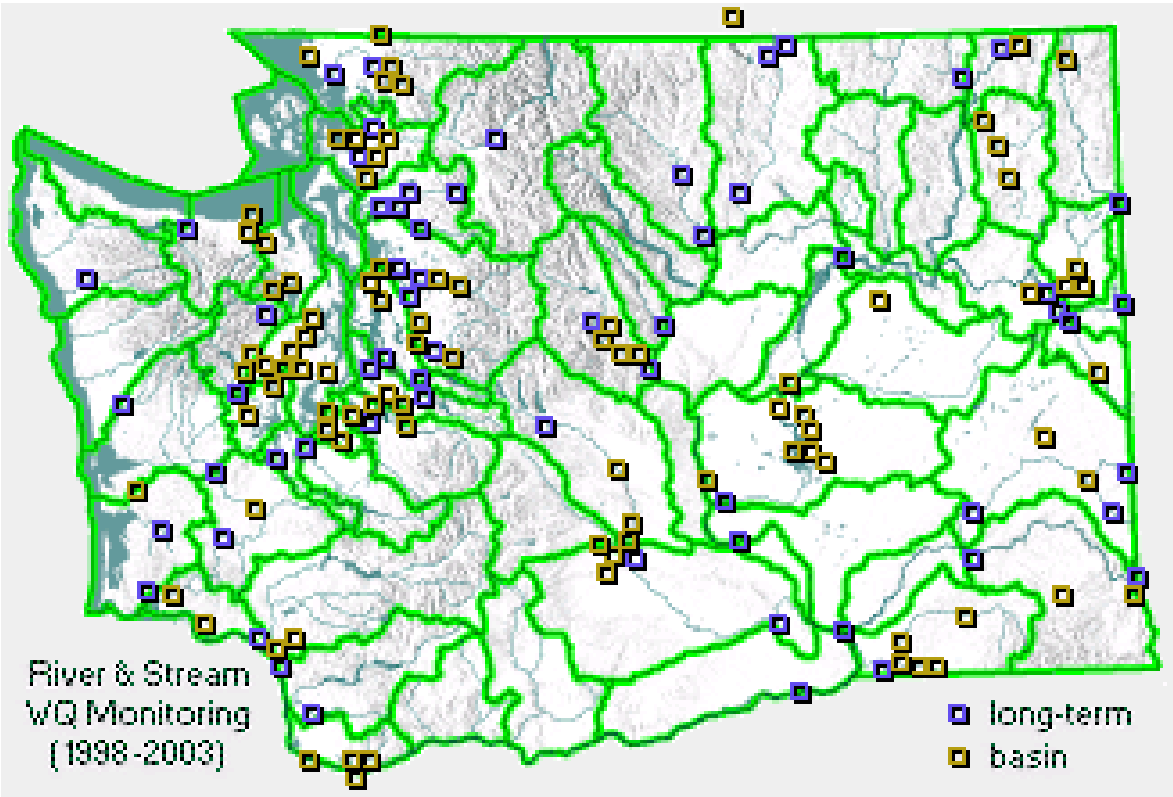
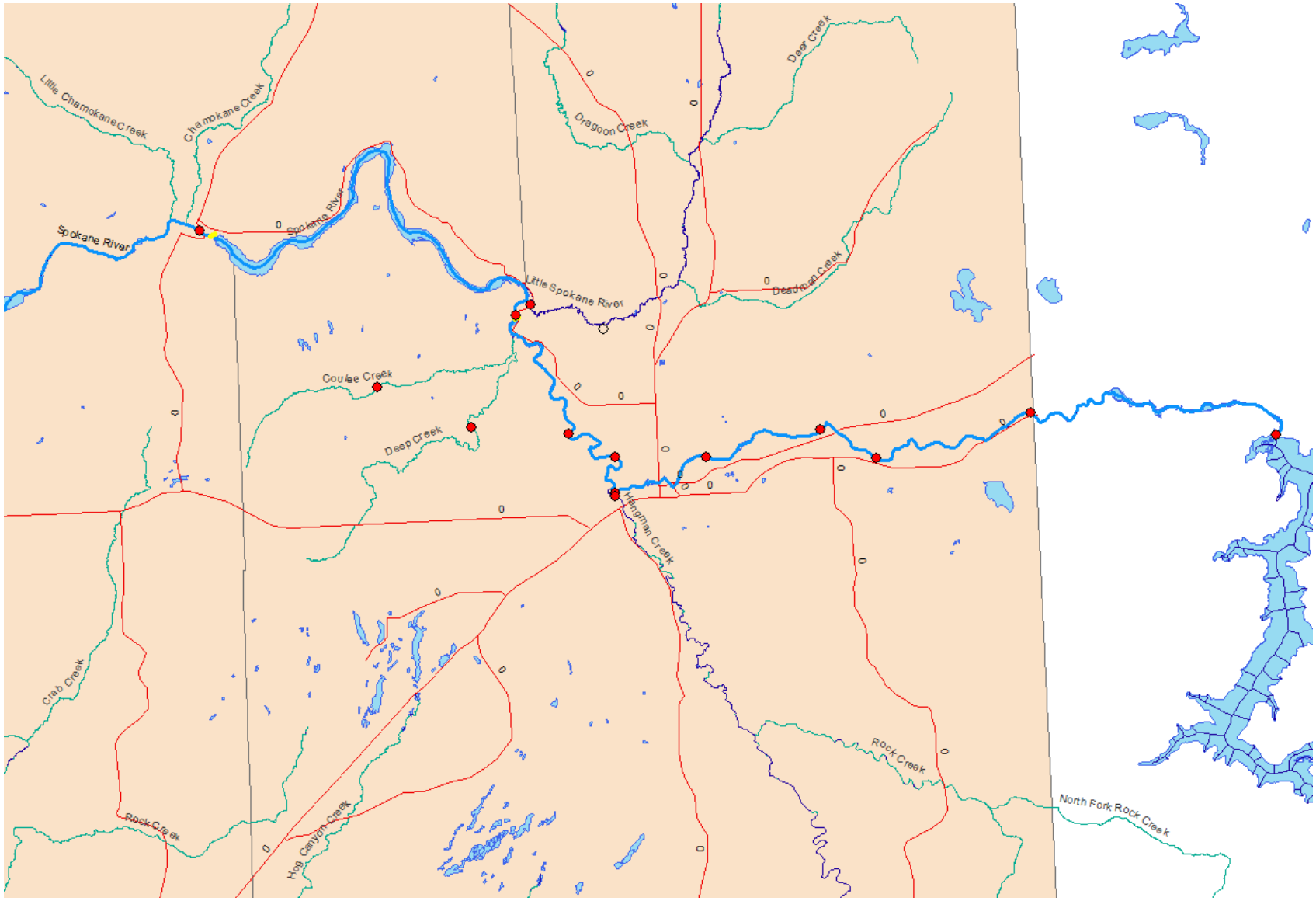
Spokane River Basin Monitoring

