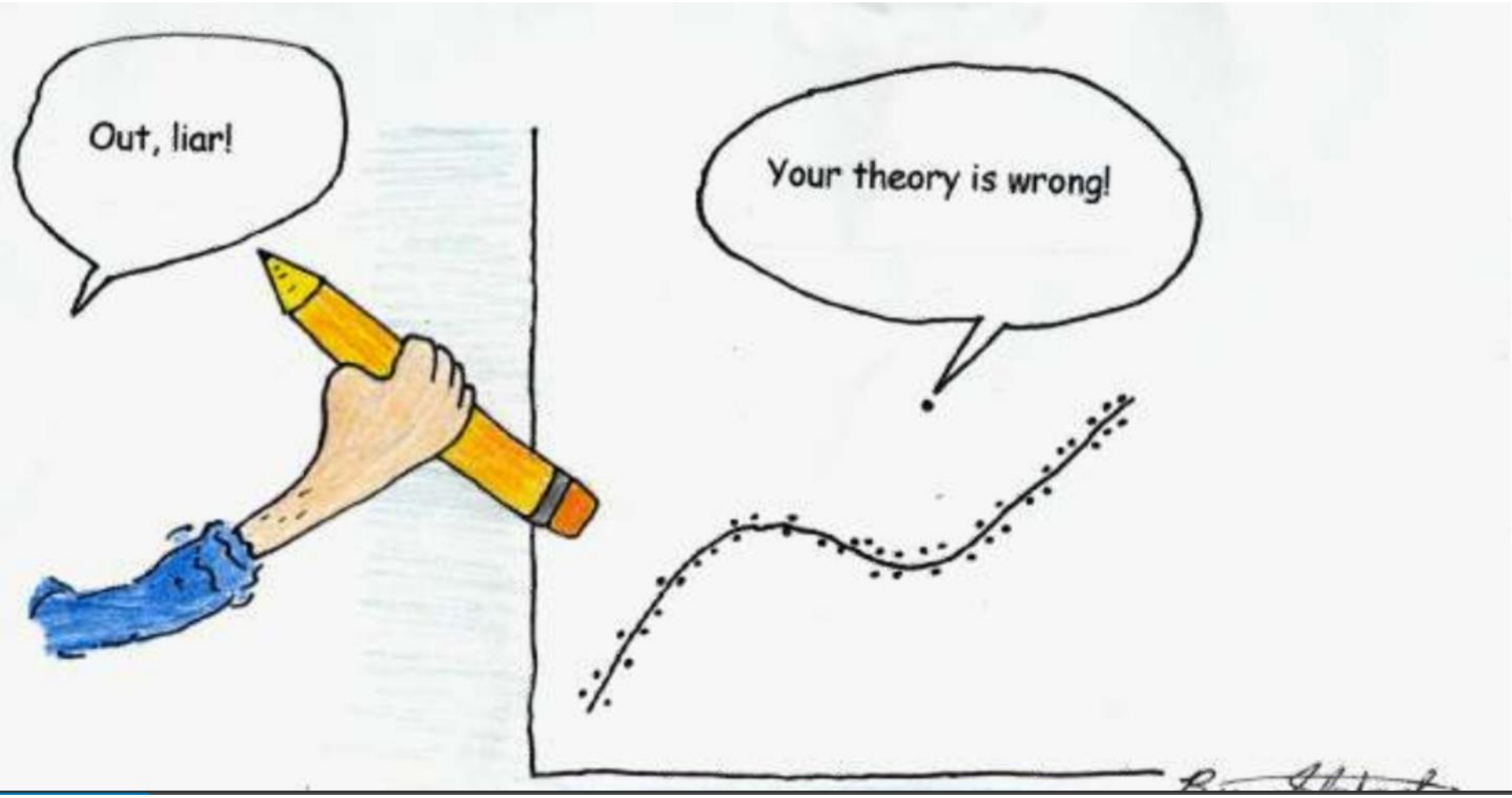
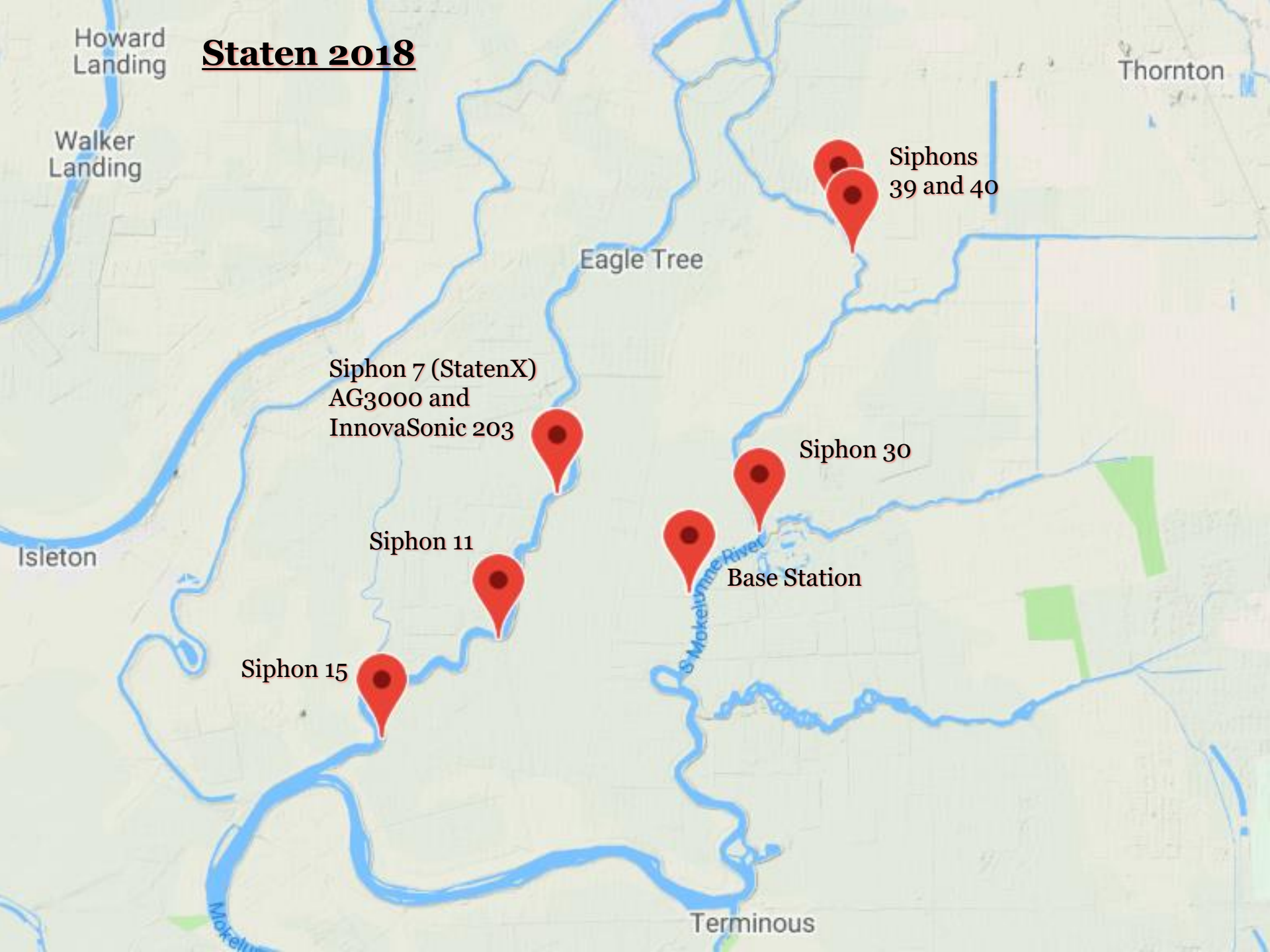
