Data set progress and verification

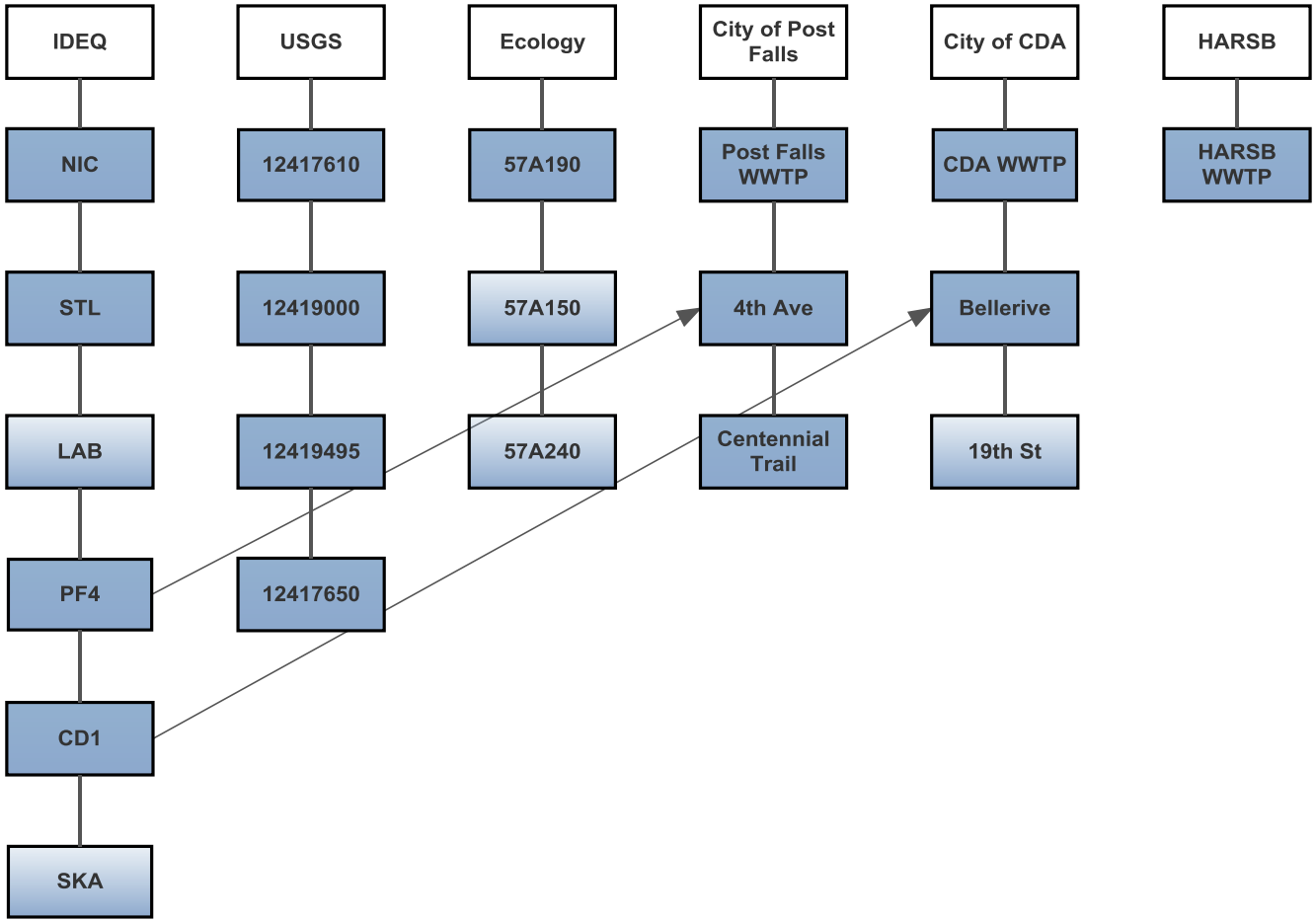
Spokane River Metals TMDL WAG meeting

By: Robert Steed,

IDEQ , Surface Water Ecologist

December 9, 2016

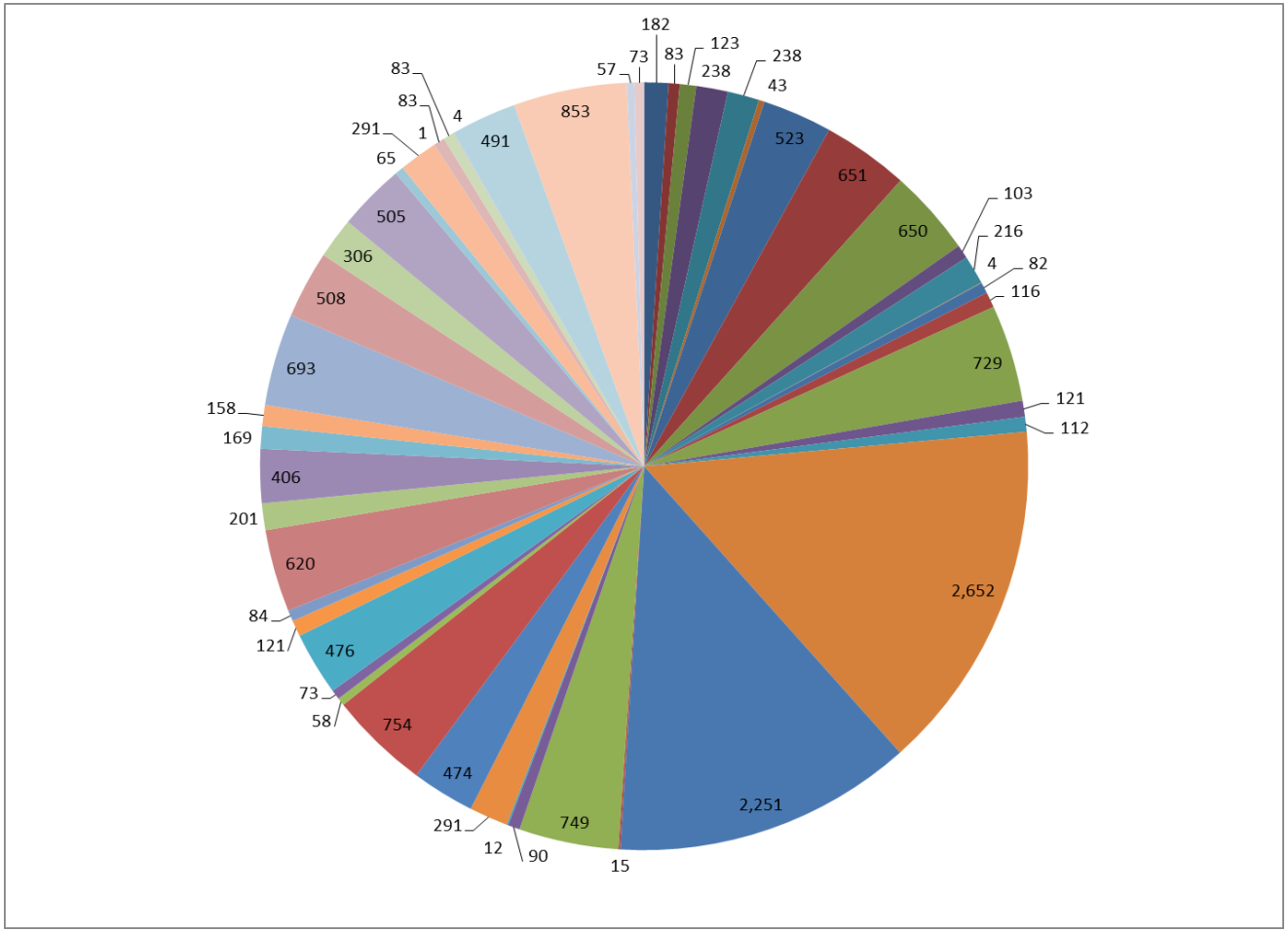
Sample Locations



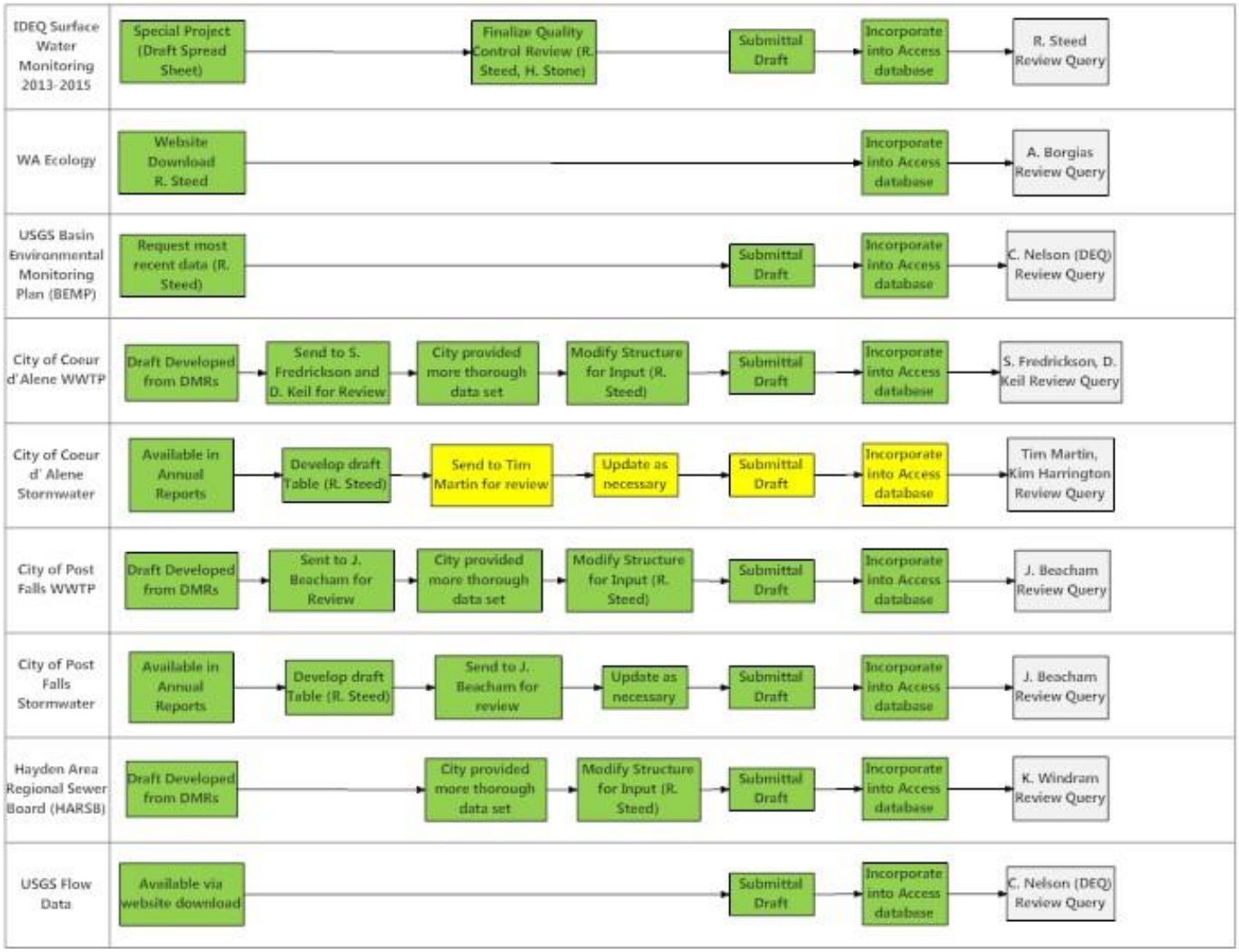
Variables and Count

- 81,077 Discharge, instantaneous - Q (cfs)
- 182 Alkalinity, - ALK (mg/L)
- 83 Arsenic, dissolved - Dis-As (µg/L)
- 123 Arsenic, total - Tot-As (µg/L)
- 238 Cadmium CCC Criteria (µg/L)
- 238 Cadmium CMC Criteria (µg/L)
- 43 Cadmium, dissolved - 4 day average (µg/L)
- 523 Cadmium, dissolved - Dis-Cd (µg/L)
- 651 Cadmium, total - Tot-Cd (µg/L)
- 650 Calcium, dissolved - Dis-Ca (mg/L)
- 103 Carbon, dissolved, as C - DOC (µg/L)
- 216 Carbon, total, as C - TOC (µg/L)