Ecology River and Stream Water Quality Monitoring



- http://www.ecy.wa.gov/programs/eap/fw_riv/rv_main.html

Ecology River and Stream Monitoring sites



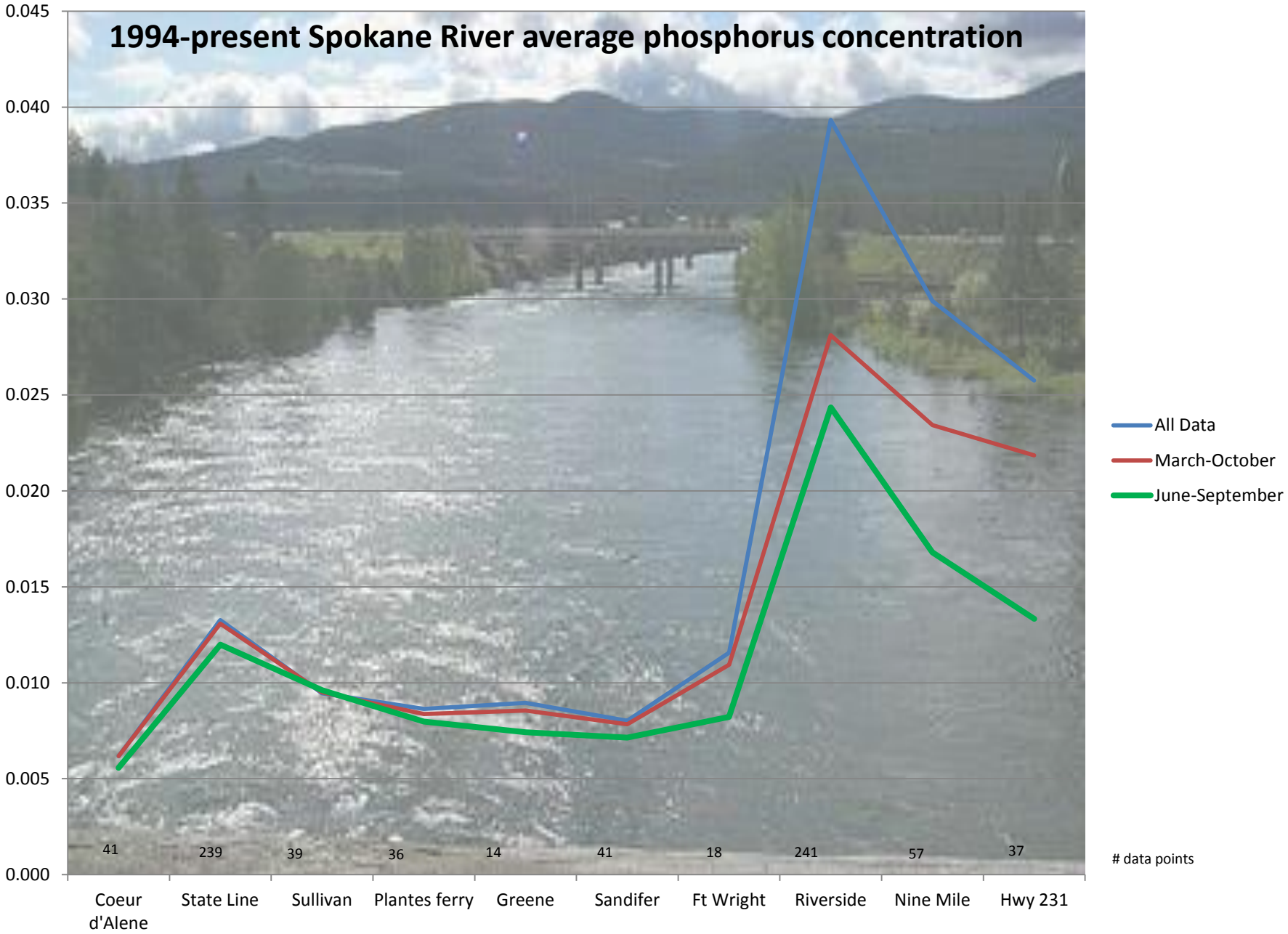

1994-present Spokane River average phosphorus concentration
0.045
0.040
0.035
0.030
0.025
0.020
0.015
0.010
0.005
0.000
41
239
39
36
14
41
18
241
57
37
Coeur d'Alene
State Line
Sullivan
Plantes ferry
Greene
Sandifer
Ft Wright
Riverside
Nine Mile
Hwy 231
All Data
March-October
June-September
data points

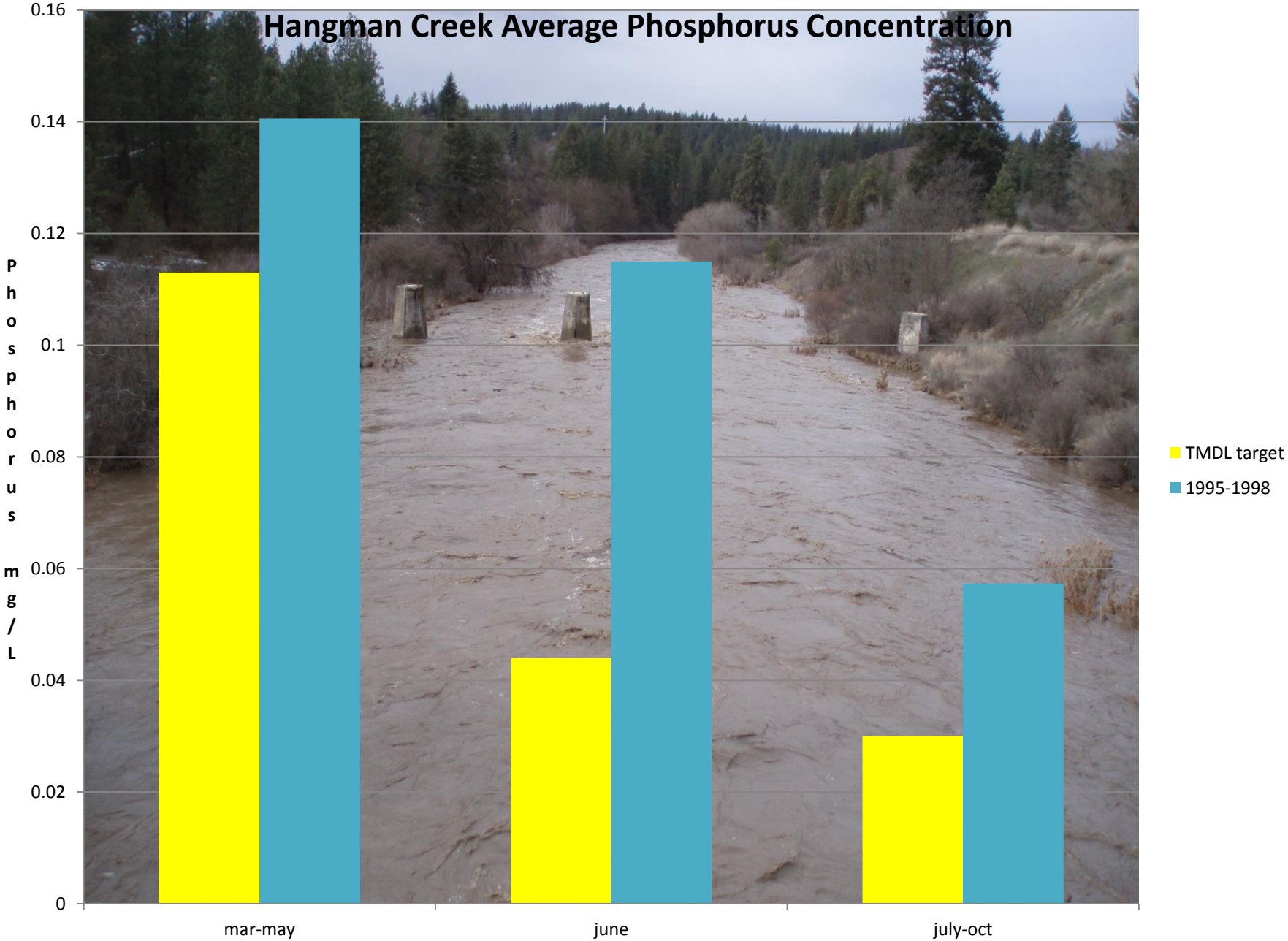
Table 6 a. Tributary and groundwater TMDL load allocations. *Load allocations are calculated based on expected reductions to human-caused (2001) pollution load. Natural background (No Source), 2001, TMDL, and groundwater average loads and calculations are provided in Appendix M. Ammonia and CBOD are assumed to be negligible in groundwater.*