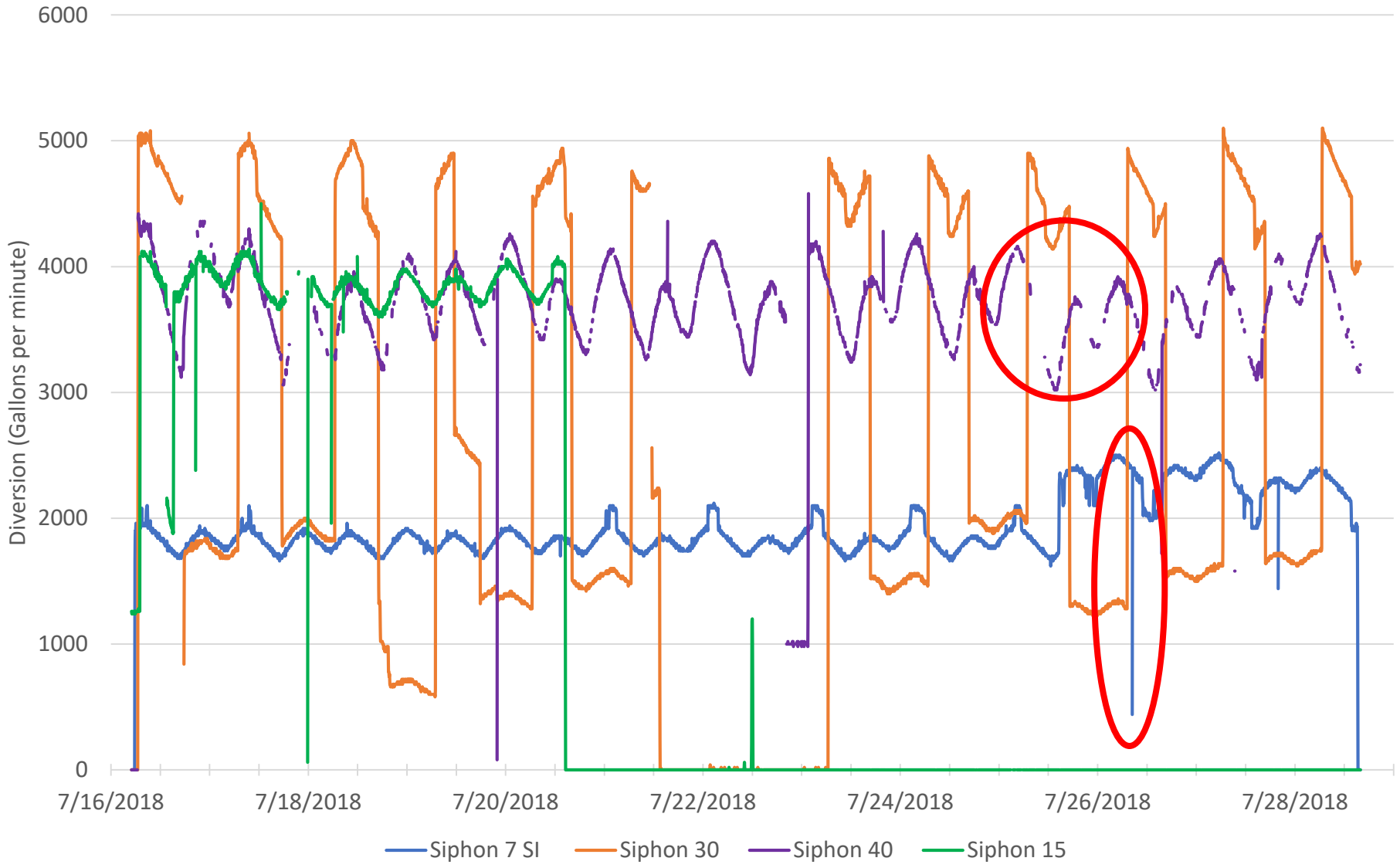
March 27, 2019