- 4 Chlorophyll A, as unspecified method - Chla (µg/L)
- 82 Chromium, dissolved - Dis-Cr (µg/L)
- 116 Chromium, total - Tot-Cr (µg/L)
- 729 Conductivity - Cond. (µS/m)
- 121 Copper, dissolved - Dis-Cu (µg/L)
- 112 Copper, total - Tot-Cu (µg/L)
- 2,652 Discharge, daily average - Q (cfs)
- 2,251 Discharge, daily average - Q (MGD)
- 15 Discharge, monthly average - Q (MGD)
- 749 Hardness, Dissolved as CaCO3 - (mg/L)
- 90 Hardness, Total as CaCO3 - (mg/L)
- 12 Hardness, total est. annual load - (lbs/year)
- 291 Laboratory Work Order - (alpha)
- 474 Lead, dissolved - Dis-Pb (µg/L)
- 754 Lead, total - Tot-Pb (µg/L)
- 58 Lead, total est. annual load - Tot-Pb (lbs/year)
- 73 Lead, total est. daily load - Tot-Pb (lbs/day)
- 476 Magnesium, dissolved - Dis-Mg (mg/L)
- 121 Nickel, dissolved - Dis-Ni (µg/L)
- 84 Nickel, total - Tot-Ni (µg/L)
- 620 Nitrogen, as ammonia - NH3-N (mg/L)
- 201 Nitrogen, as nitrate - NO3 (mg/L)
- 406 Nitrogen, as nitrate+nitrite - NO2+NO3 as N (mg/L)
- 169 Nitrogen, as nitrite - NO2 (mg/L)
- 158 Nitrogen, Total Kjeldahl, as N - TKN (mg/L)
- 693 pH - (pH units)
- 508 Phosphorus, dissolved reactive, as P - sRP (mg/L)
- 306 Phosphorus, Total Persulfate Nitrogen - TPN (mg/L)
- 505 Phosphorus, total, as P - TP (mg/L)
- 65 Quality Control - (alpha)
- 291 Sample Id - (alpha)
- 1 Silica, - SiO2 (µg/L)
- 83 Silver, dissolved - Dis-Ag (µg/L)
- 83 Silver, total - Tot-Ag (µg/L)
- 4 Total Dissolved Solids, - TDS (mg/L)
- 491 Zinc, dissolved - Dis-Zn (µg/L)
- 853 Zinc, total - Tot-Zn (µg/L)
- 57 Zinc, total est. annual load - Tot-Zn (lbs/year)
- 73 Zinc, total est. daily load - Tot-Zn (lbs/day)