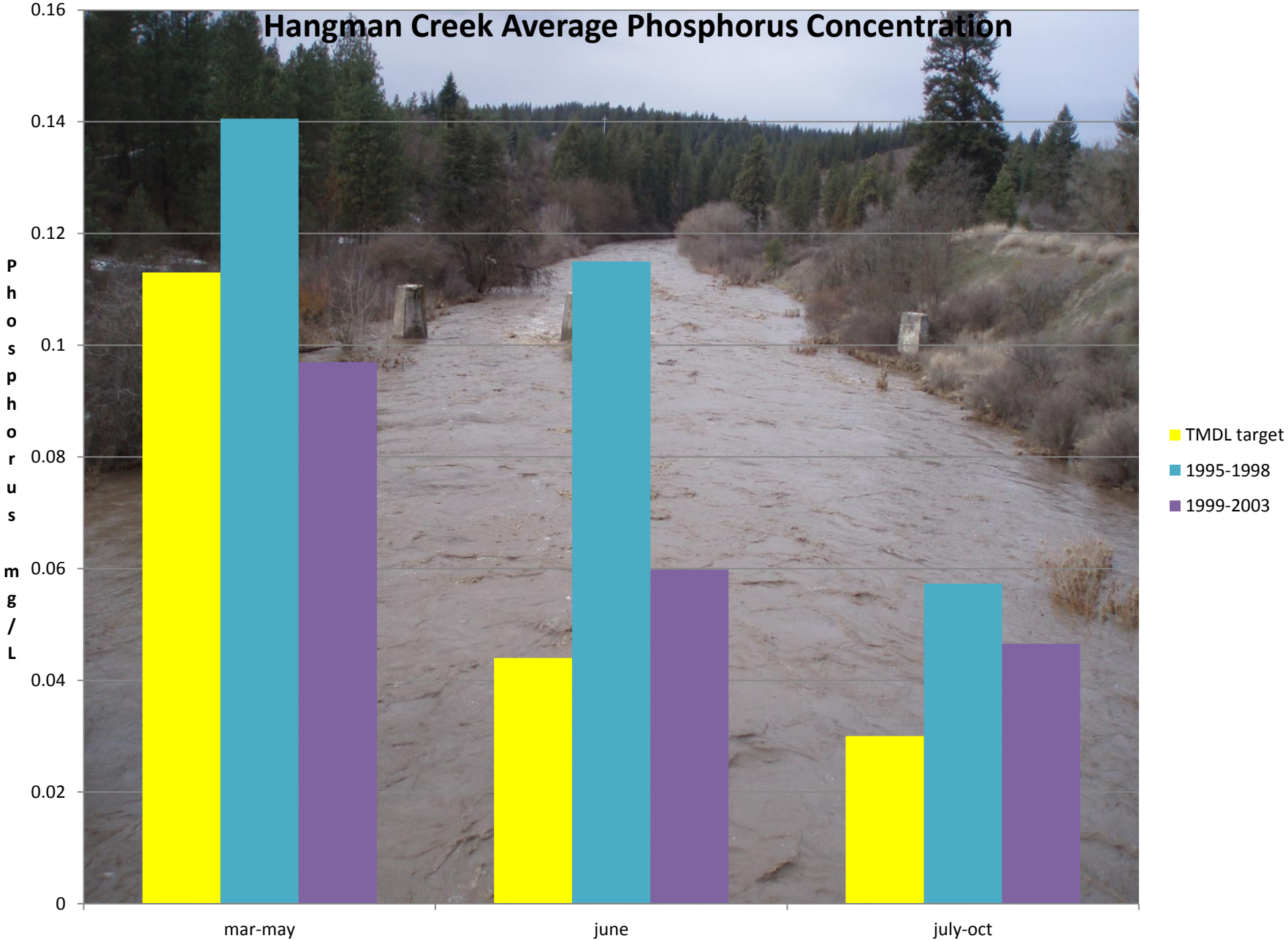
Water Body and Season	2001 Flow (cfs)	Total Phosphorus		Ammonia (NH3-N)		CBOD	
		Allocation Concentration (mg/L) [1]	2001 Load Allocation (lbs/day)	Allocation Concentration (mg/L)	2001 Load Allocation (lbs/day)	Allocation Concentration (mg/L)	2001 Load Allocation (lbs/day)
Hangman Creek							
March–May Average	229	0.113	140.2	0.034	42.1	3.3	4102.1
June	31	0.044	7.5	0.012	2.1	2.8	479.0
July – October Average	9	0.030	1.4	0.009	0.4	2.3	107.9
Coulee Creek							
March–May Average	30	0.113	18.2	0.034	5.5	3.3	533.7
June	8	0.044	1.8	0.012	0.5	2.8	116.5
July – October Average	2	0.030	0.4	0.009	0.1	2.3	28.6
Little Spokane River							
March – May Average	565	0.034	102.5	0.035	106.2	2.1	6409.3
June	426	0.023	53.9	0.005	11.5	2.1	4828.2
July – October Average	364	0.016	32.2	0.006	11.0	1.5	2867.8
Groundwater – Upstream of Lake Spokane							
March – May Average	1946	0.0081	87	N/A	N/A	N/A	N/A
June	1583	0.0078	66	N/A	N/A	N/A	N/A
July – October Average	1165	0.0076	48	N/A	N/A	N/A	N/A
Groundwater / Surface Water Runoff – Lake Spokane Watershed							
March – May Average	588[2]	0.025	79	N/A	N/A	N/A	N/A
June	225[2]	0.025	30	N/A	N/A	N/A	N/A
July – October Average	180[2]	0.025	24	N/A	N/A	N/A	N/A

Notes:

1 – Allocation concentrations are based on critical low flow conditions. Tributary concentrations would have o be met prior to assigning credits for nonpoint source reductions as part of a Dischargers Delta Elimination Plan. For groundwater, no percent reductions are assigned so the entire nonpoint load is available for credit to a Dischargers delta upon Ecology approval.

2 – Reservoir correction flows in the water quality model. Flows are both positive and negative. The listed value is the average of positive inflows to the reservoir.


