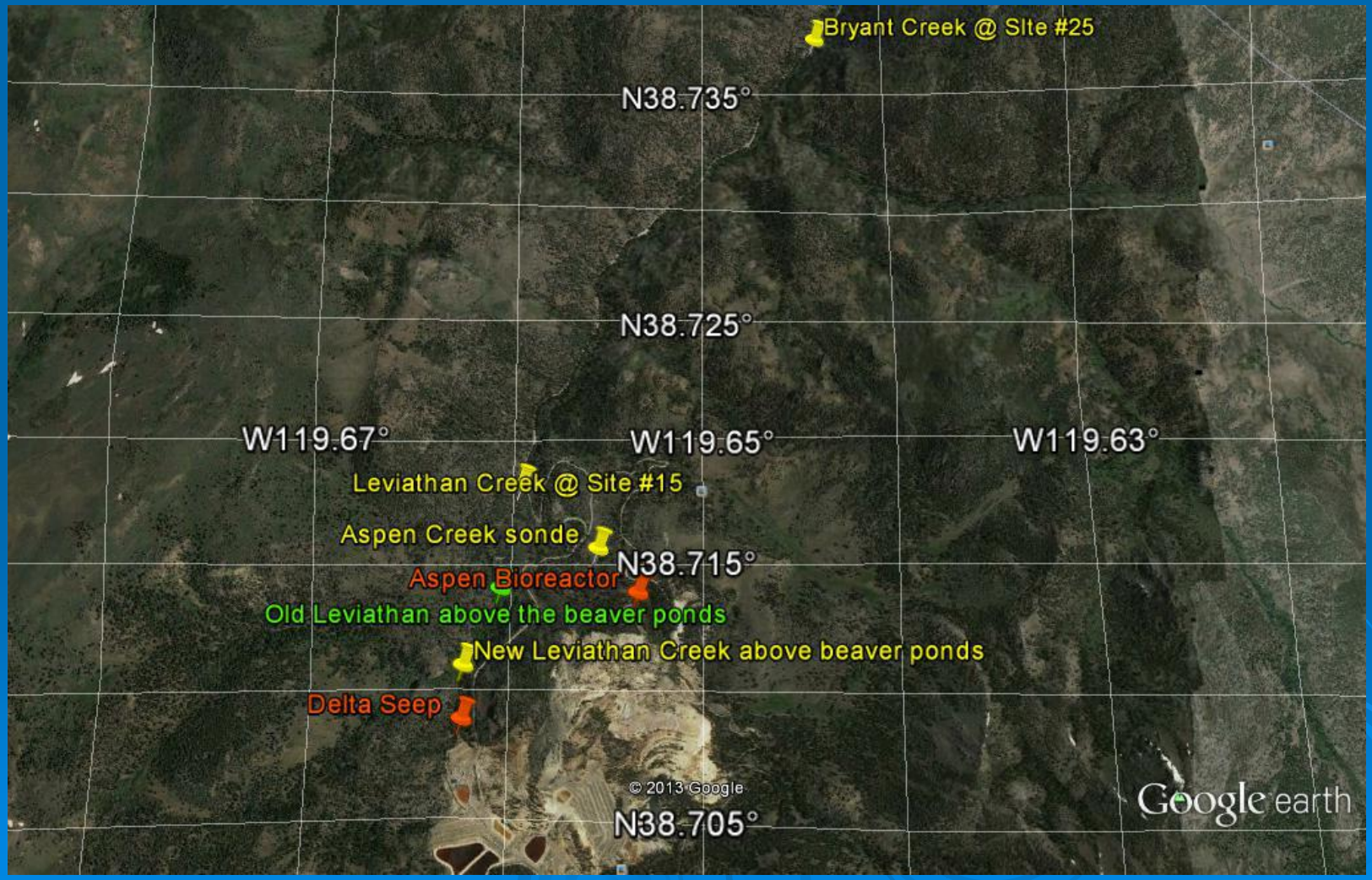
Leviathan Watershed

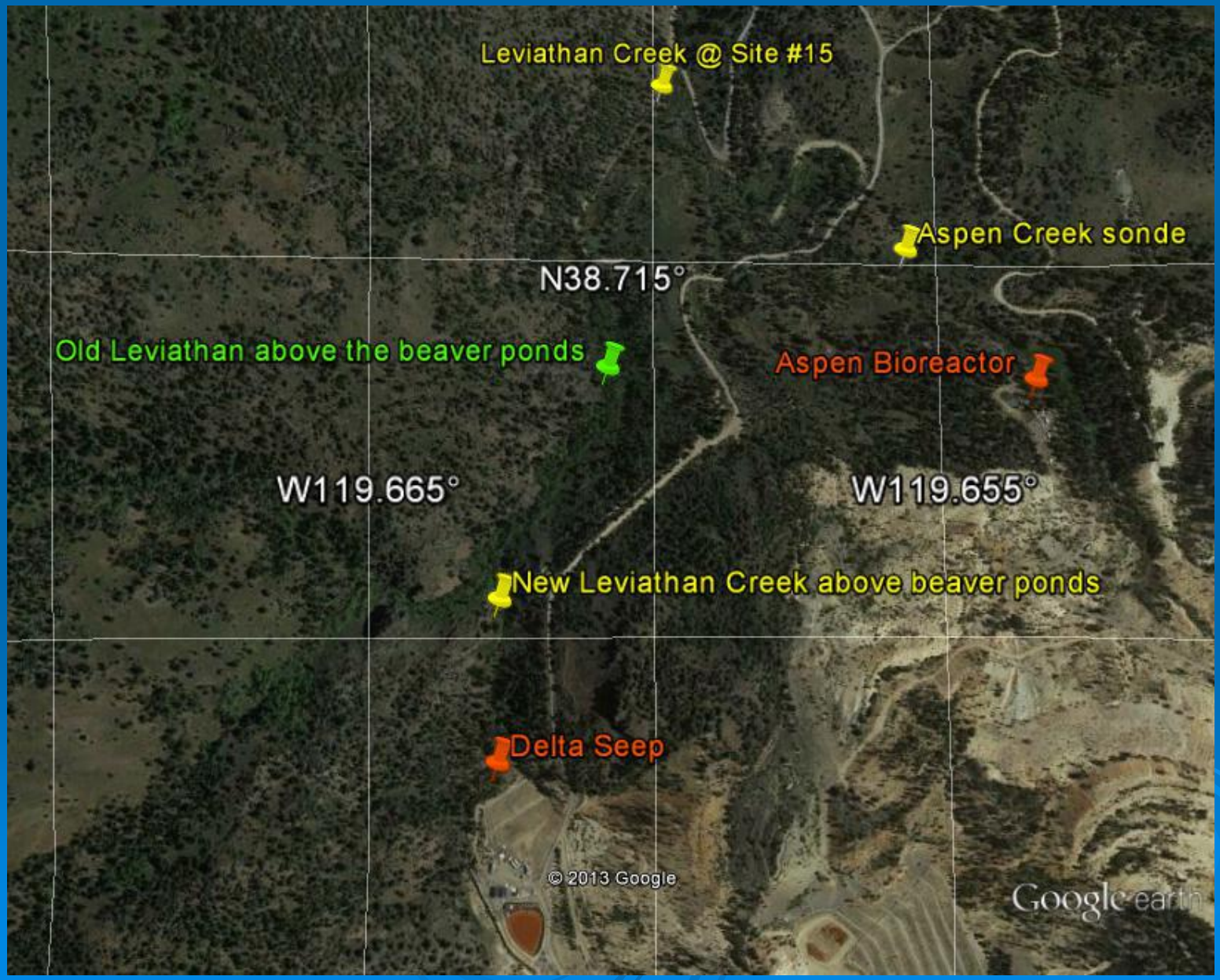
Water Quality Monitoring

2013

Watershed Monitoring Locations



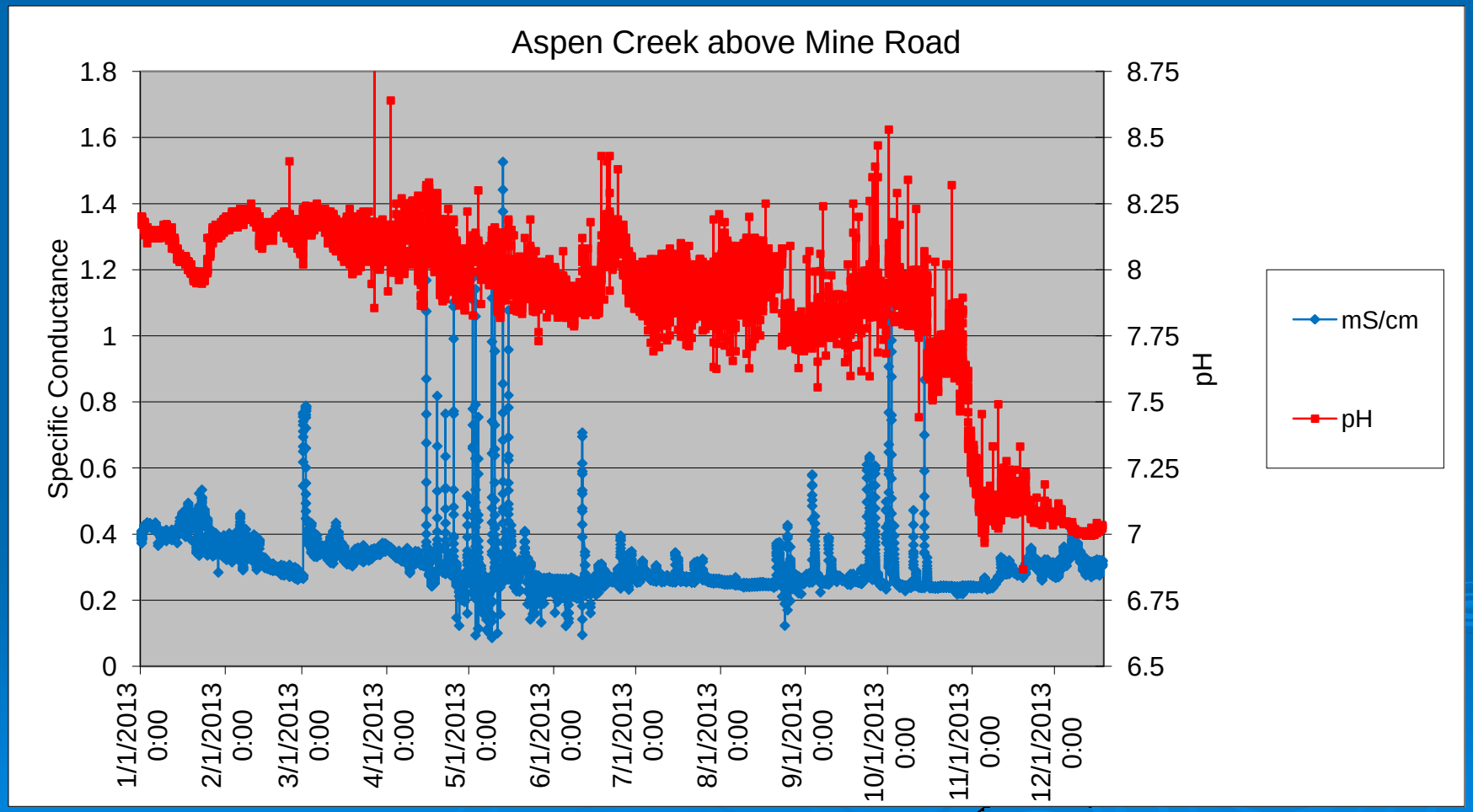
New Location



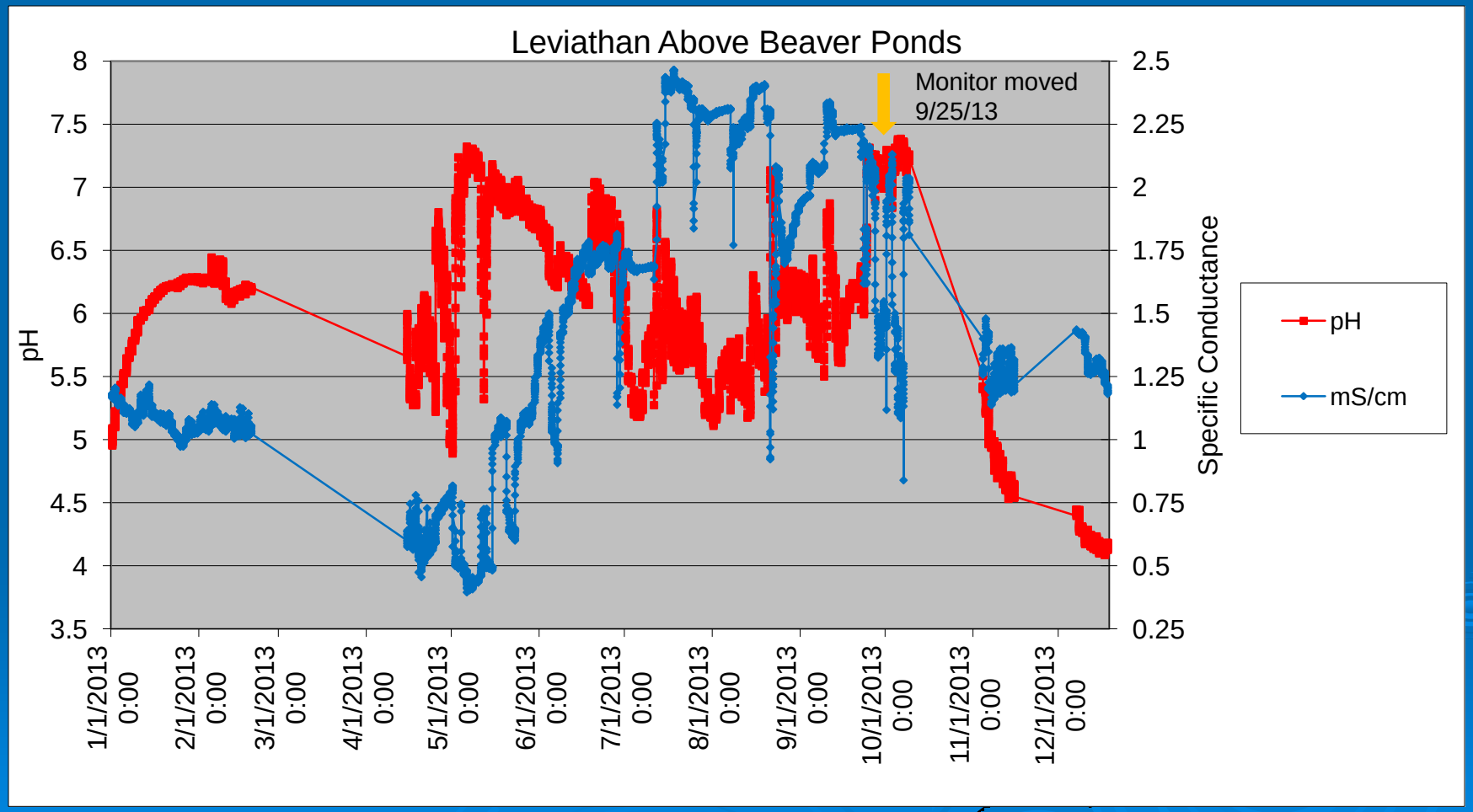
What data is collected and where is it kept?

- pH, specific conductance, temperature, dissolved oxygen, oxidation reduction potential (ORP), depth, (turbidity)
- Hourly readings
- 2013 was a transition year for data availability
- Was available via satellite modem on the internet – not currently.