The Nature Conservancy


Out, liar!
Your theory is wrong!


Staten 2018
Howard Landing
Walker Landing
Thornton
Siphons 39 and 40
Eagle Tree
Siphon 7 (StatenX) AG3000 and InnovaSonic 203
Siphon 30
Siphon 11
Isleton
S Mokelumne River
Base Station
Siphon 15
Terminous


6000
5000
4000
3000
2000
1000
0
Diversion (Gallons per minute)
7/16/2018
7/18/2018
7/20/2018
7/22/2018
7/24/2018
7/26/2018
7/28/2018
Siphon 7 SI
Siphon 30
Siphon 40
Siphon 15

Data Management Plan

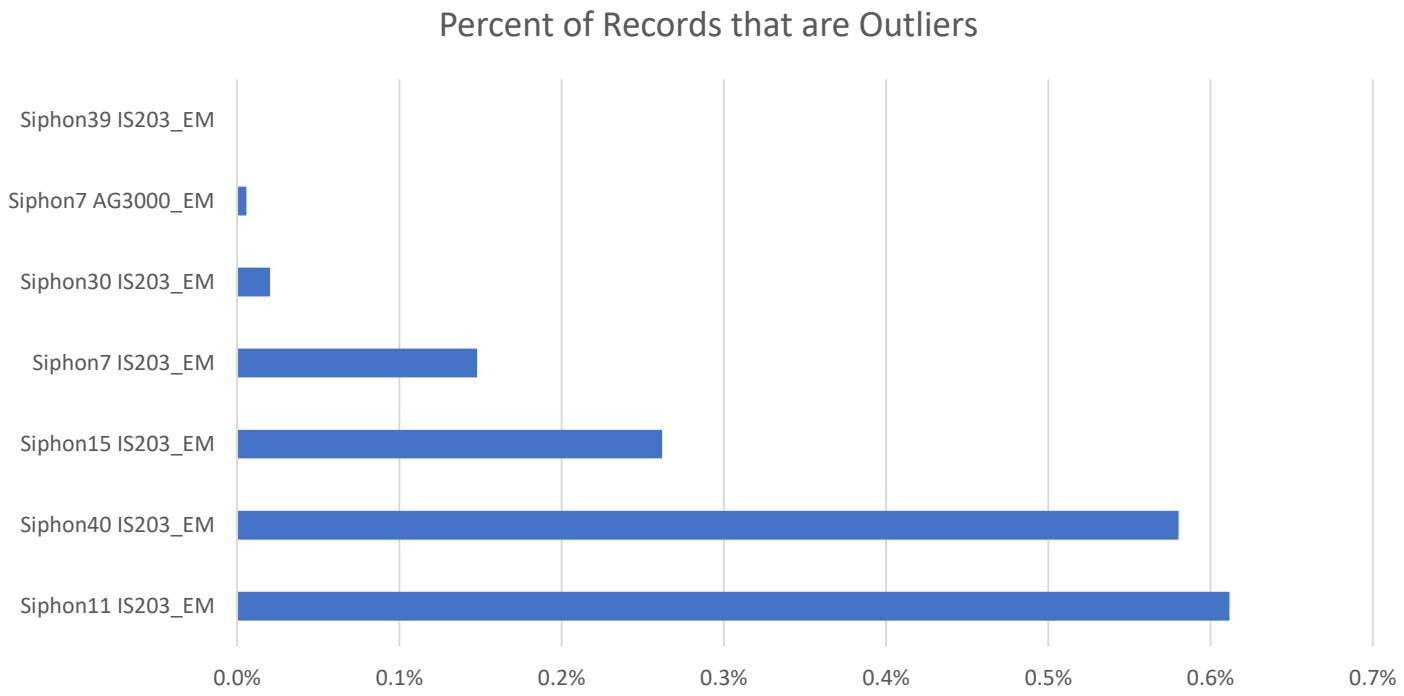
- Outliers: Flag and comment. Replace with a missing value and then generate hourly averages

- Small Gaps: Interpolate between the last known values

- Large Gaps: Use irrigator records and fill in with daily averages from when the siphon was running.

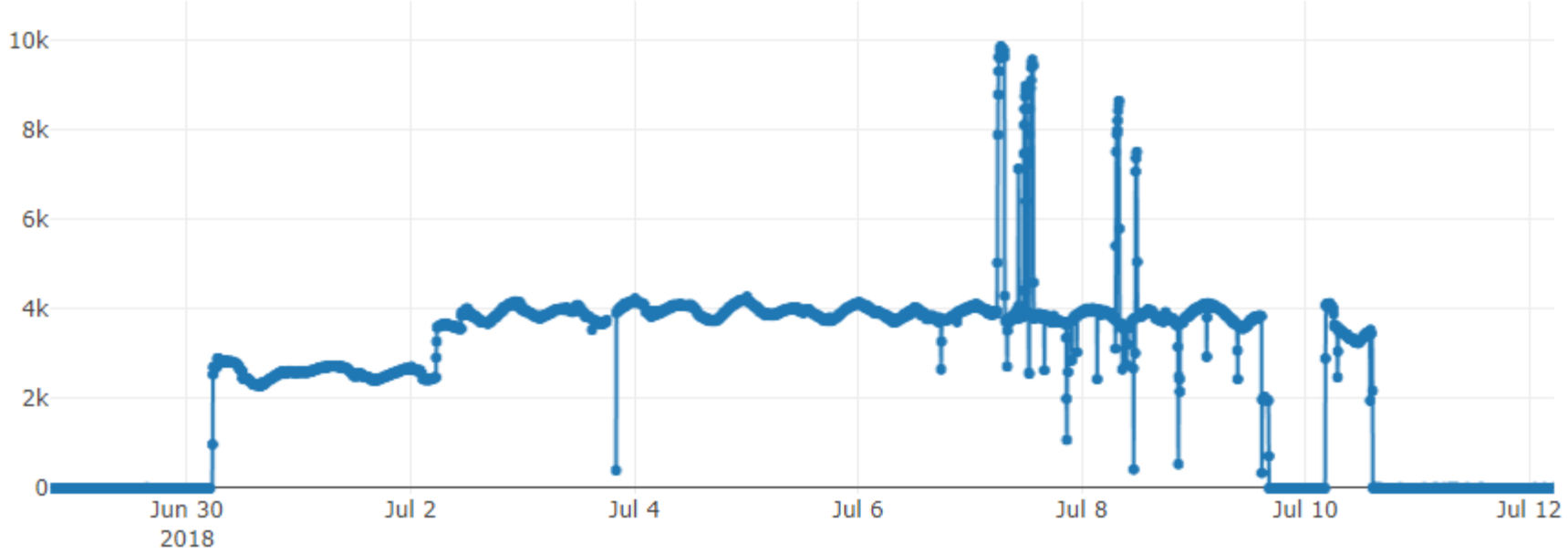
- Siphons without meters: Use irrigator records and fill in with daily averages from that month for similar siphon type / crop