Hangman Creek Average Phosphorus Concentration
Phosphorus mg/L
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
mar-may
june
july-oct
TMDL target
1995-1998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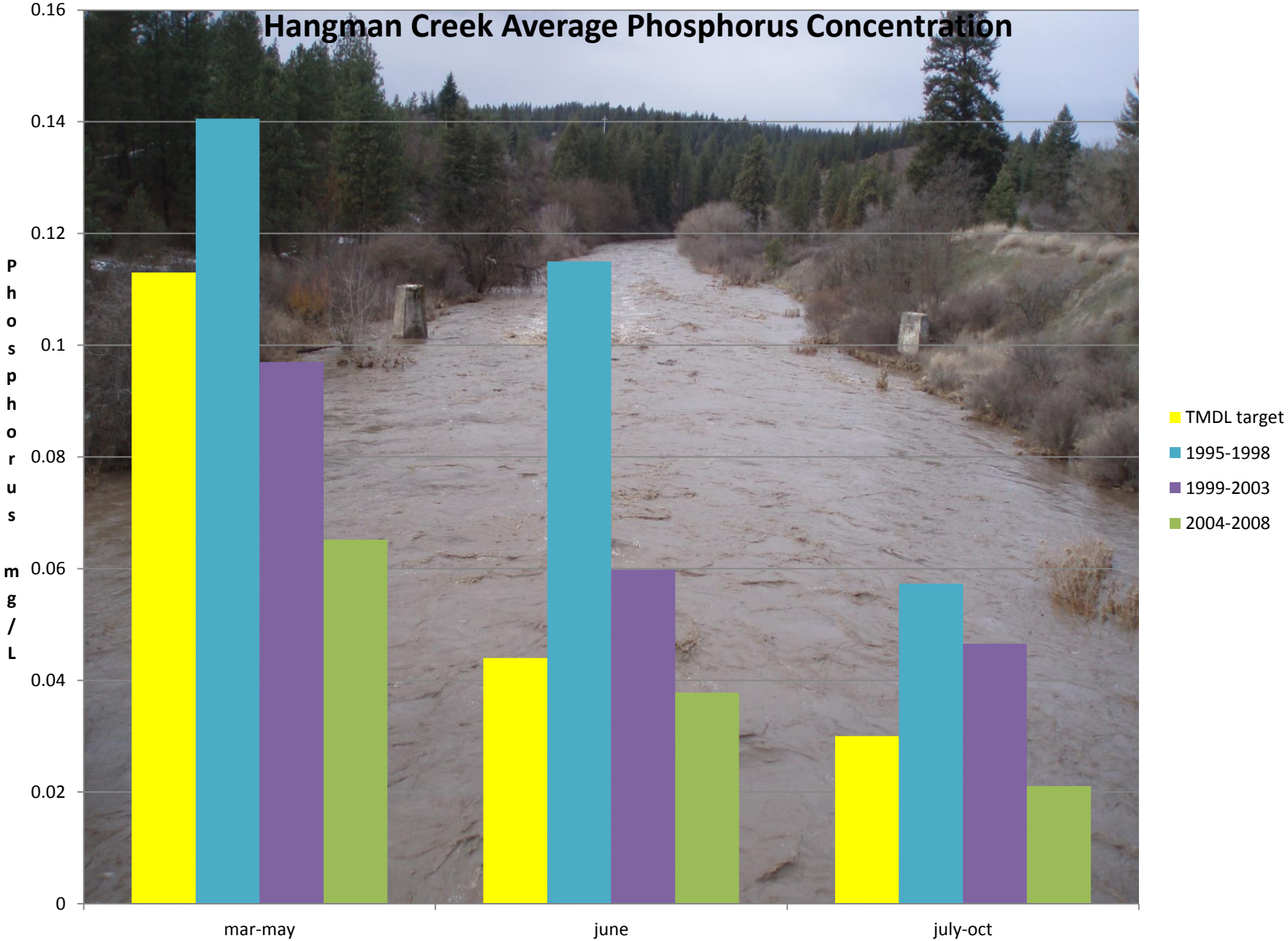
0.02
0
mar-may
june
july-oct
TMDL target
1995-1998
1999-2003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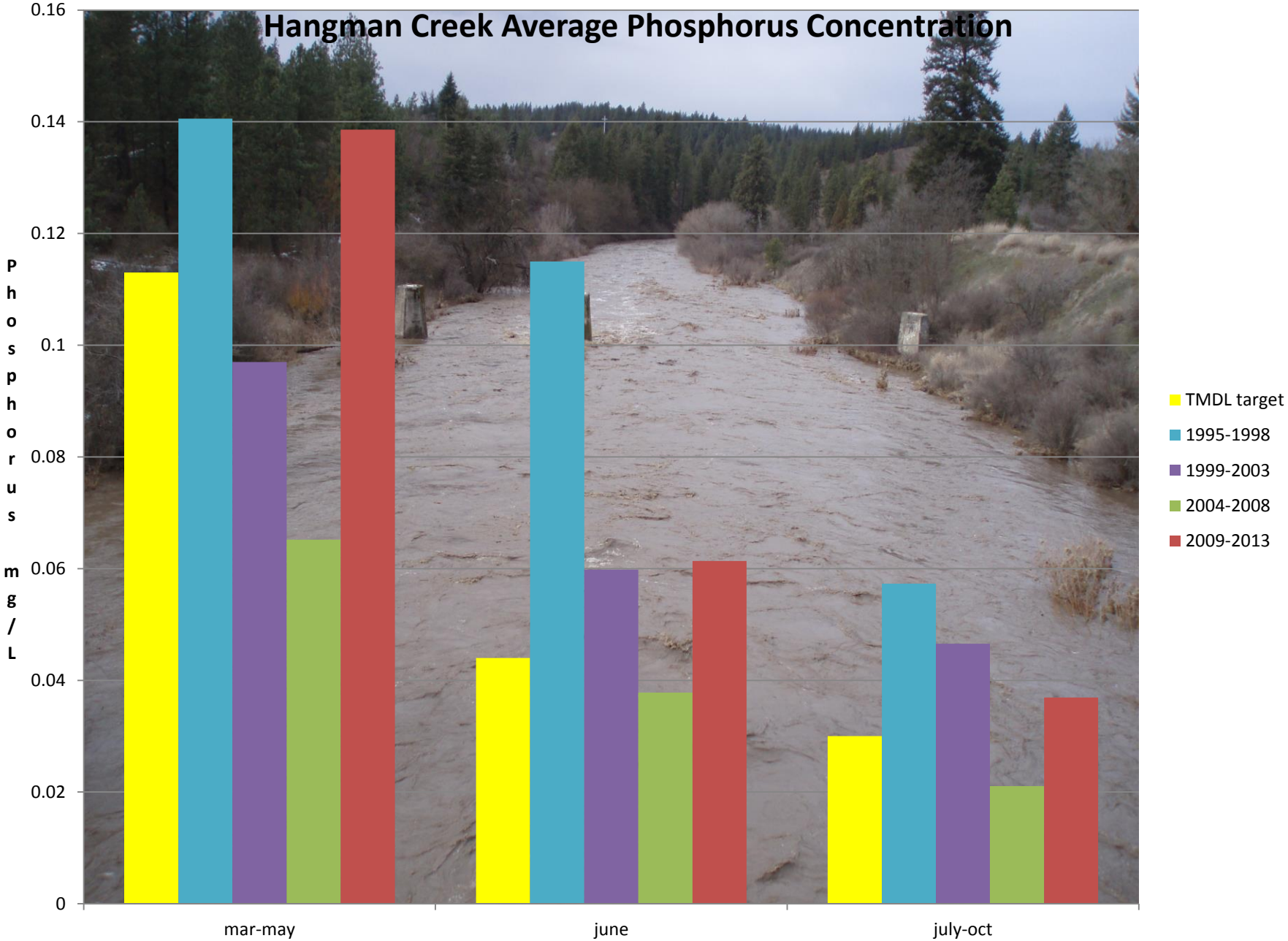
0.08
0.06
0.04
0.02
0
mar-may
june
july-oct
TMDL target
1995-1998
1999-2003