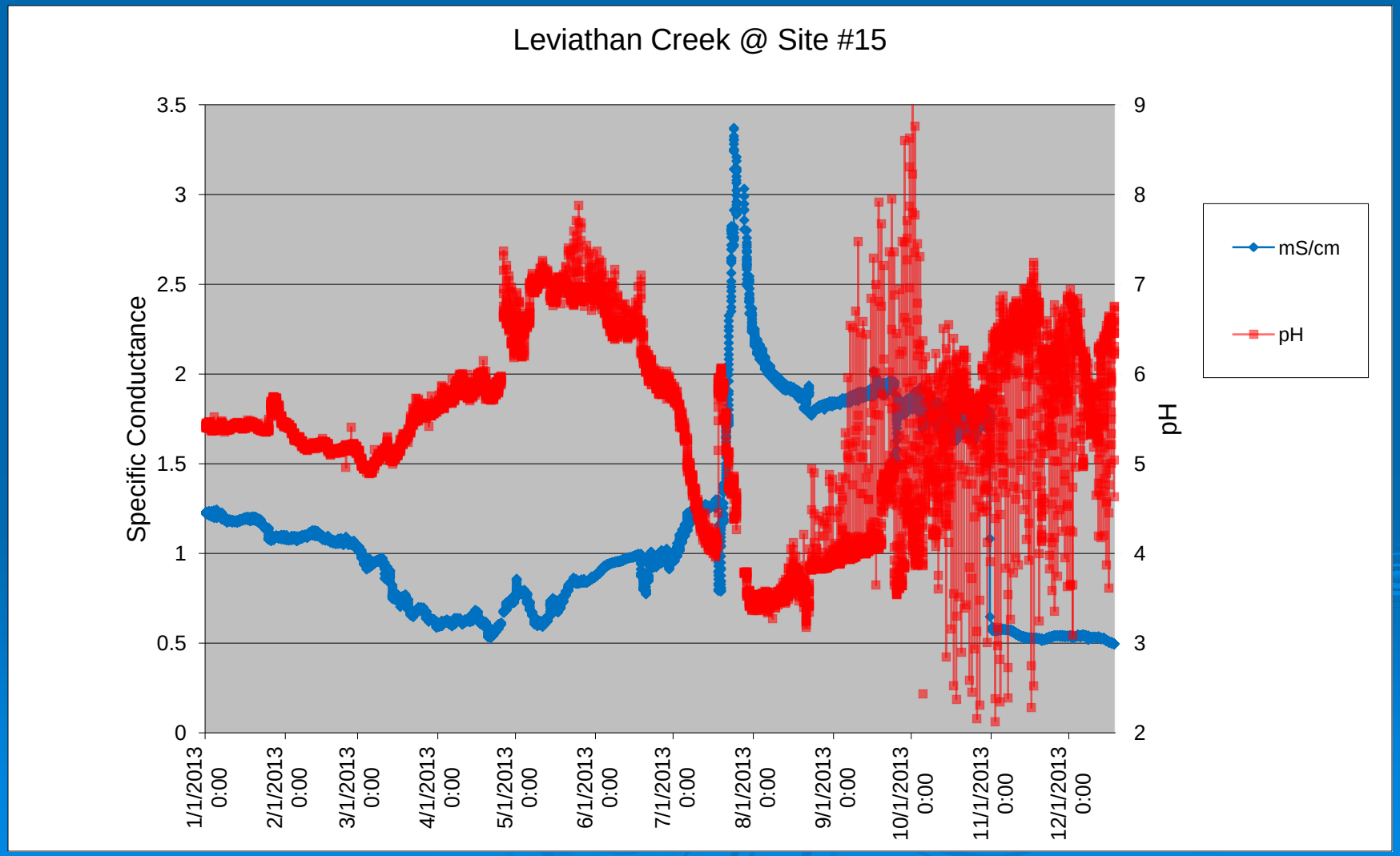
Aspen Creek


Aspen Creek above Mine Road
Specific Conductance
pH
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
8.75
8.5
8.25
8
7.75
7.5
7.25
7
6.75
6.5
1/1/2013 0:00
2/1/2013 0:00
3/1/2013 0:00
4/1/2013 0:00
5/1/2013 0:00
6/1/2013 0:00
7/1/2013 0:00
8/1/2013 0:00
9/1/2013 0:00
10/1/2013 0:00
11/1/2013 0:00
12/1/2013 0:00
mS/cm
pH