Outliers

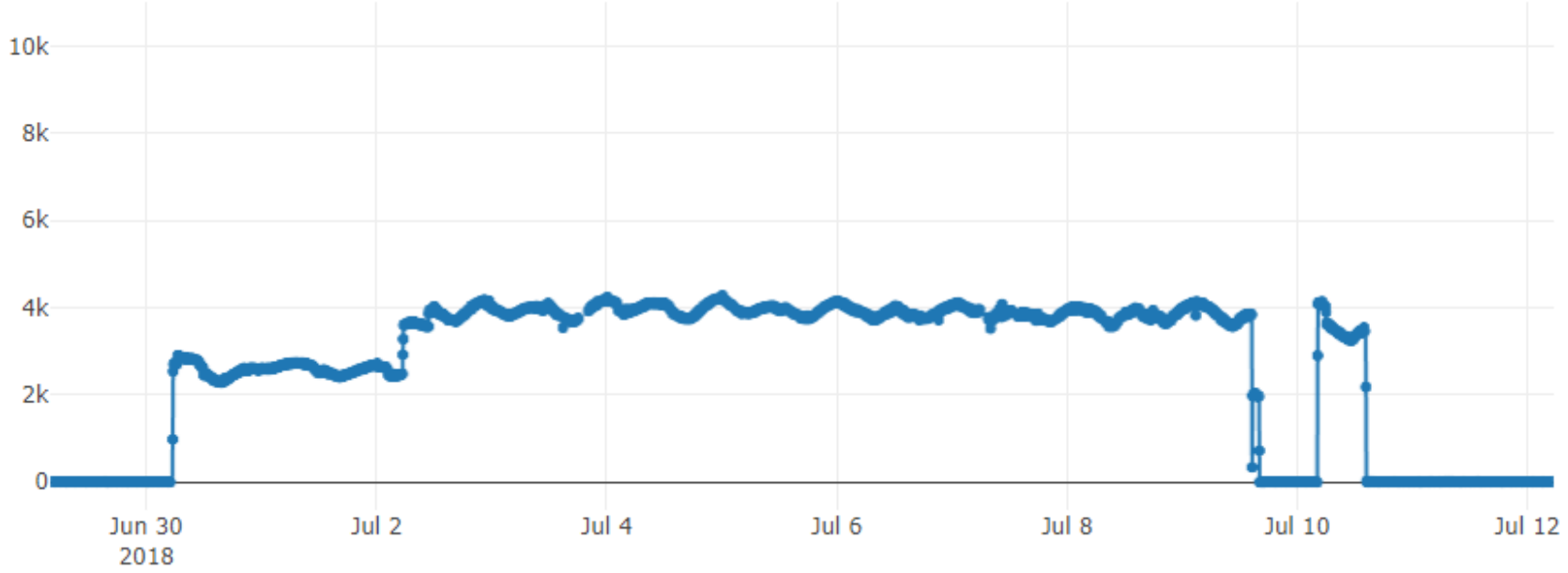


- Outliers are not frequent but can have a big impact on totals

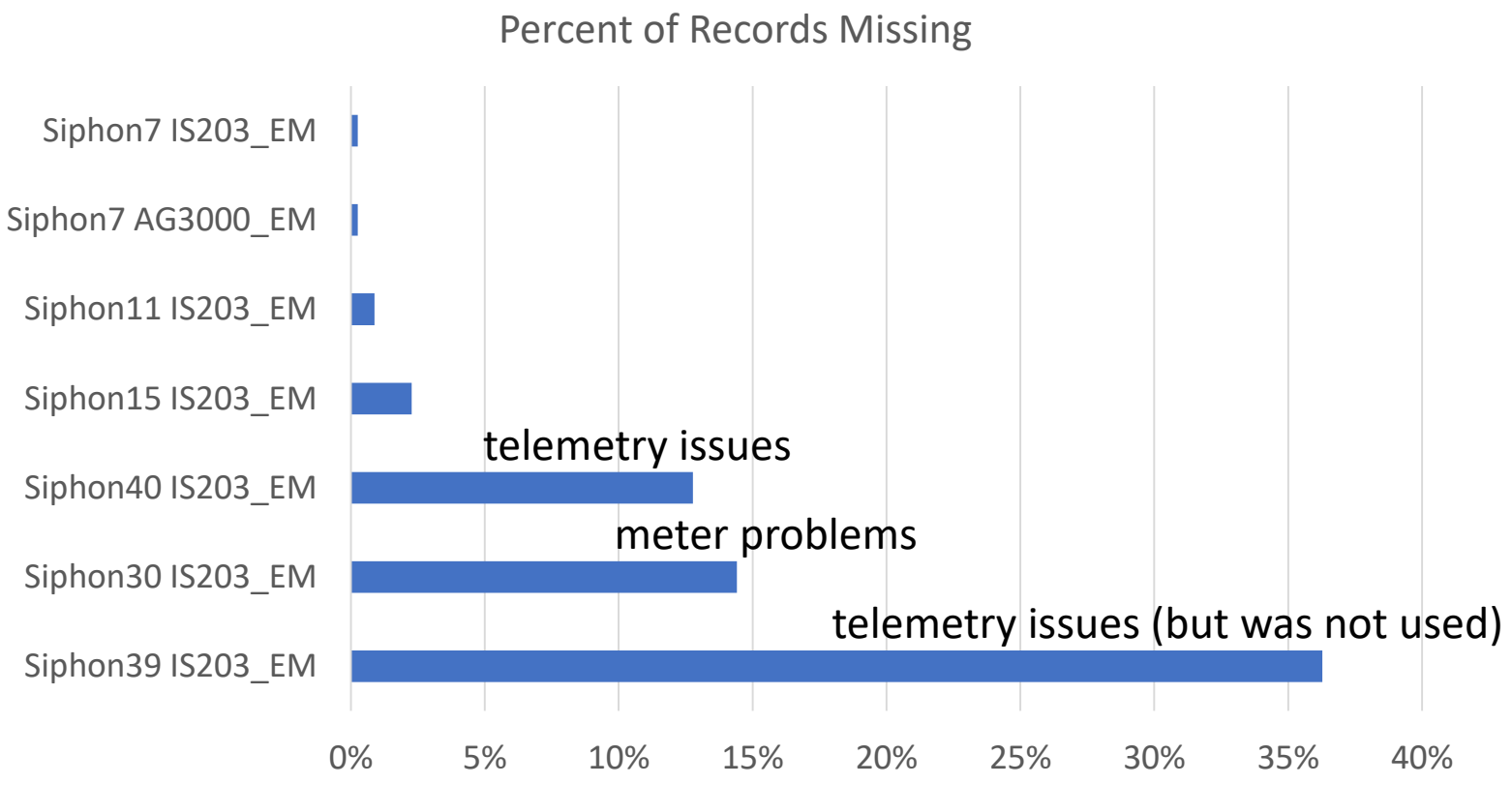
Siphon 11 – With Outliers



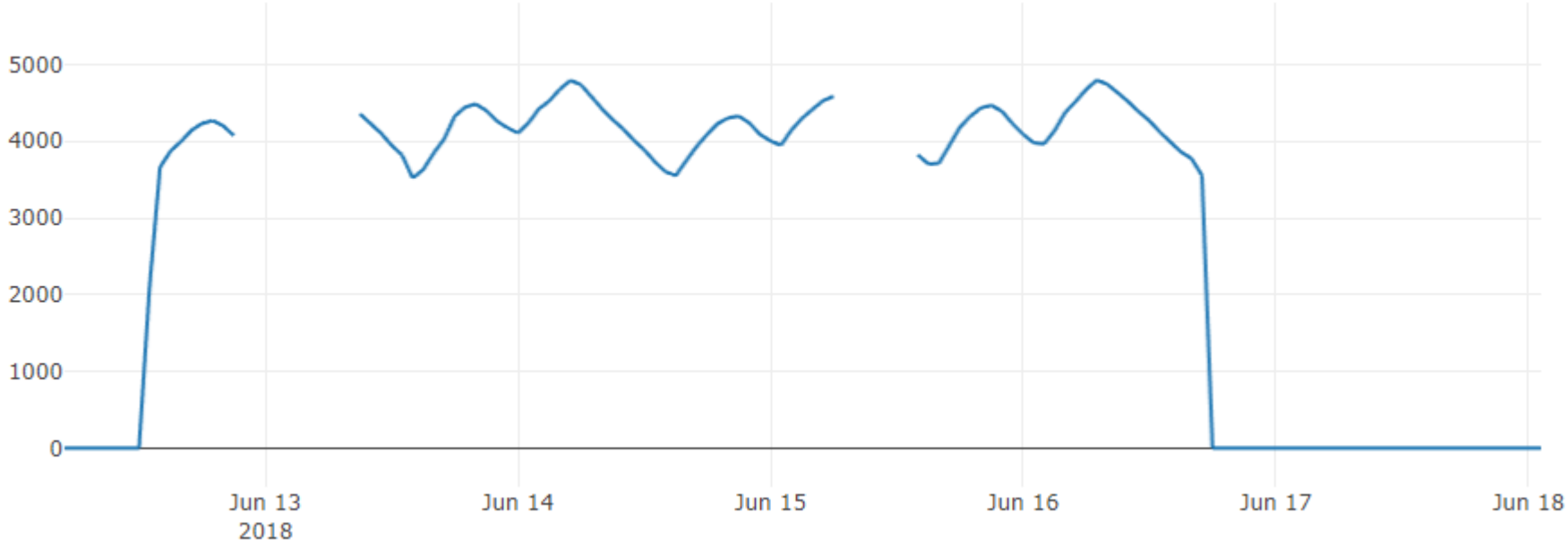
Siphon 11 – Without Outliers

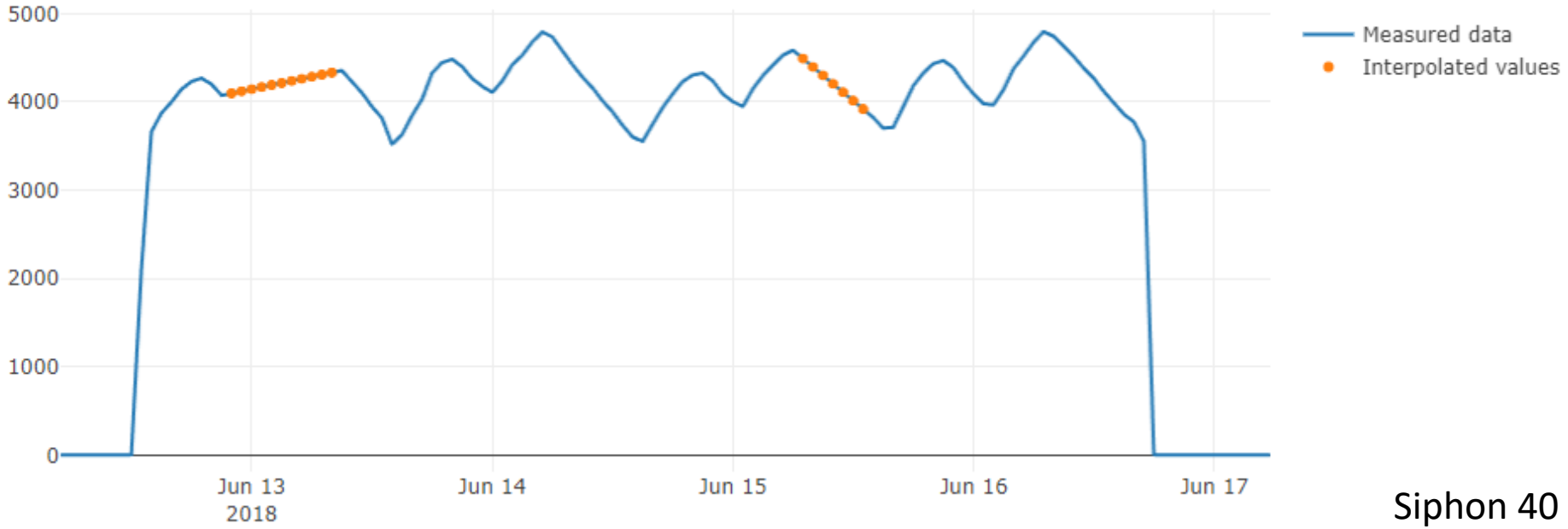


Data Gaps


Percent of Records Missing
Siphon7 IS203_EM
Siphon7 AG3000_EM
Siphon11 IS203_EM
Siphon15 IS203_EM
telemetry issues
Siphon40 IS203_EM
meter problems
Siphon30 IS203_EM
telemetry issues (but was not used)
Siphon39 IS203_EM
0%
5%
10%
15%
20%
25%
30%
35%
40%