Distribution of Variables excluding Discharge, instantaneous - Q (cfs)



Data status



Spokane River Metals TMDL Watershed Advisory Group

Call for Data Progress
5/3/2016

Completed

In Progress

Not Initiated

ftp://164.165.67.237/
username public – password public

Cadmus/		11/14/16, 8:16:00 AM
City of Minidoka/		11/2/16, 8:58:00 AM
Coeur d'Alene Blackwell Island Lift Station/		10/31/16, 4:23:00 PM
DEQ 2016 repository monitoring.zip	31.9 MB	10/31/16, 1:05:00 PM
Don Zaroban, 2016 BURP fish photos/		12/9/16, 1:12:00 PM
DR DAS FTP Test/		12/9/16, 1:12:00 PM
Draft Smokey Canyon Mine RIFS Feasibility Study Technical Memorandum #1 Development & Screening of Remedial Alternatives/		12/5/16, 2:56:00 PM
EE Workgroup Meeting 120816/		12/9/16, 11:05:00 AM
Franklin/		12/5/16, 2:52:00 PM
FY 2017 LOI Ratings/		5/25/16, 11:48:00 AM
FY2017LOIRatings/		5/25/16, 11:48:00 AM
Idaho Marine/		10/31/16, 8:19:00 AM
Magnida Modeling Memo/		2/4/15, 12:00:00 AM
Magnida Public Comment Folder/		2/4/15, 12:00:00 AM
Mollie/		12/1/16, 3:46:00 PM
NWP Mountain Home/		11/18/16, 4:21:00 PM
PHD - Moyie Springs Facility Plan/		12/1/16, 3:19:00 PM
Pocatello Water Quality/		12/7/16, 9:31:00 AM
Public Upload/		12/5/16, 1:54:00 PM
Sandpoint WWTP Met Data/		12/4/16, 9:30:00 AM
Spokane River Metals TMDL WAG/		12/9/16, 1:17:00 PM
SRF Review FY16/		11/14/16, 10:56:00 AM
Stan Christensen NuWest/		12/4/16, 9:30:00 AM
Terra Graphics Spalinger/		3/8/16, 10:42:00 AM
VPN/		10/26/16, 10:37:00 AM
Wayne Harris/		11/15/16, 9:02:00 AM