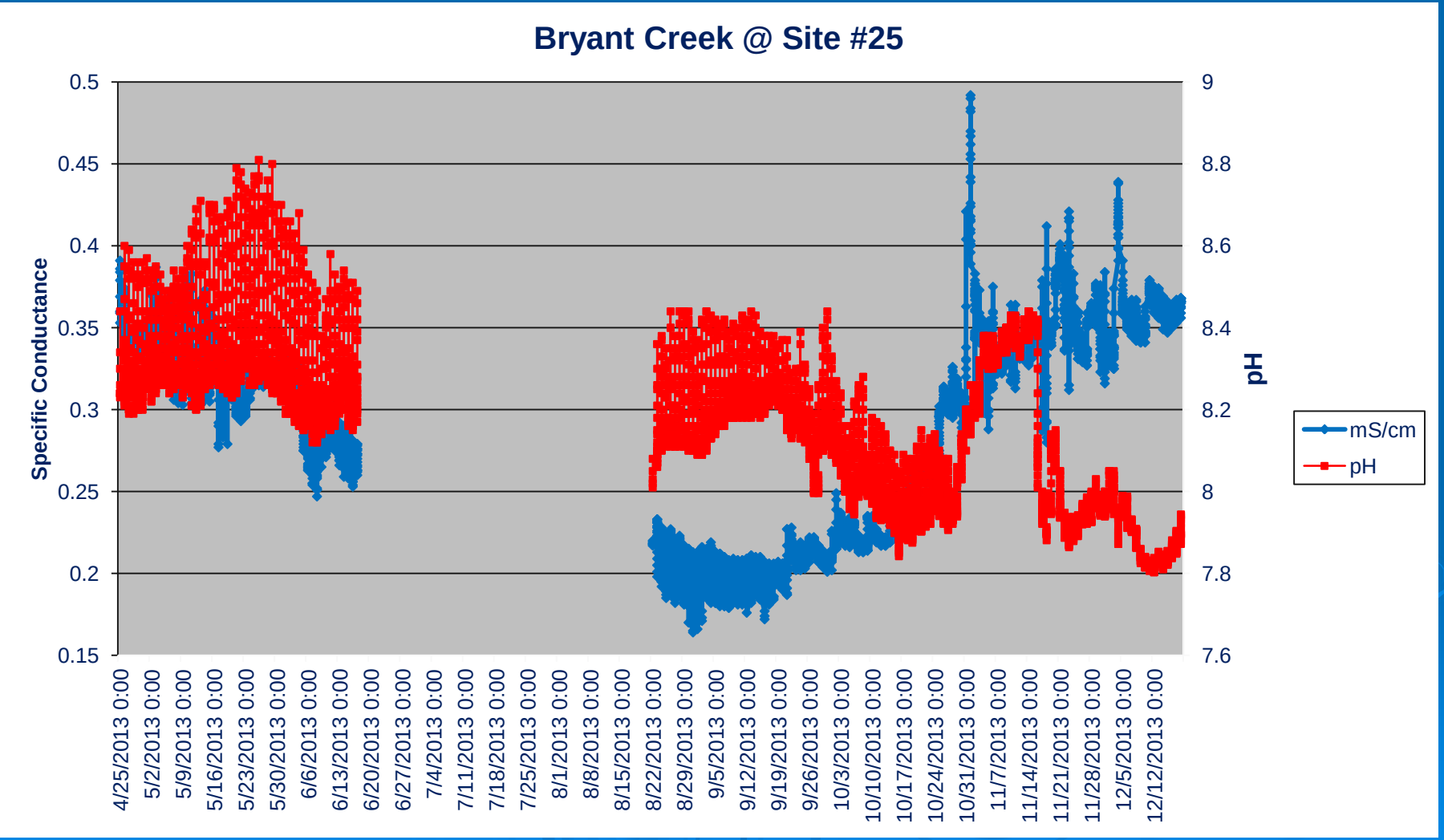
Leviathan Above Beaver Ponds



Leviathan Creek @ Site #15



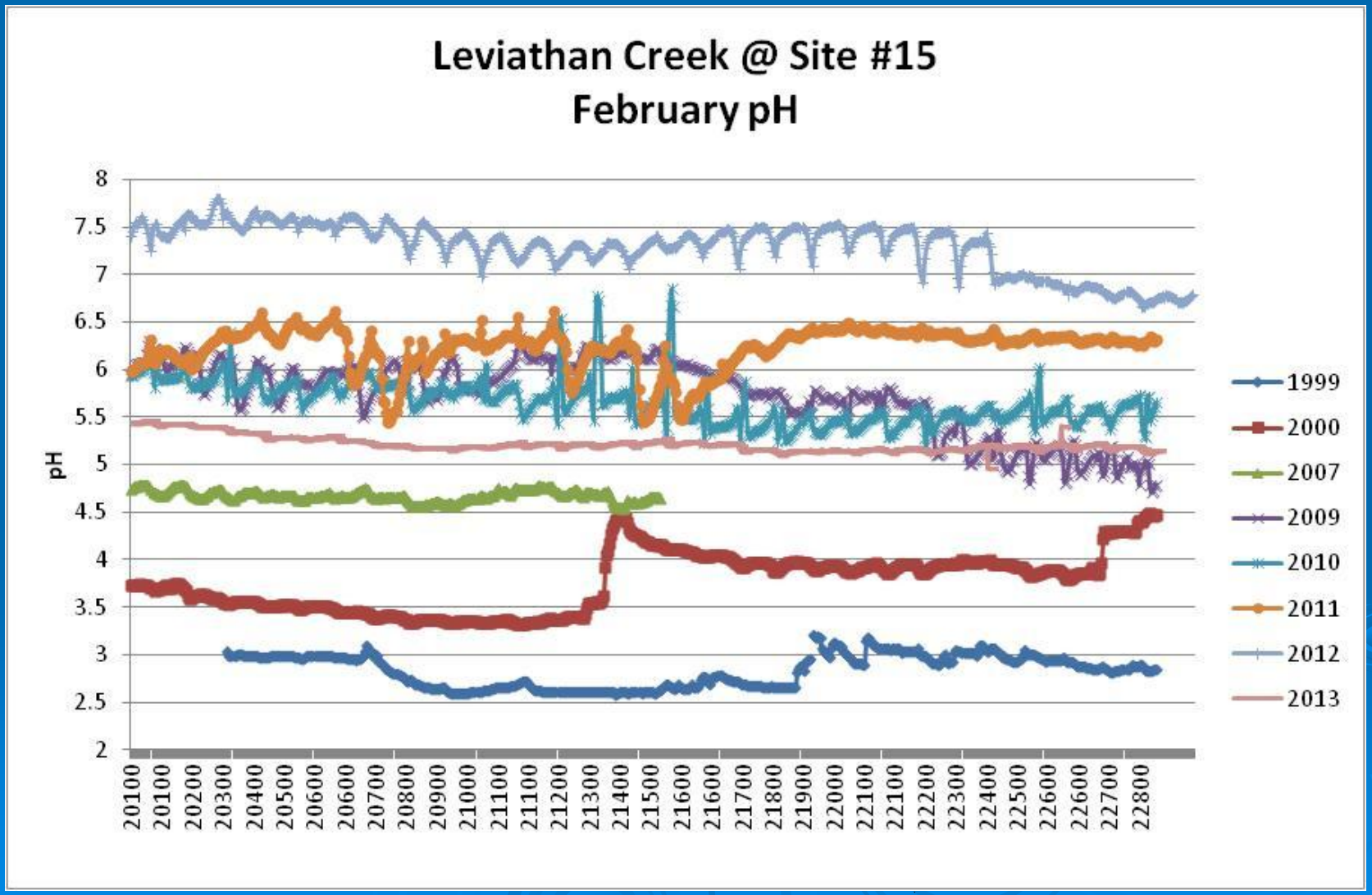
Bryant Creek @ Site #25



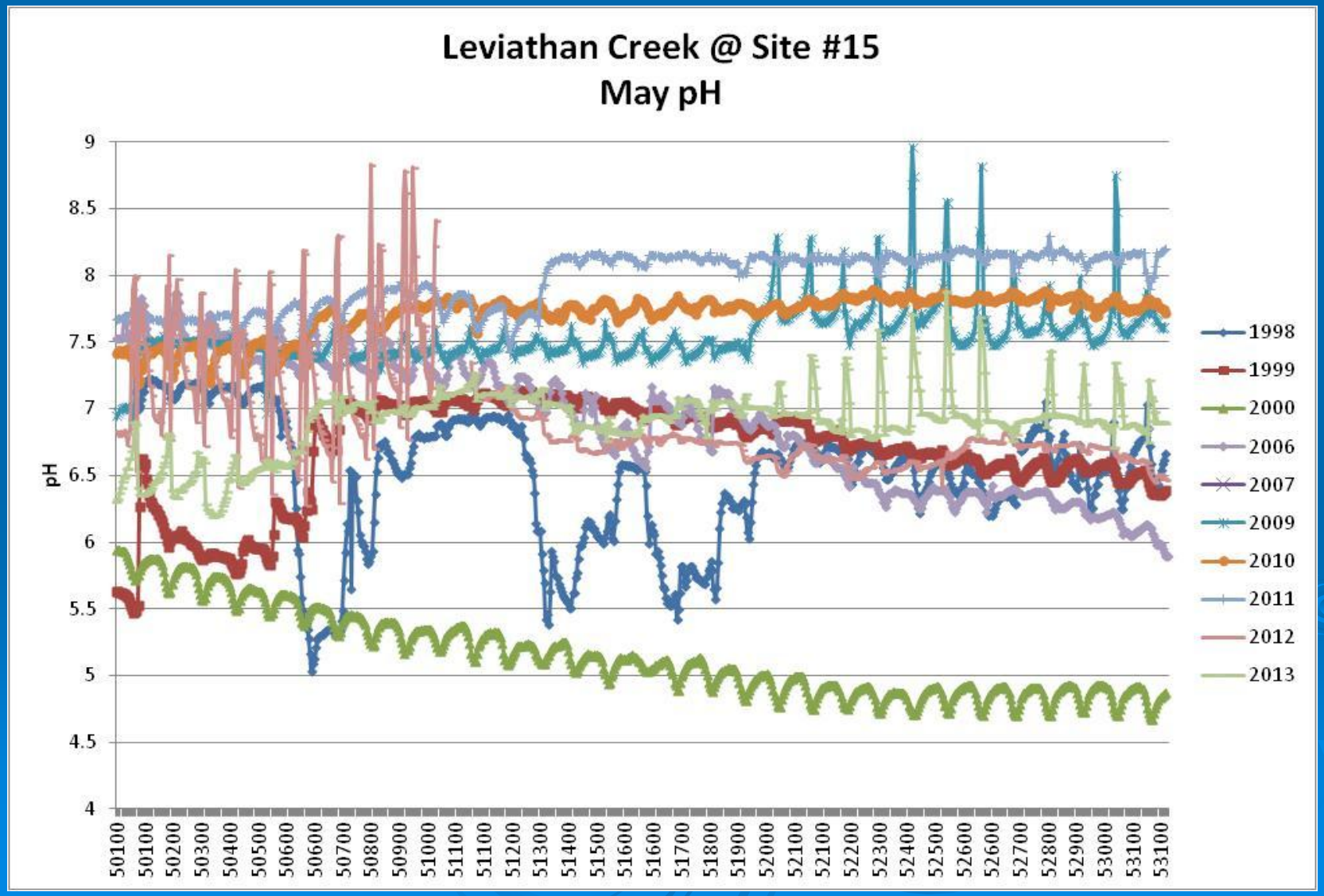
Long Term WQ at Site #15

- How has water quality changed in Leviathan Creek @ Site #15?
- Long Term Data Set (1998 – 2013)
- Look at the seasons (Winter, Spring Summer, Fall)
- Data for 4 months (February, May, July and October)