2004-2008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0.04
0.02
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mar-may
june
july-oct
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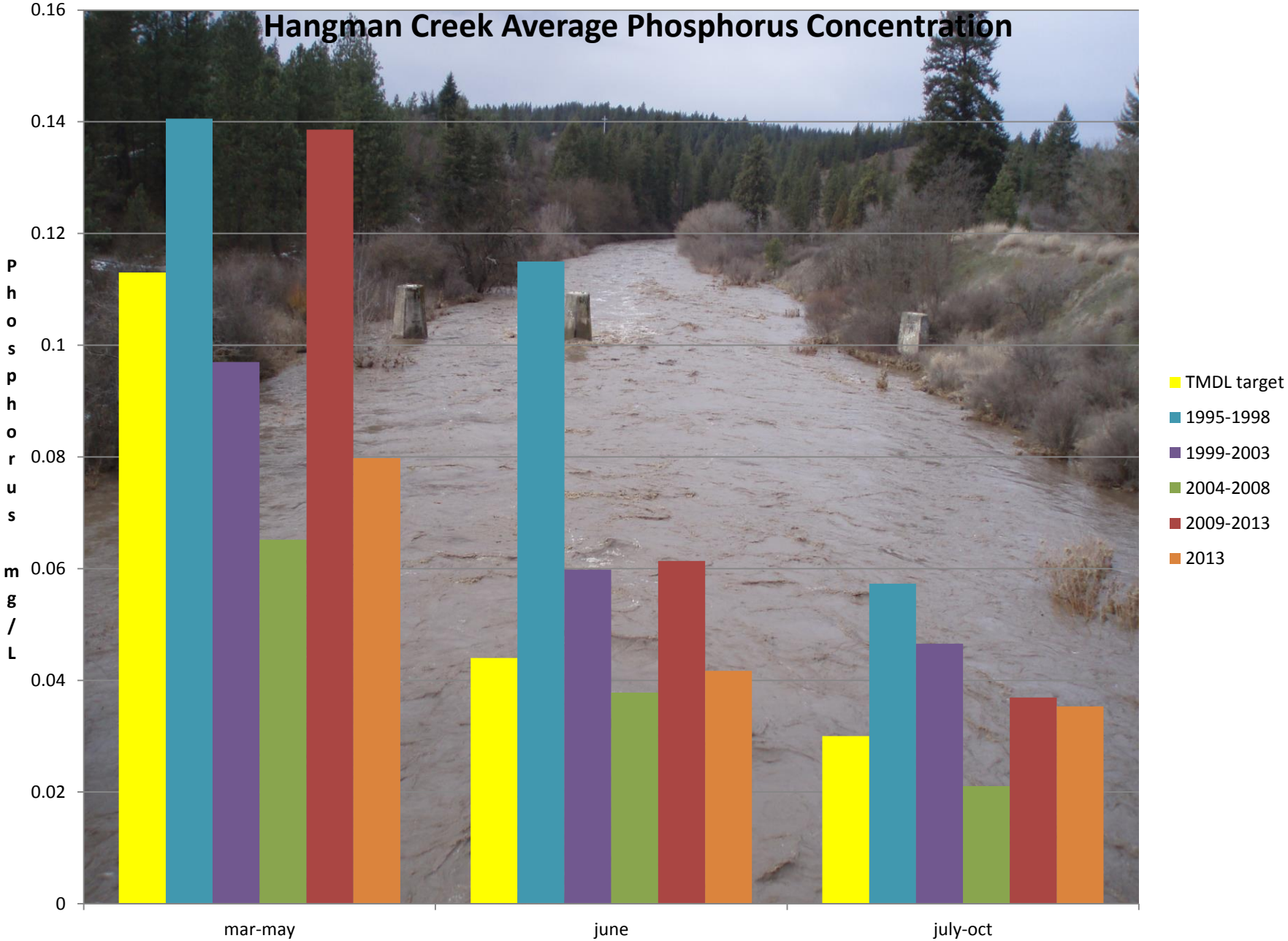
1995-1998
1999-2003
2004-2008
2009-2013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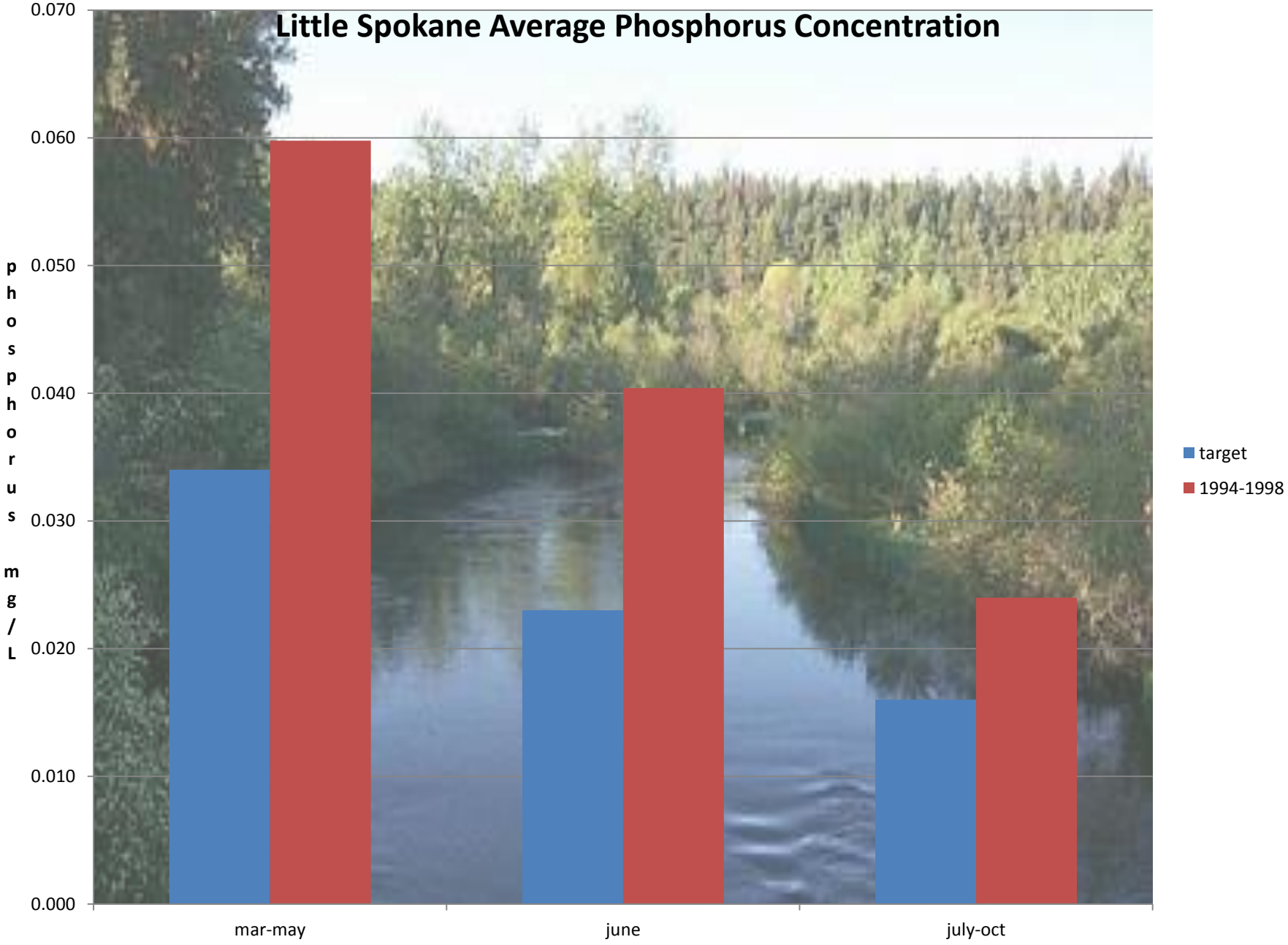
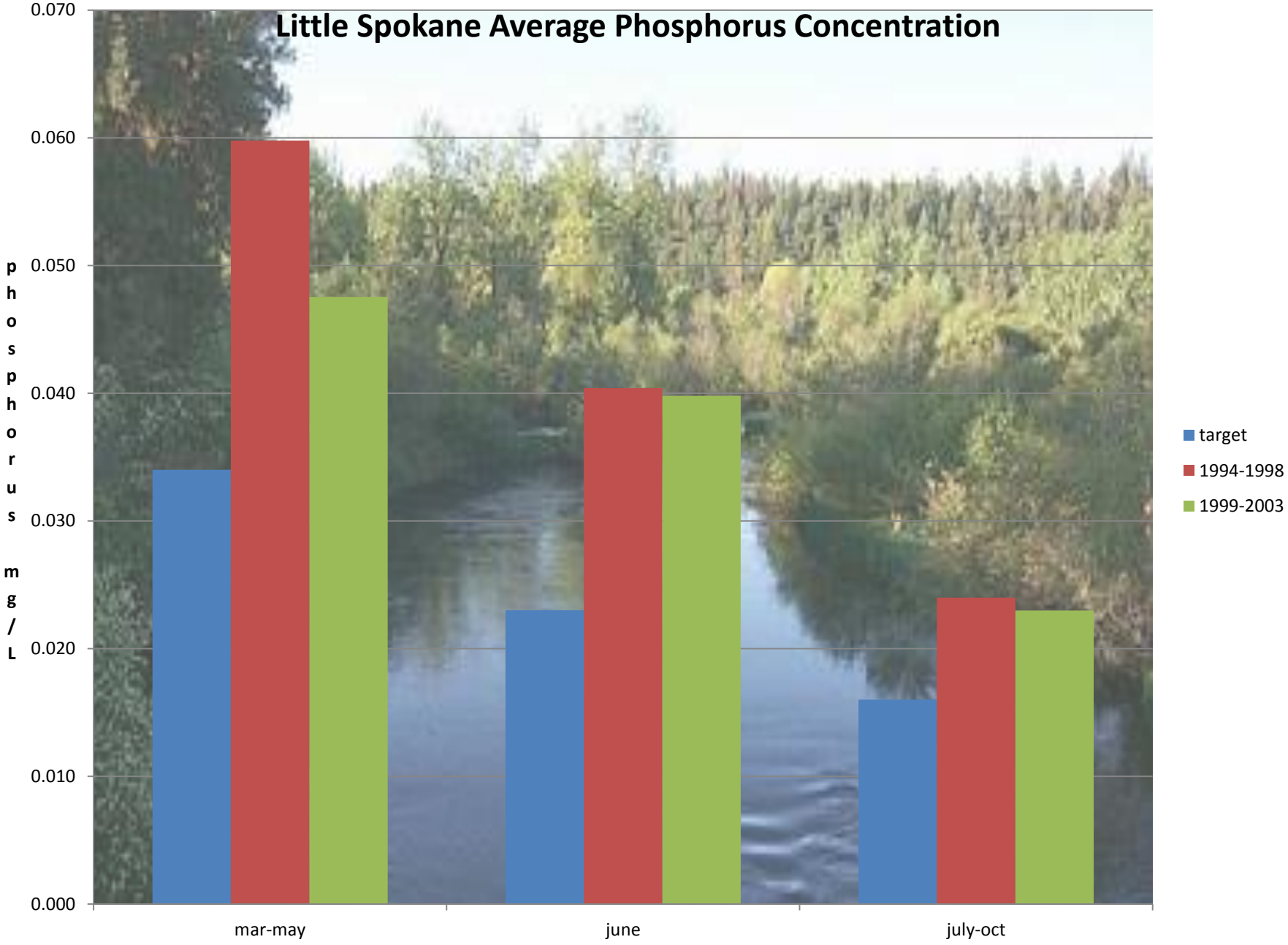
0.04
0.02
0
mar-may
june
july-oct
TMDL target
1995-1998
1999-2003
2004-2008
2009-2013
2013