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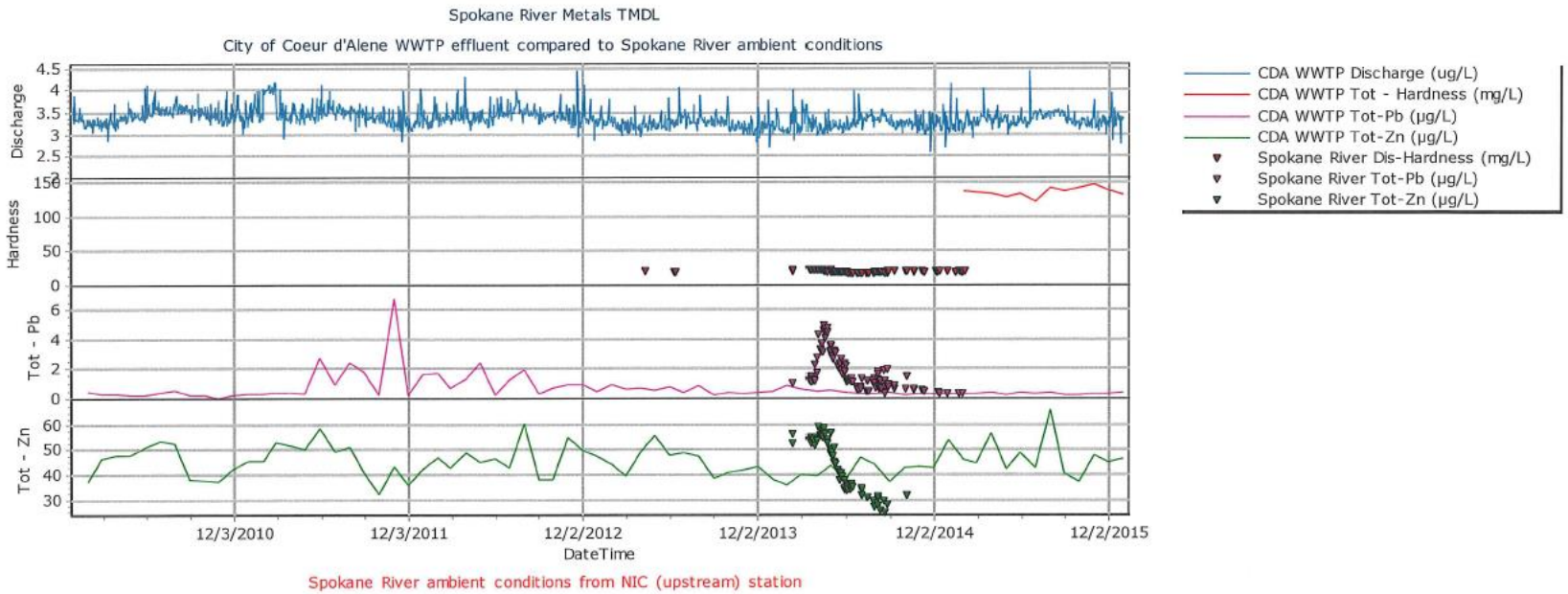
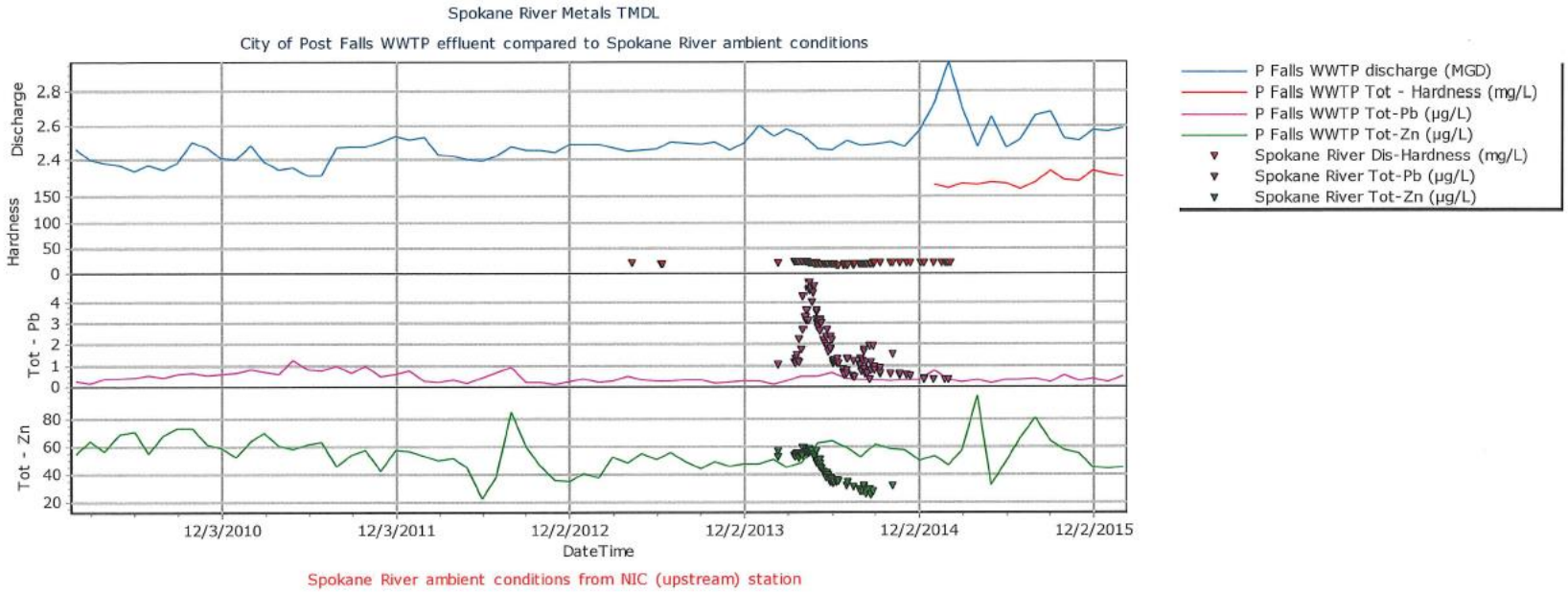
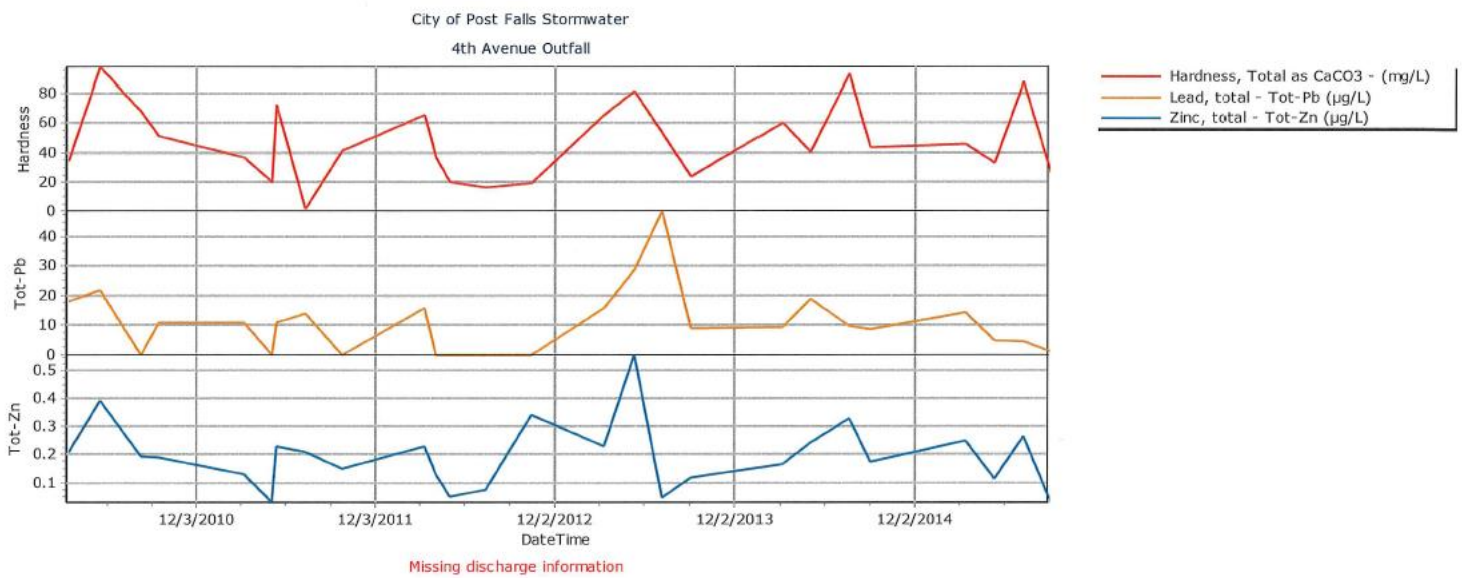
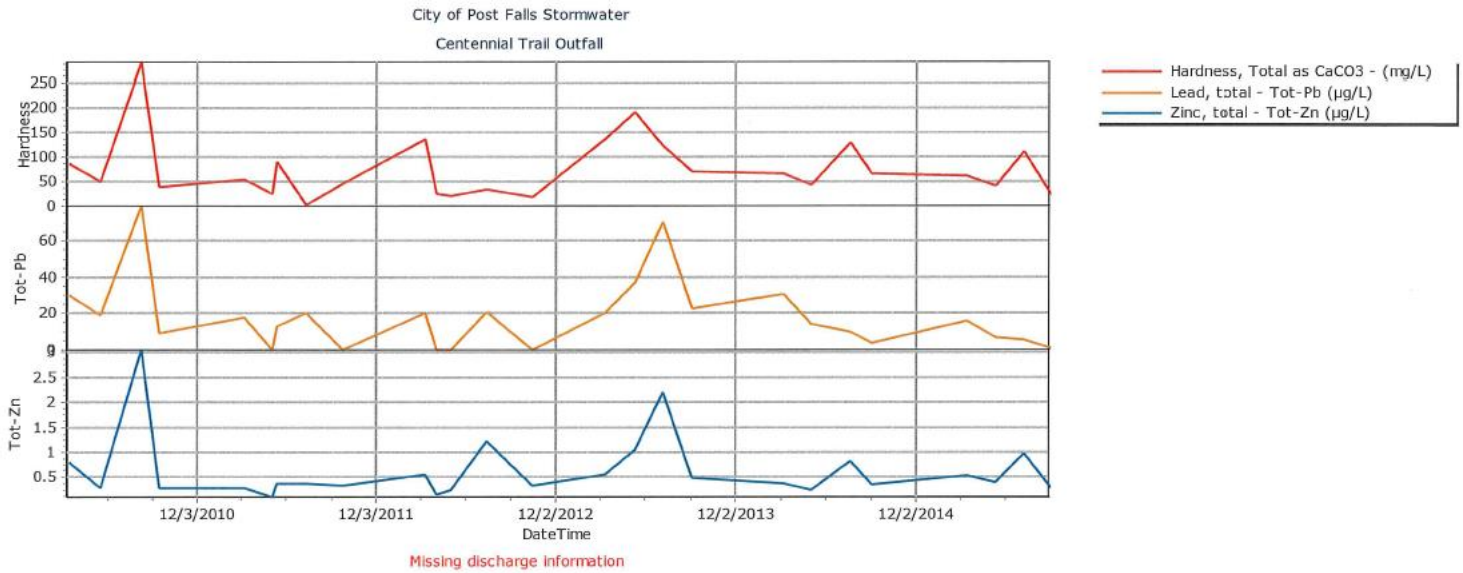