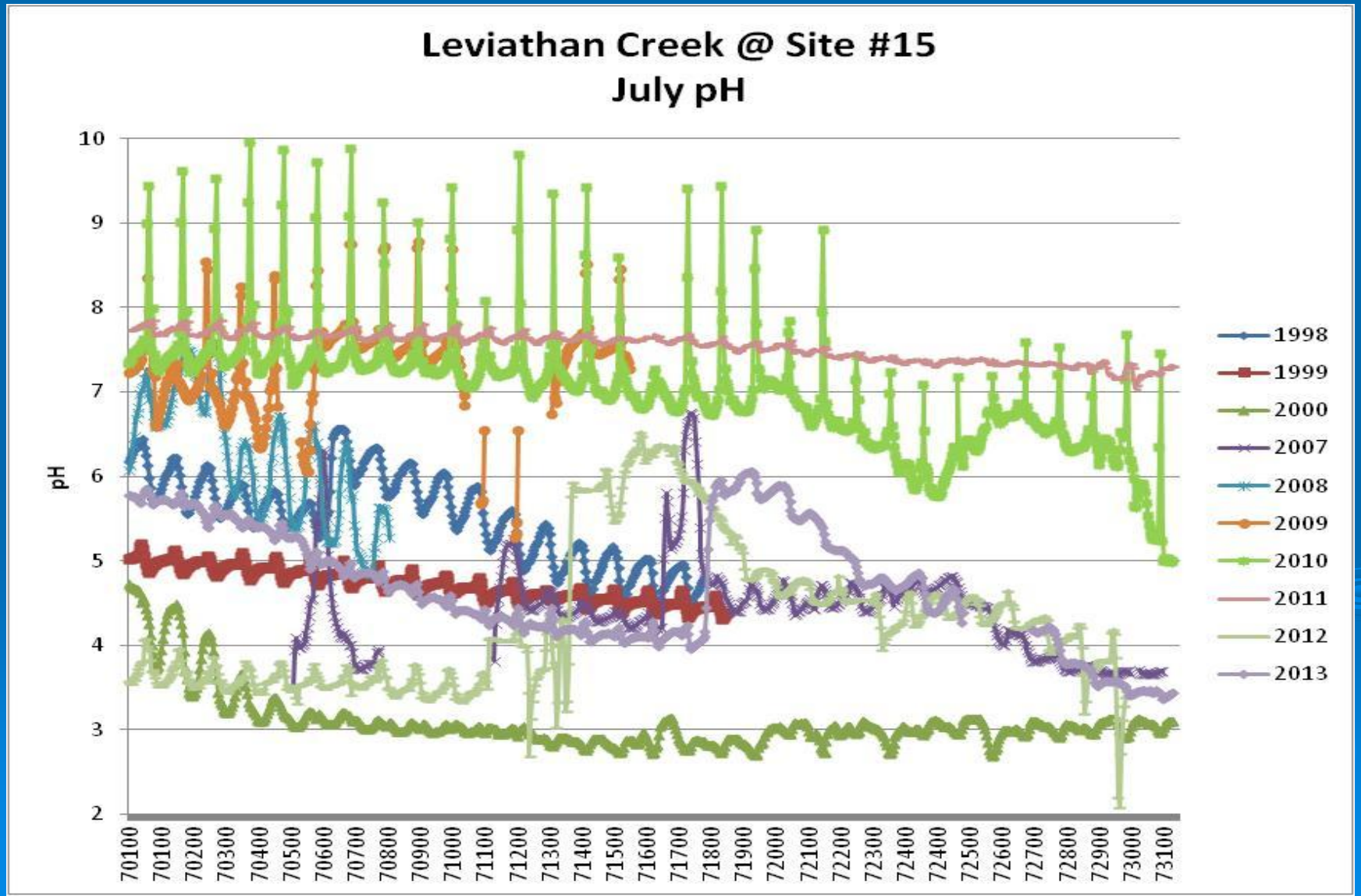
Winter - February



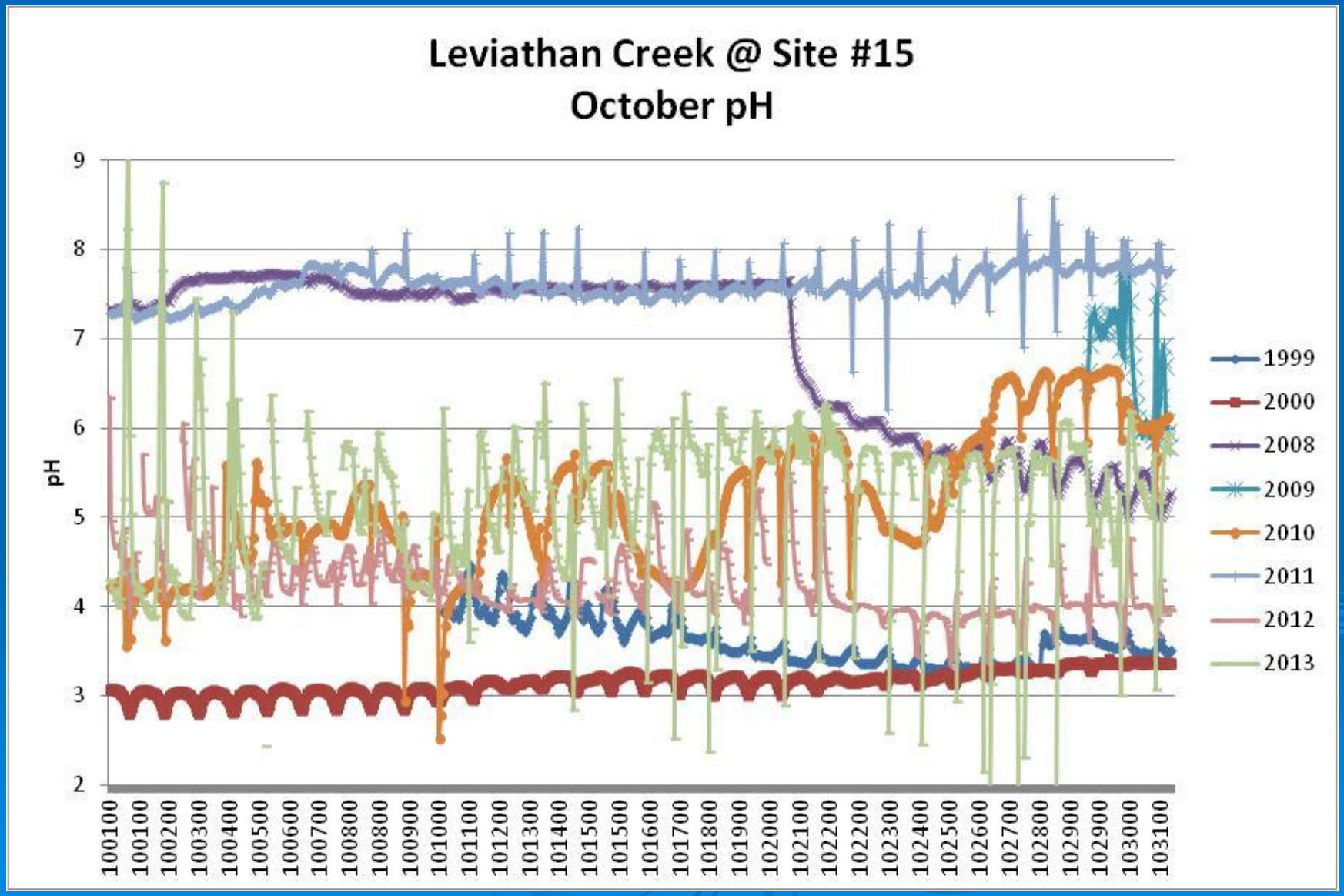
Spring - May


Leviathan Creek @ Site #15
May pH
pH
9
8.5
8
7.5
7
6.5
6
5.5
5
4.5
4
50100
50100
50200
50300
50400
50500
50600
50600
50700
50800
50900
51000
51100
51100
51200
51300
51400
51500
51600
51600
51700
51800
51900
52000
52100
52100
52200
52300
52400
52500
52600
52600
52700
52800
52900
53000
53100
53100