Little Spokane Average Phosphorus Concentration
phosphorus mg/L
0.070
0.060
0.050
0.040
0.030
0.020
0.010
0.000
mar-may
june
july-oct
target
1994-1998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0.010
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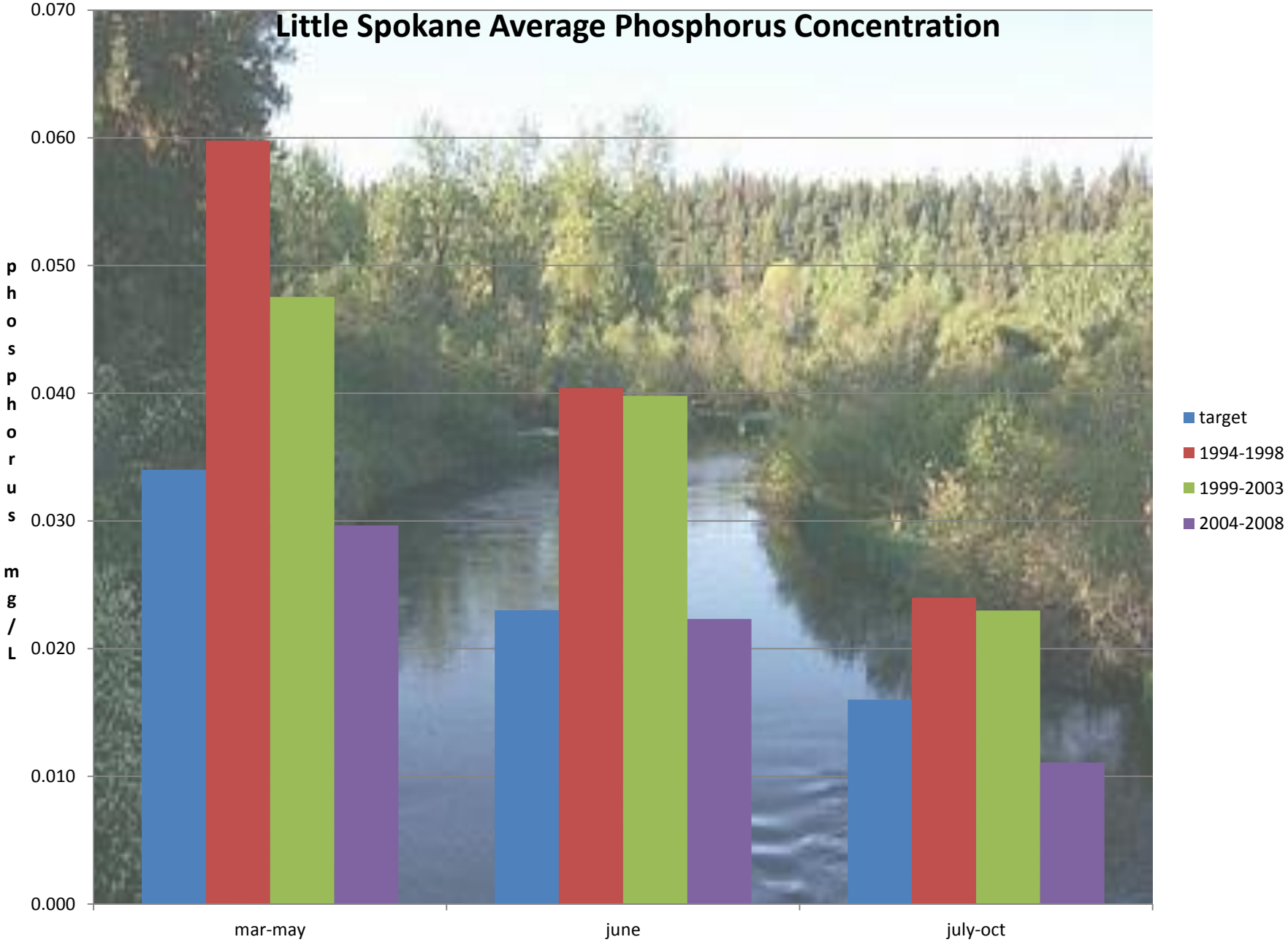
june
july-oct
target
1994-1998
1999-2003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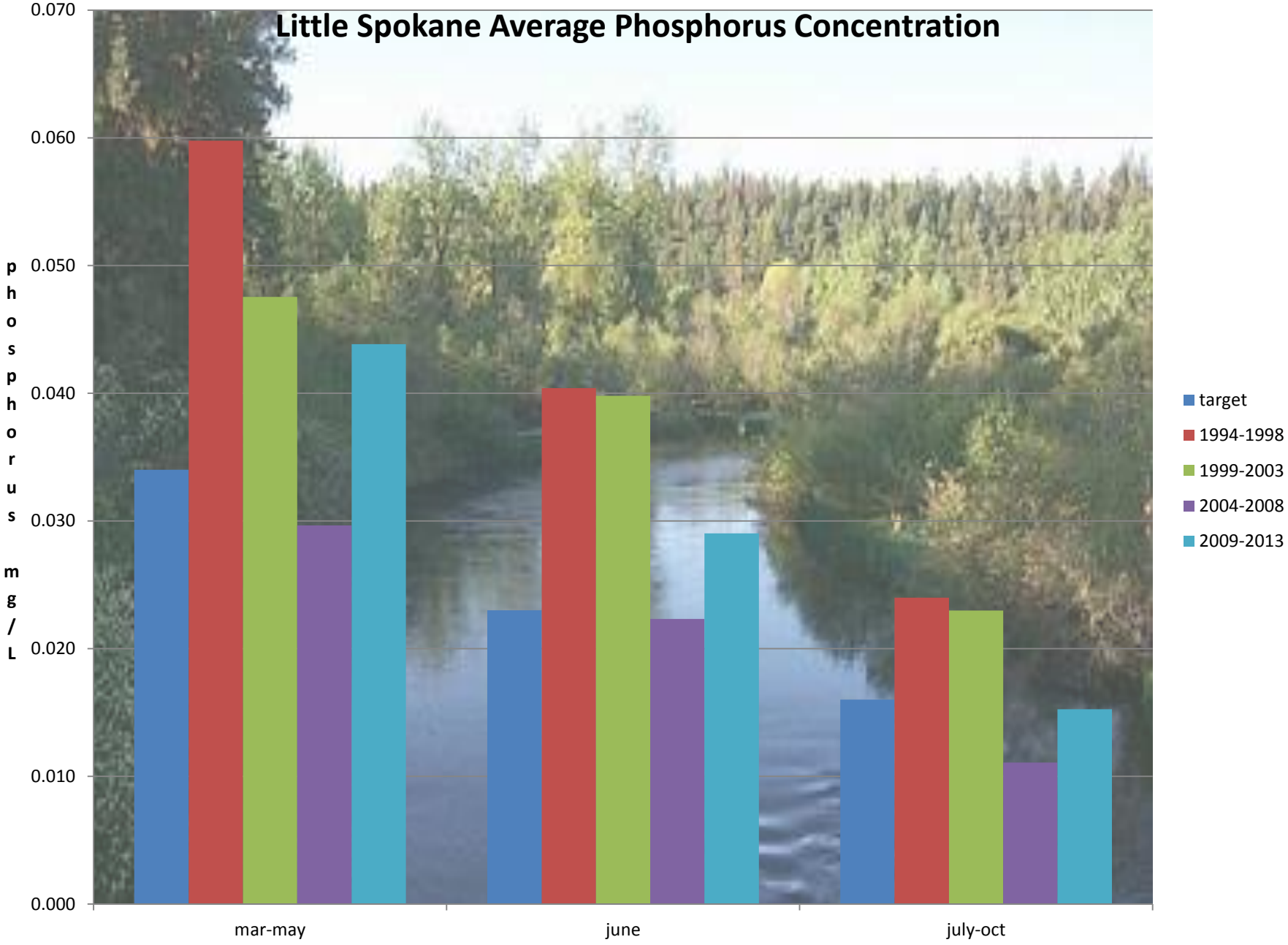
0.050
0.040
0.030
0.020
0.010
0.000
mar-may
june
july-oct
target
1994-1998
1999-2003