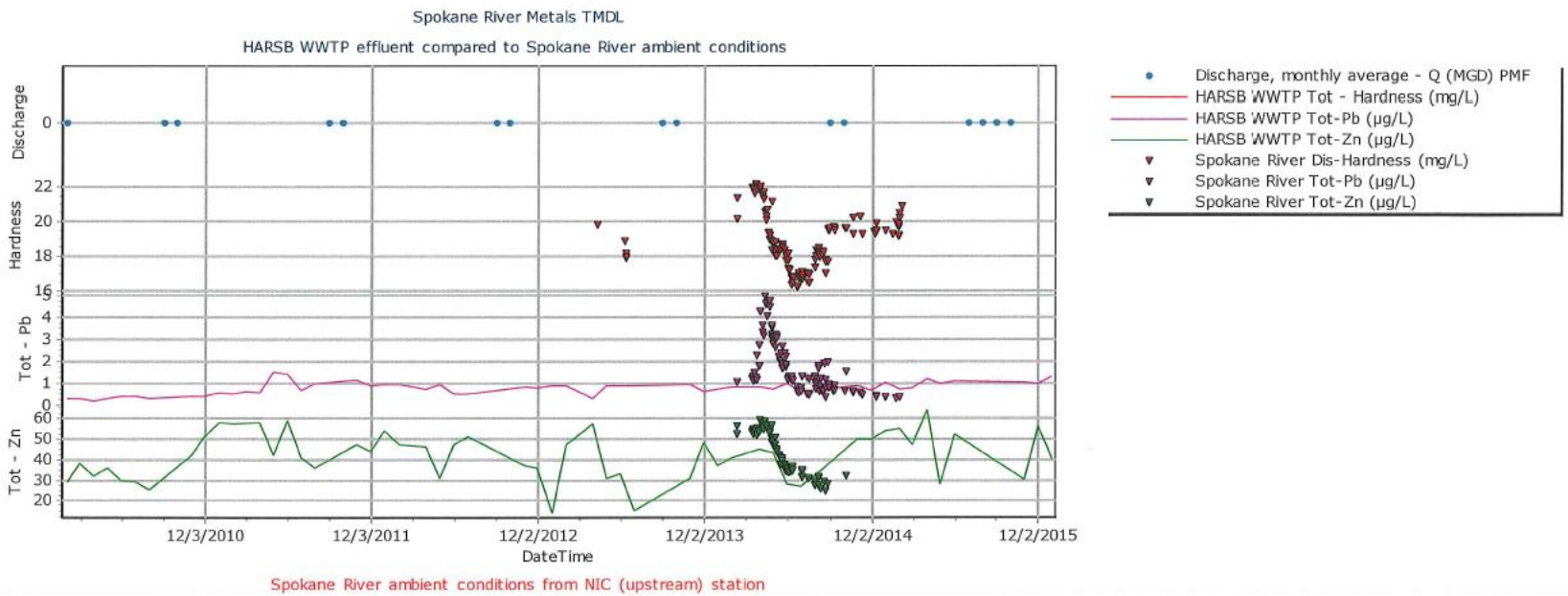
Name	Size	Date Modified
[parent directory]		
City of CDA WWTP.xls	416 kB	12/9/16, 1:17:00 PM
City of Post Falls WWTP.xls	89.5 kB	12/9/16, 1:17:00 PM
Ecology Ambient Monitoring.xls	1.0 MB	12/9/16, 1:17:00 PM
HARSB WWTP.xls	73.5 kB	12/9/16, 1:17:00 PM
IDEQ Ambient Monitoring.xls	589 kB	12/9/16, 1:17:00 PM
Post Falls Stormwater.xls	48.5 kB	12/9/16, 1:17:00 PM
USGS Ambient Monitoring.xls	629 kB	12/9/16, 1:17:00 PM