1998
1999
2000
2006
2007
2009
2010
2011
2012
2013

Summer - July

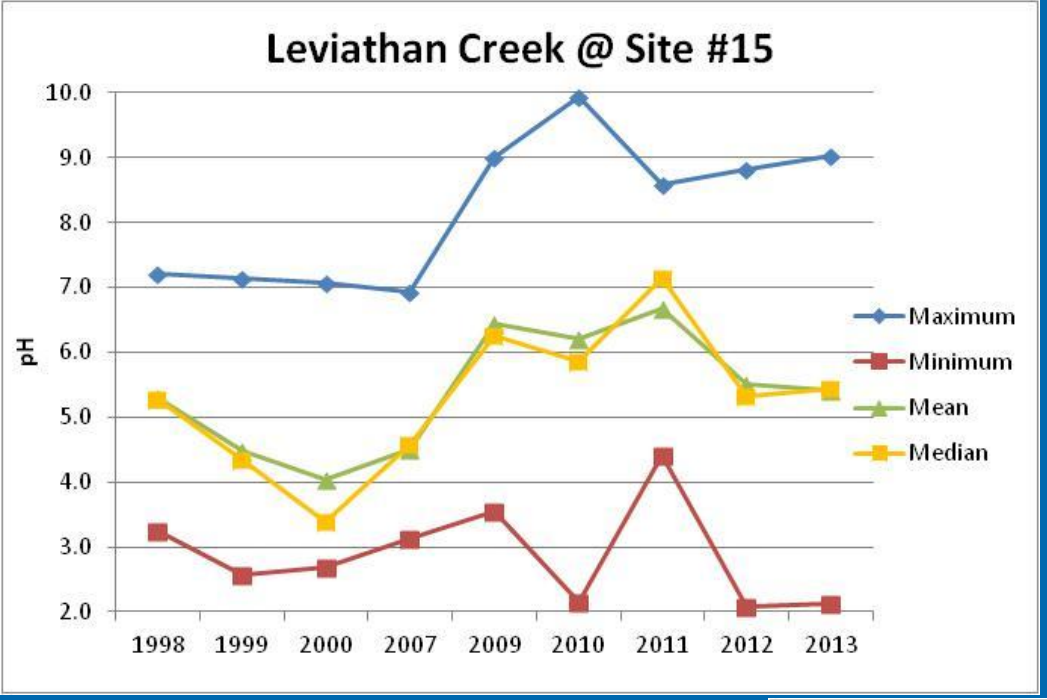

Leviathan Creek @ Site #15
July pH
pH
10
9
8
7
6
5
4
3
2
70100
70100
70200
70300
70400
70500
70600
70700
70800
70900
71000
71100
71200
71300
71400
71500
71600
71700
71800
71900
72000
72100
72200
72300
72400
72400
72500
72600
72700
72800
72900
73000
73100
1998
1999
2000
2007
2008
2009
2010
2011
2012
2013