2004-2008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phosphorus mg/L
0.070
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0.050
0.040
0.030
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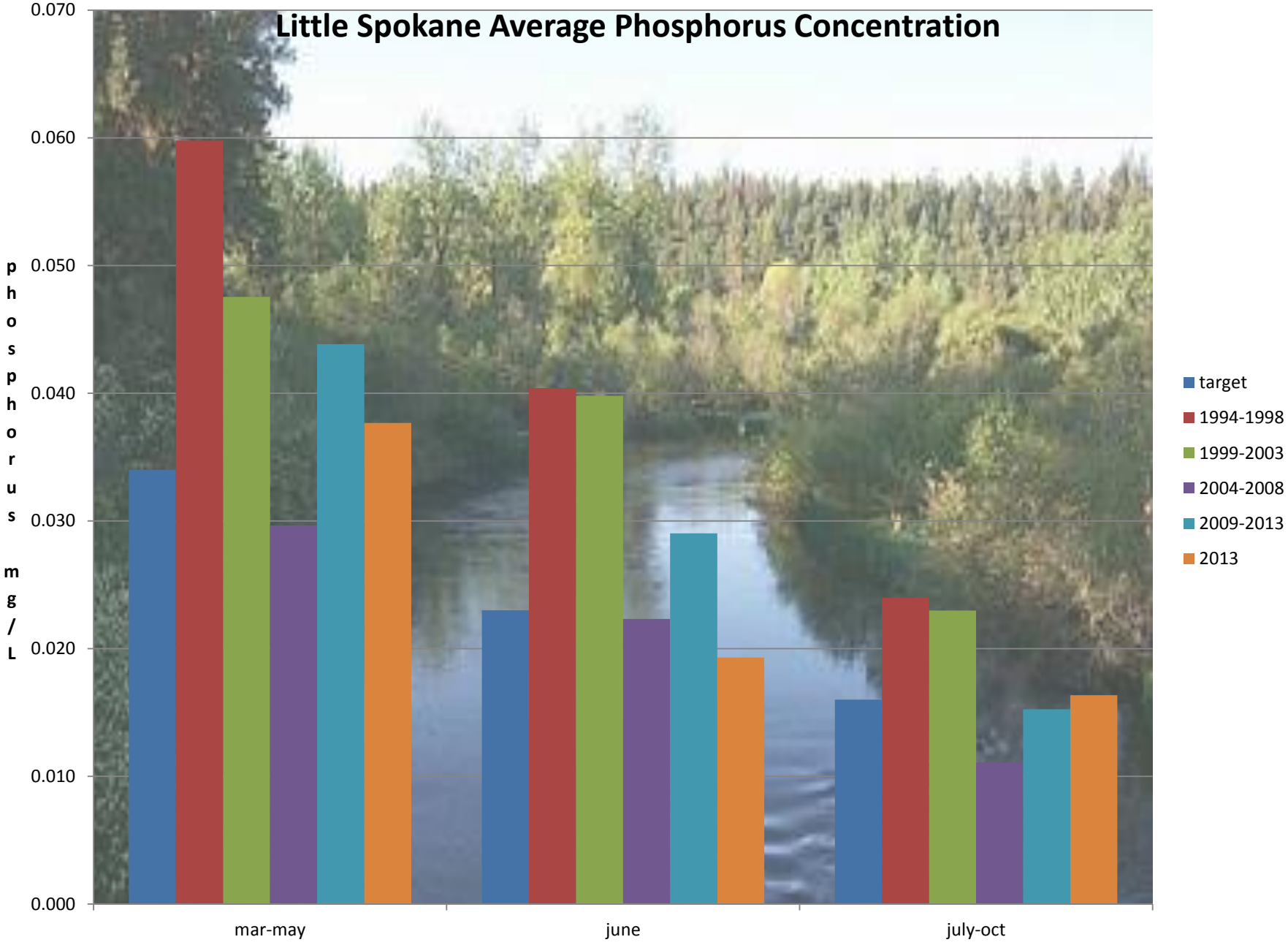
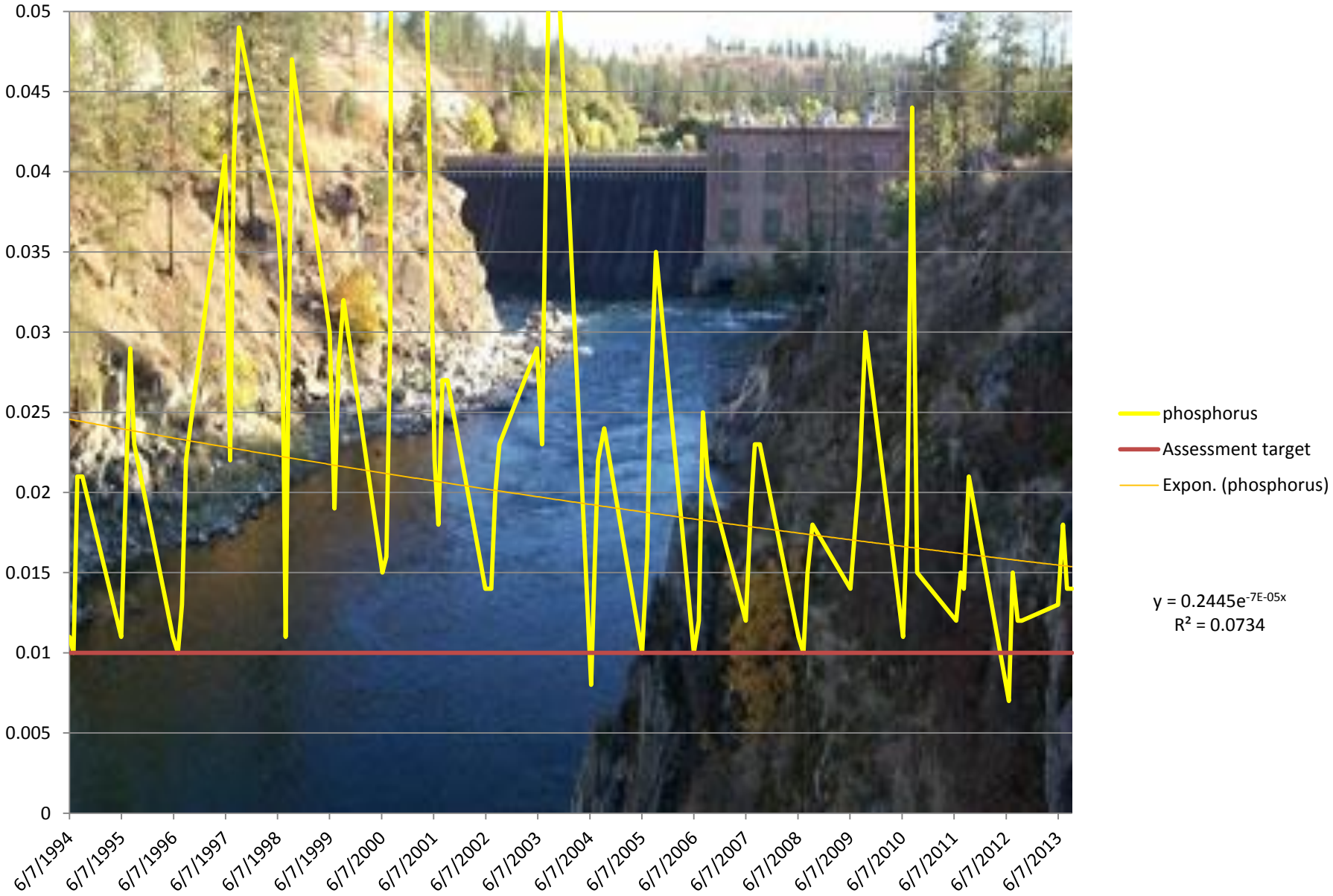
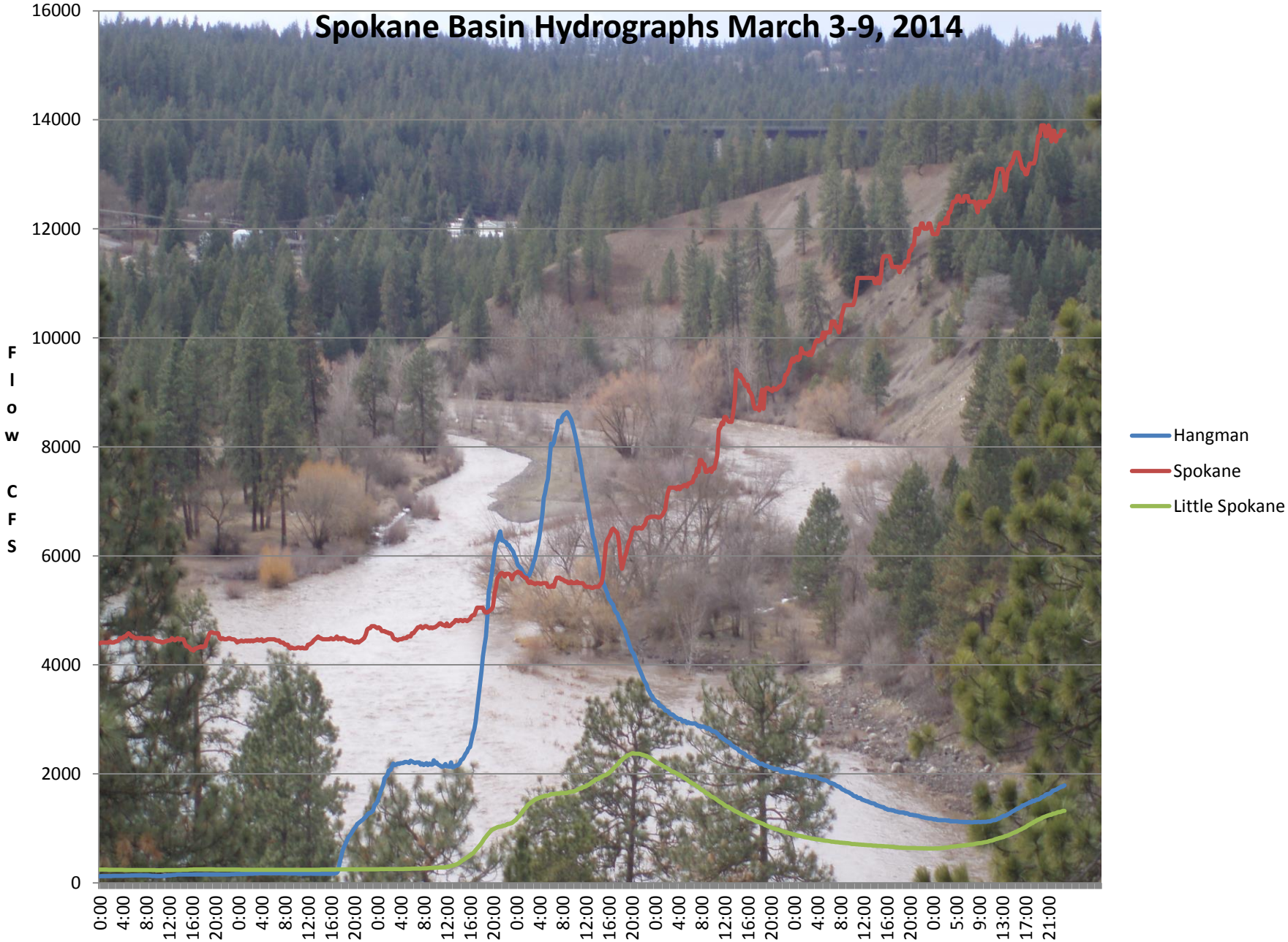
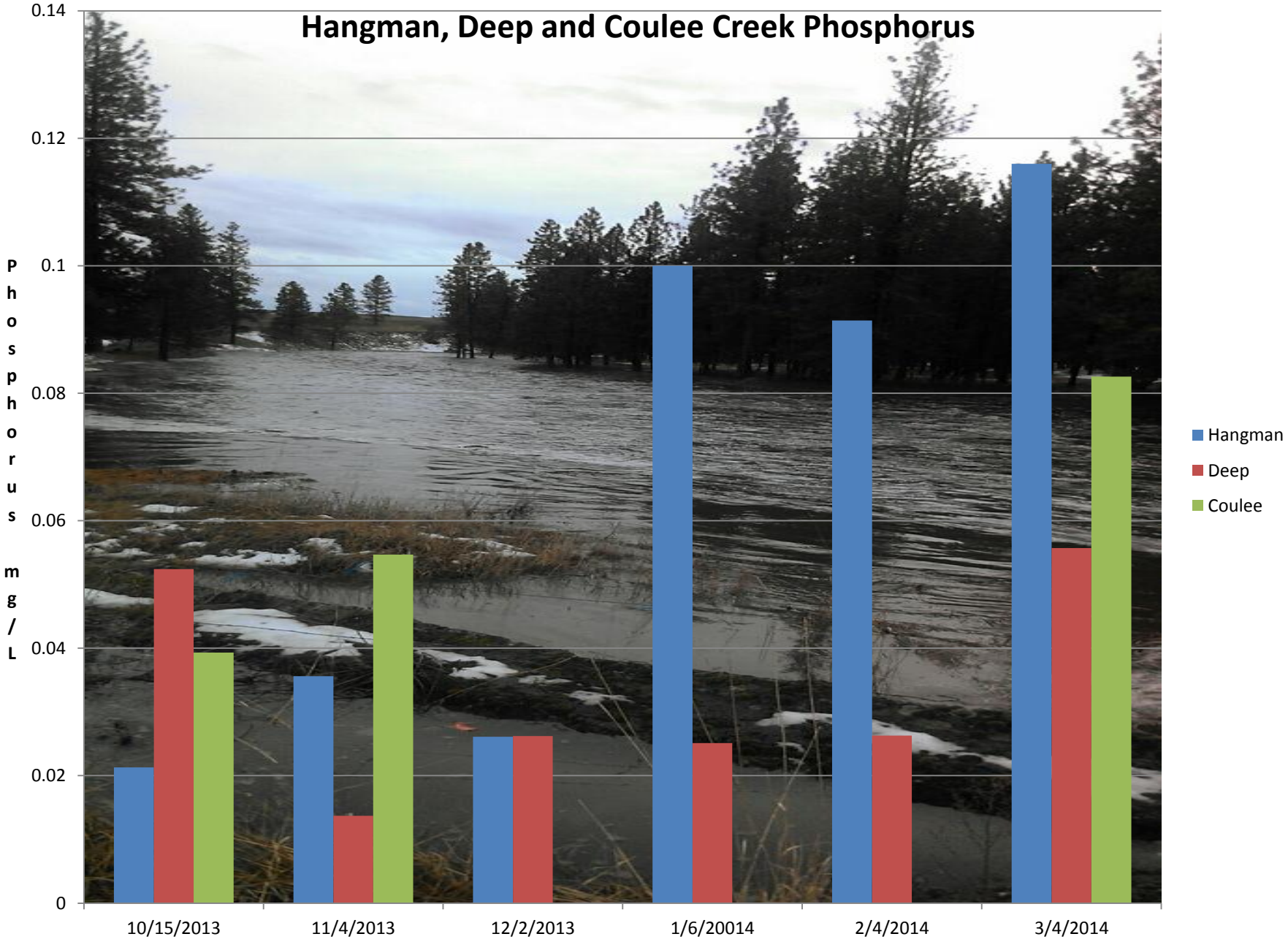
0.010
0.000
mar-may
june
july-oct
target
1994-1998
1999-2003
2004-2008
2009-2013


Little Spokane Average Phosphorus Concentration
phosphorus mg/L
0.070
0.060
0.050
0.040
0.030
0.020
0.010
0.000
mar-may
june
july-oct
target
1994-1998
1999-2003
2004-2008
2009-2013
2013

June-Sept. Flow Weighted Phosphorus




Spokane Basin Hydrographs March 3-9, 2014
Flow CFS
16000
14000
12000
10000
8000
6000
4000
2000
0
0:00
4:00
8:00
12:00
16:00
20:00
5:00
9:00
13:00
17:00
21:00
Hangman
Spokane
Little Spokane


Hangman, Deep and Coulee Creek Phosphorus
Phosphorus mg/L
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
10/15/2013
11/4/2013
12/2/2013
1/6/20014
2/4/2014
3/4/2014
Hangman
Deep
Coulee

Questions ?

Spokane River Basin Monitoring Locations