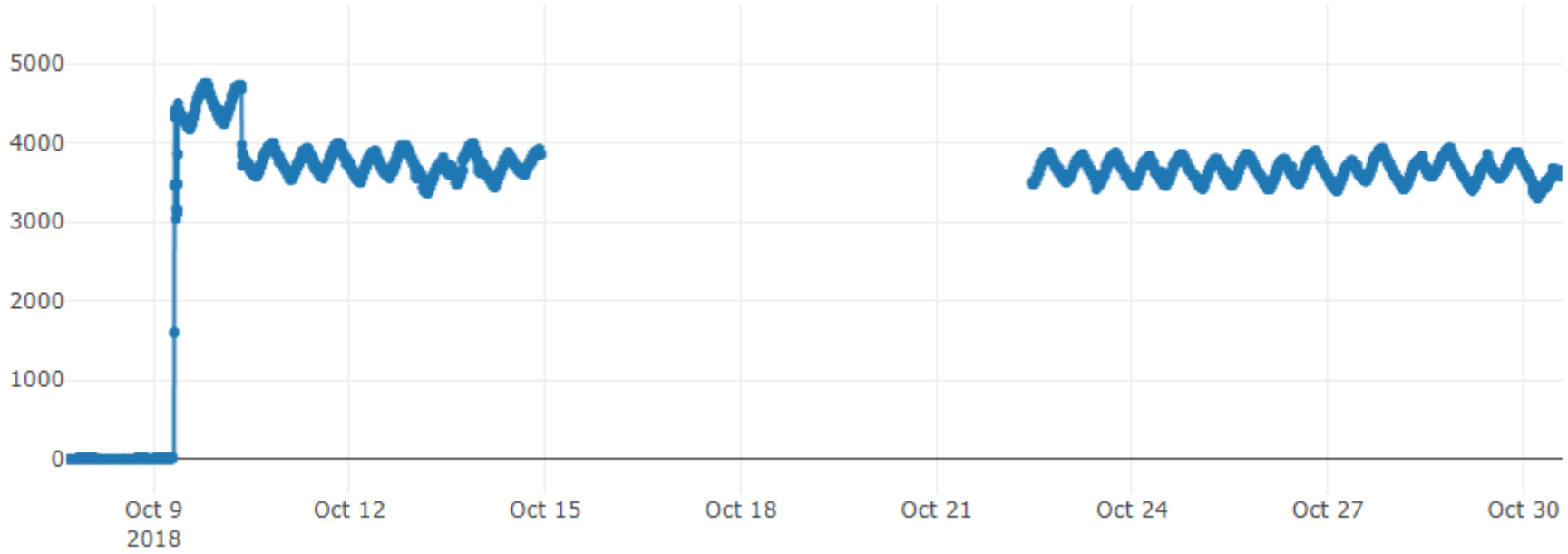
Small Data Gaps <5 days

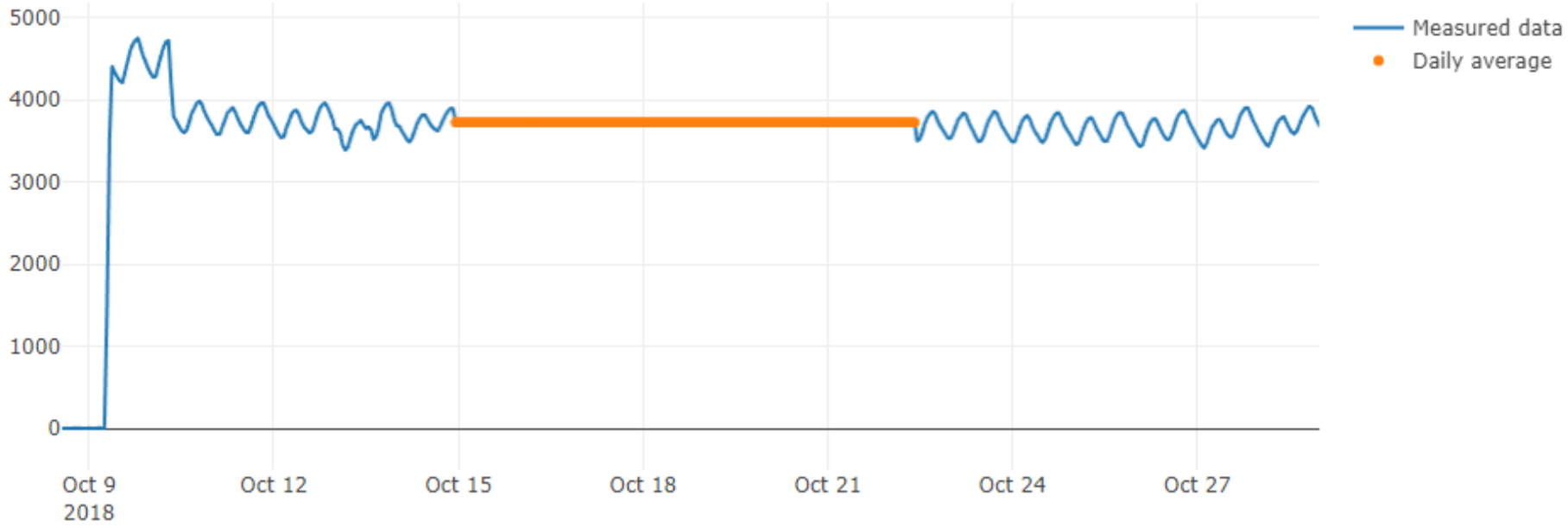




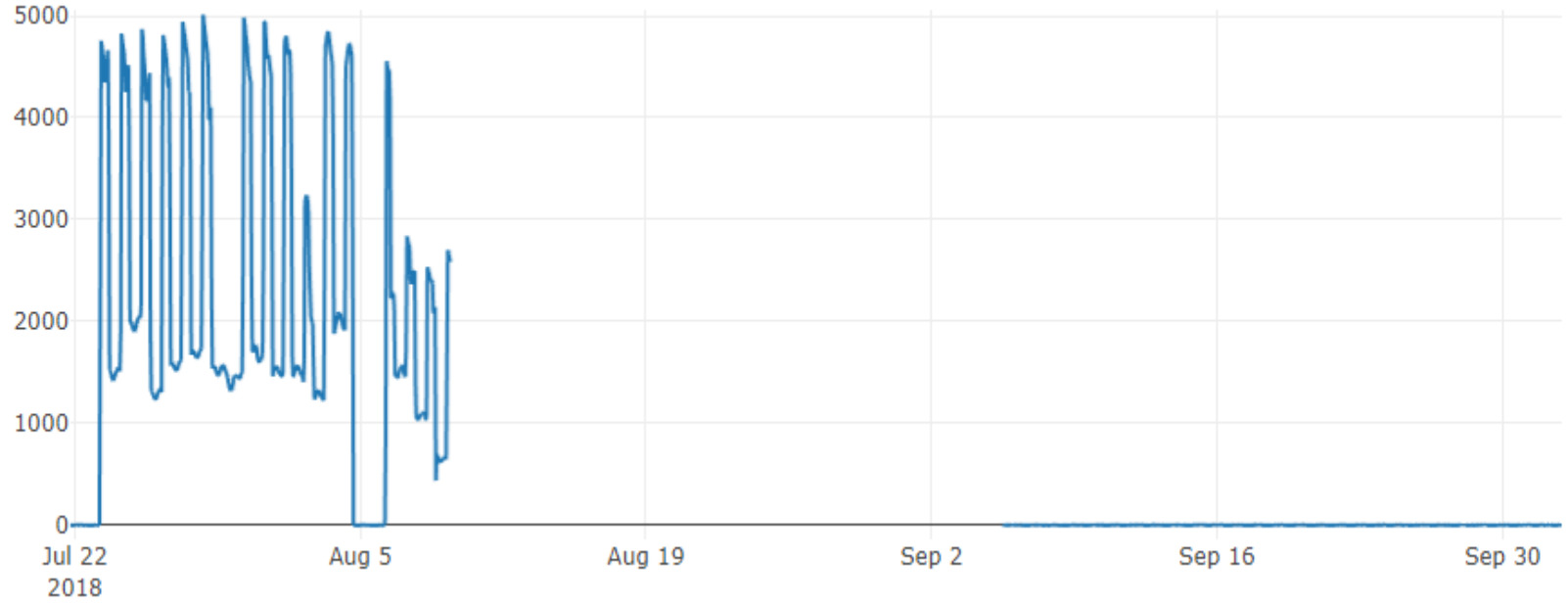
Siphon 40

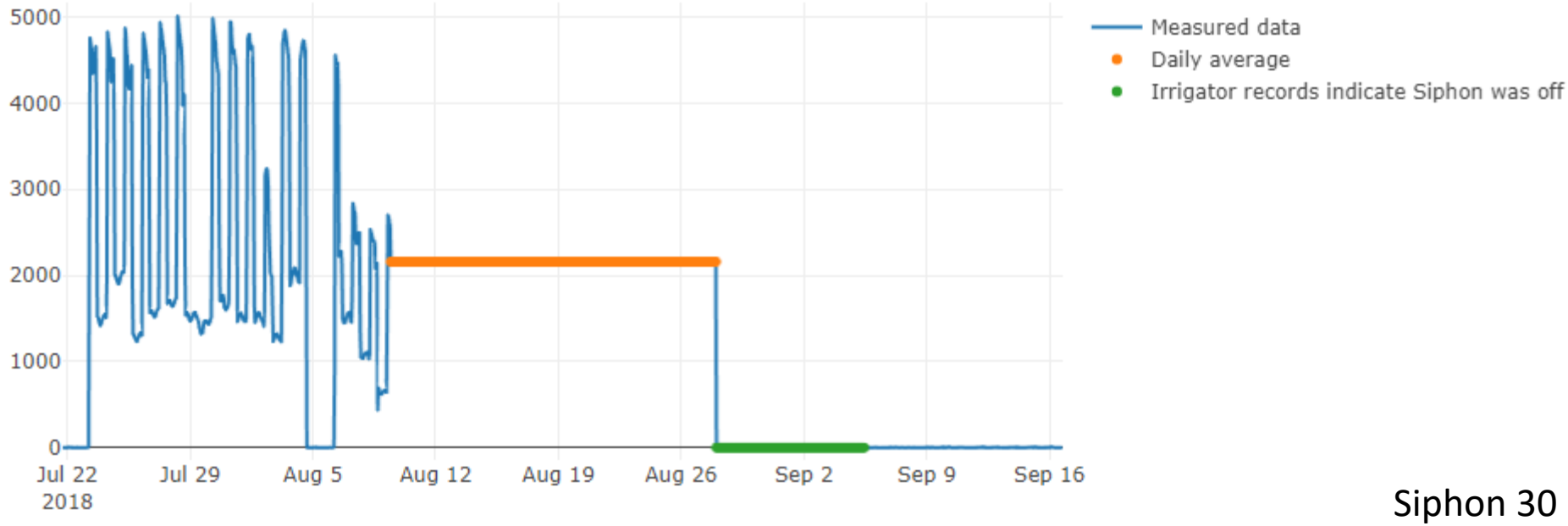
Large Data Gaps >5 days





Large Data Gaps >5 days

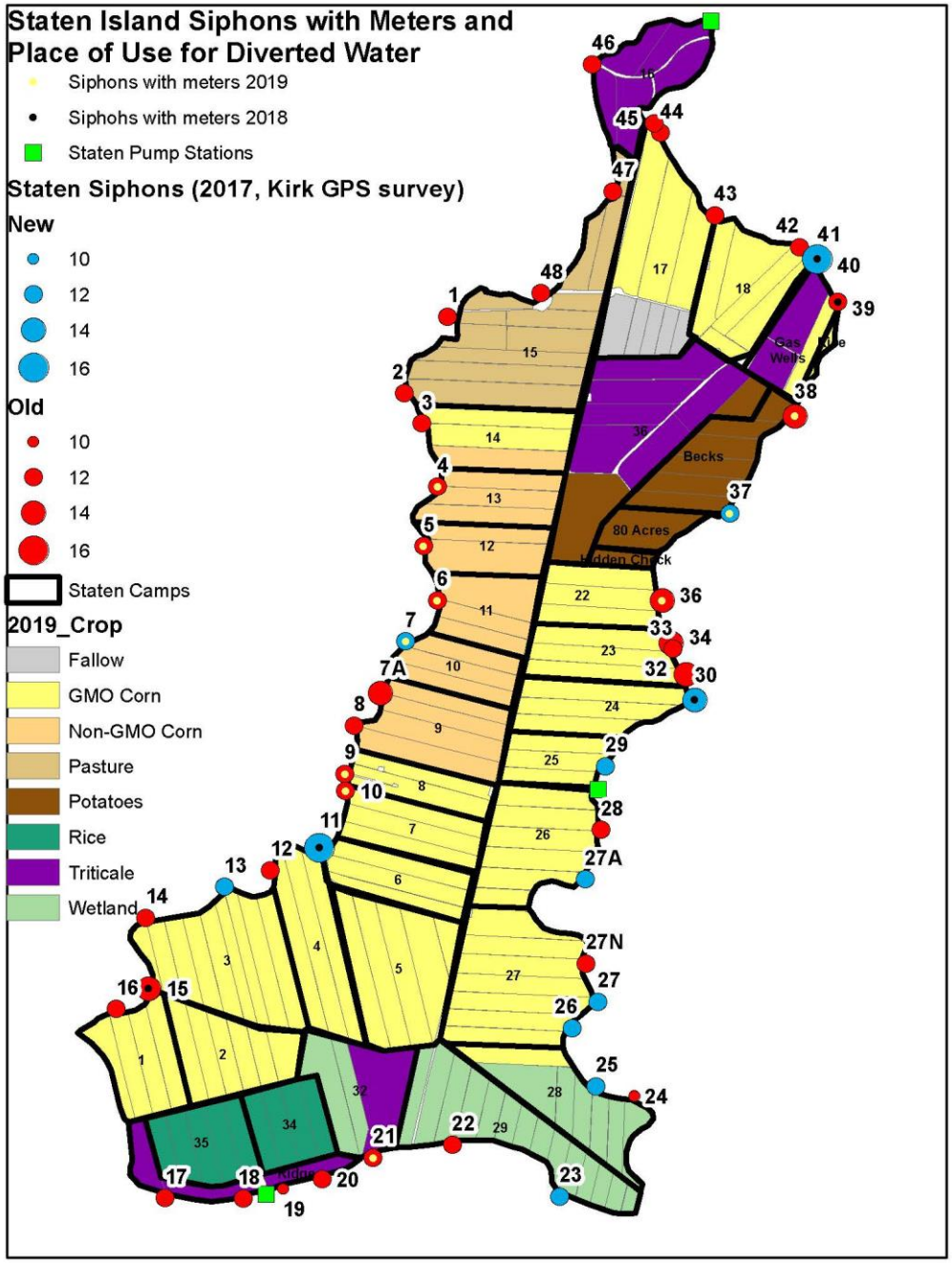




Siphon 30

Next Steps

- Generate monthly summaries by siphon for reporting
- Share raw and edited data
- Compare with irrigator records and daily average estimation methods
- Move meters and install new meters
- Test all siphons at different valve settings
- Test remote sensing options


Staten Island Siphons with Meters and Place of Use for Diverted Water
Siphons with meters 2019
Siphohs with meters 2018
Staten Pump Stations
Staten Siphons (2017, Kirk GPS survey)
New
10
12
14
16
Old
10
12
14
16
Staten Camps
2019_Crop
Fallow
GMO Corn
Non-GMO Corn
Pasture
Potatoes
Rice
Triticale
Wetland
Gas Wells
Becks
80 Acres
Hidden Chuck
1
2
3
4
5
6
7
7A
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
27N
27A
28
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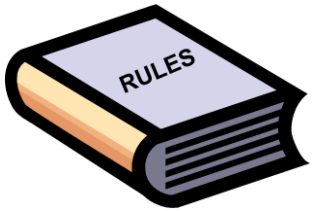
Recommendations

- State program to install and maintain meters for monthly fee



- Data standards and guidelines for outliers and data gaps

- Digital portal (API) to automatically report measurements

- Enhanced grant program specific to SB88


SHOW ME THE DATA

Long Term Accuracy at StatenX

2017: 2.57%
2018: 1.20%