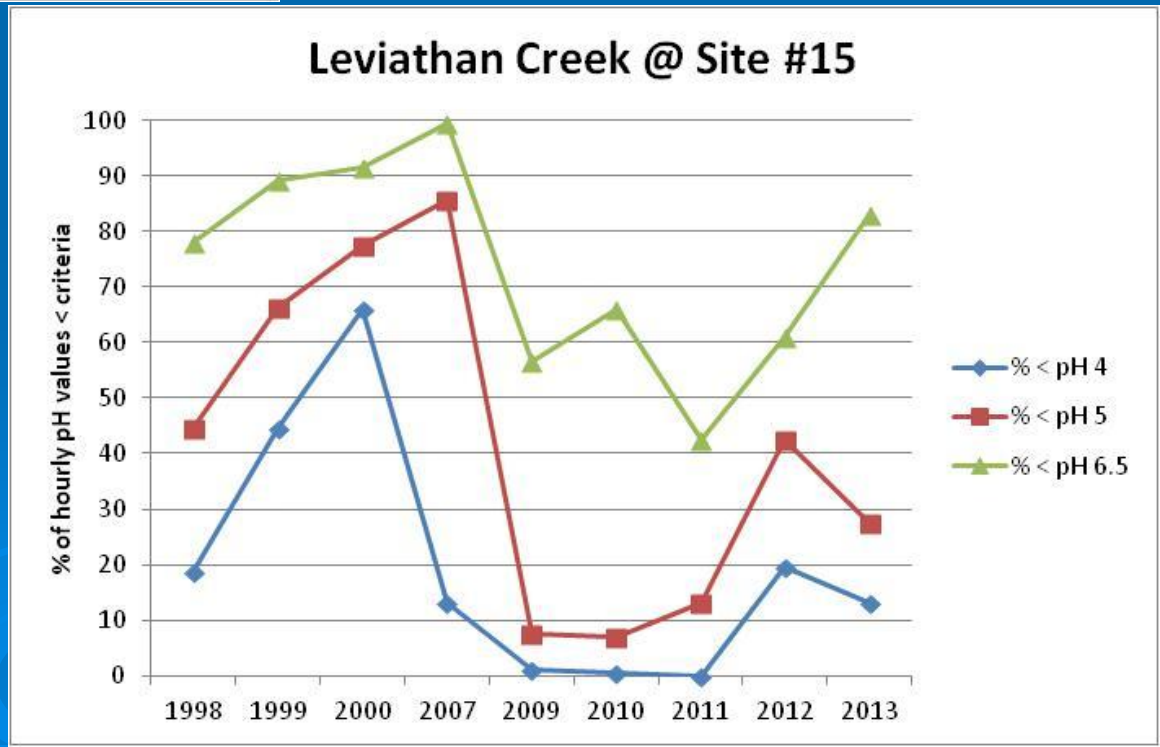
Fall - October

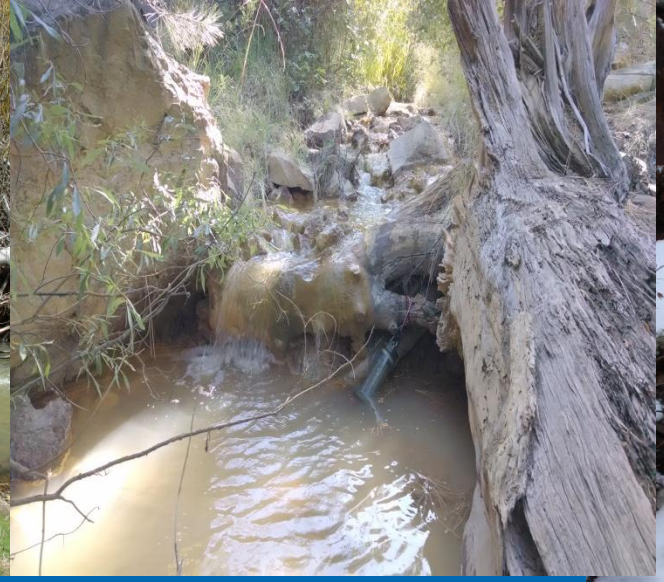


Leviathan Creek Data Summary Hourly pH

Year	1998	1999	2000	2007	2009	2010	2011	2012	2013
Mean	5.3	4.5	4.0	4.5	6.4	6.2	6.7	5.5	5.4
Median	5.3	4.4	3.4	4.6	6.2	5.9	7.1	5.3	5.4
Minimum	3.3	2.6	2.7	3.1	3.6	2.2	4.4	2.1	2.1
Maximum	7.2	7.1	7.1	6.9	9.0	10.0	8.6	8.8	9.0
n (<pH 4)	605	2503	4381	322	64	35	0	1571	1075
n (<pH 5)	1429	3737	5139	2103	478	594	1148	3388	2266
n (<pH 6.5)	2507	5025	6063	2442	3597	5561	3715	4867	6811
(n)	3211	5629	6627	2459	6348	8425	8759	7963	8192
% < pH 4	19	44	66	13	1	0	0	20	13
% < pH 5	45	66	78	86	8	7	13	43	28
% < 6.5	78	89	91	99	57	66	42	61	83


Leviathan Creek @ Site #15
pH
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1998
1999
2000
2007
2009
2010
2011
2012
2013
Maximum
Minimum
Mean
Median


Leviathan Creek @ Site #15
% of hourly pH values < criteria
100
90
80
70
60
50
40
30
20
10
0
1998
1999
2000
2007
2009
2010
2011
2012
2013
% < pH 4
% < pH 5
% < pH 6.5



Questions/comments:

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