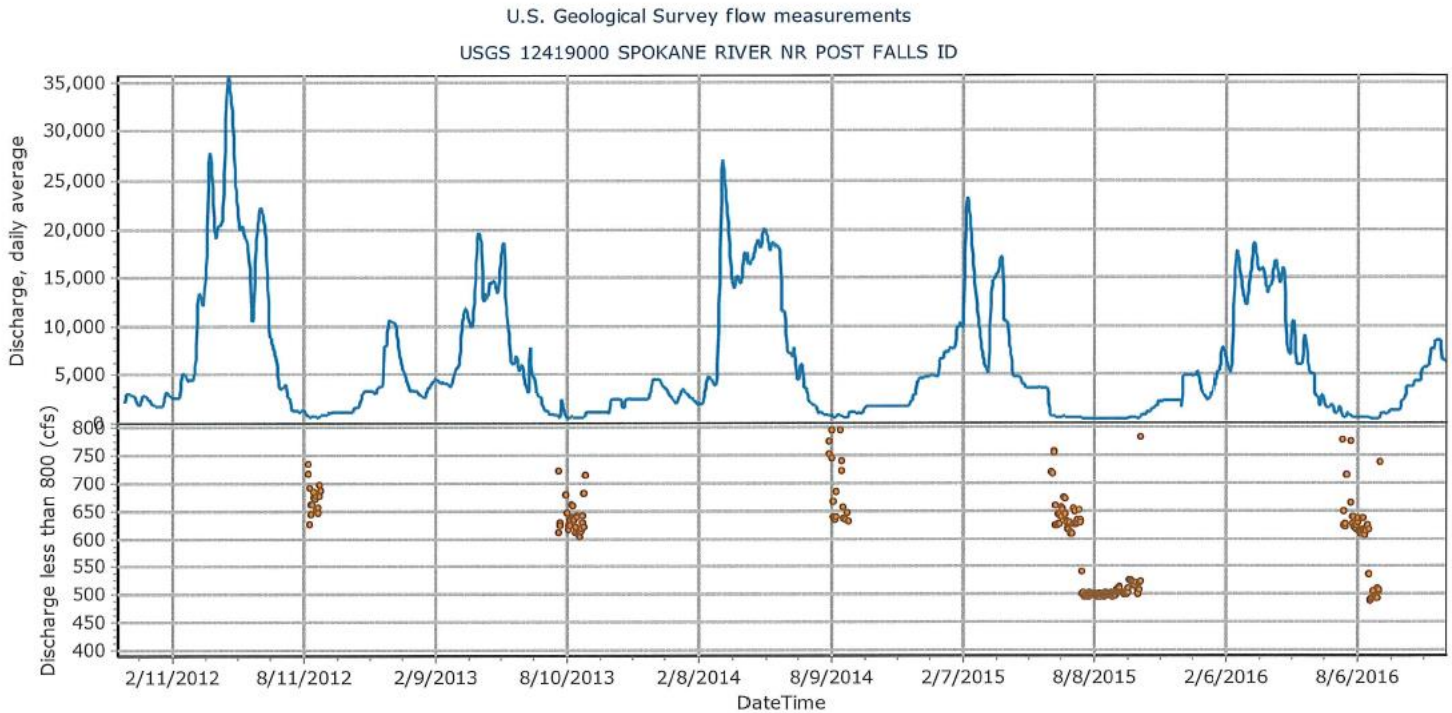

Spokane River Metals TMDL
City of Coeur d'Alene WWTP effluent compared to Spokane River ambient conditions
Discharge
Hardness
Tot - Pb
Tot - Zn
12/3/2010
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
DateTime
CDA WWTP Discharge (ug/L)
CDA WWTP Tot - Hardness (mg/L)
CDA WWTP Tot-Pb (µg/L)
CDA WWTP Tot-Zn (µg/L)
Spokane River Dis-Hardness (mg/L)
Spokane River Tot-Pb (µg/L)
Spokane River Tot-Zn (µg/L)
Spokane River ambient conditions from NIC (upstream) station


Spokane River Metals TMDL
City of Post Falls WWTP effluent compared to Spokane River ambient conditions
Discharge
Hardness
Tot - Pb
Tot - Zn
2.8
2.6
2.4
150
100
50
0
4
3
2
1
0
80
60
40
20
12/3/2010
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
DateTime
P Falls WWTP discharge (MGD)
P Falls WWTP Tot - Hardness (mg/L)
P Falls WWTP Tot-Pb (µg/L)
P Falls WWTP Tot-Zn (µg/L)
Spokane River Dis-Hardness (mg/L)
Spokane River Tot-Pb (µg/L)
Spokane River Tot-Zn (µg/L)
Spokane River ambient conditions from NIC (upstream) station


City of Post Falls Stormwater
4th Avenue Outfall
Hardness
Tot-Pb
Tot-Zn
80
60
40
20
0
40
30
20
10
0
0.5
0.4
0.3
0.2
0.1
12/3/2010
12/3/2011
12/2/2012
12/2/2013
12/2/2014
DateTime
Missing discharge information
Hardness, Total as CaCO3 - (mg/L)
Lead, total - Tot-Pb (µg/L)
Zinc, total - Tot-Zn (µg/L)


City of Post Falls Stormwater
Centennial Trail Outfall
Hardness
Tot-Pb
Tot-Zn
250
200
150
100
50
0
60
40
20
0
2.5
2
1.5
1
0.5
12/3/2010
12/3/2011
12/2/2012
12/2/2013
12/2/2014
DateTime
Missing discharge information
Hardness, Total as CaCO3 - (mg/L)
Lead, total - Tot-Pb (µg/L)
Zinc, total - Tot-Zn (µg/L)


Spokane River Metals TMDL
HARSB WWTP effluent compared to Spokane River ambient conditions
Discharge
Hardness
Tot - Pb
Tot - Zn
0
22
20
18
16
5
4
3
2
1
0
60
50
40
30
20
12/3/2010
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
DateTime
Spokane River ambient conditions from NIC (upstream) station
Discharge, monthly average - Q (MGD) PMF
HARSB WWTP Tot - Hardness (mg/L)
HARSB WWTP Tot-Pb (µg/L)
HARSB WWTP Tot-Zn (µg/L)
Spokane River Dis-Hardness (mg/L)
Spokane River Tot-Pb (µg/L)
Spokane River Tot-Zn (µg/L)


U.S. Geological Survey flow measurements
USGS 12419000 SPOKANE RIVER NR POST FALLS ID
Discharge, daily average
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
Discharge less than 800 (cfs)
800
750
700
650
600
550
500
450
400
2/11/2012
8/11/2012
2/9/2013
8/10/2013
2/8/2014
8/9/2014
2/7/2015
8/8/2015
2/6/2016
8/6/2016
DateTime