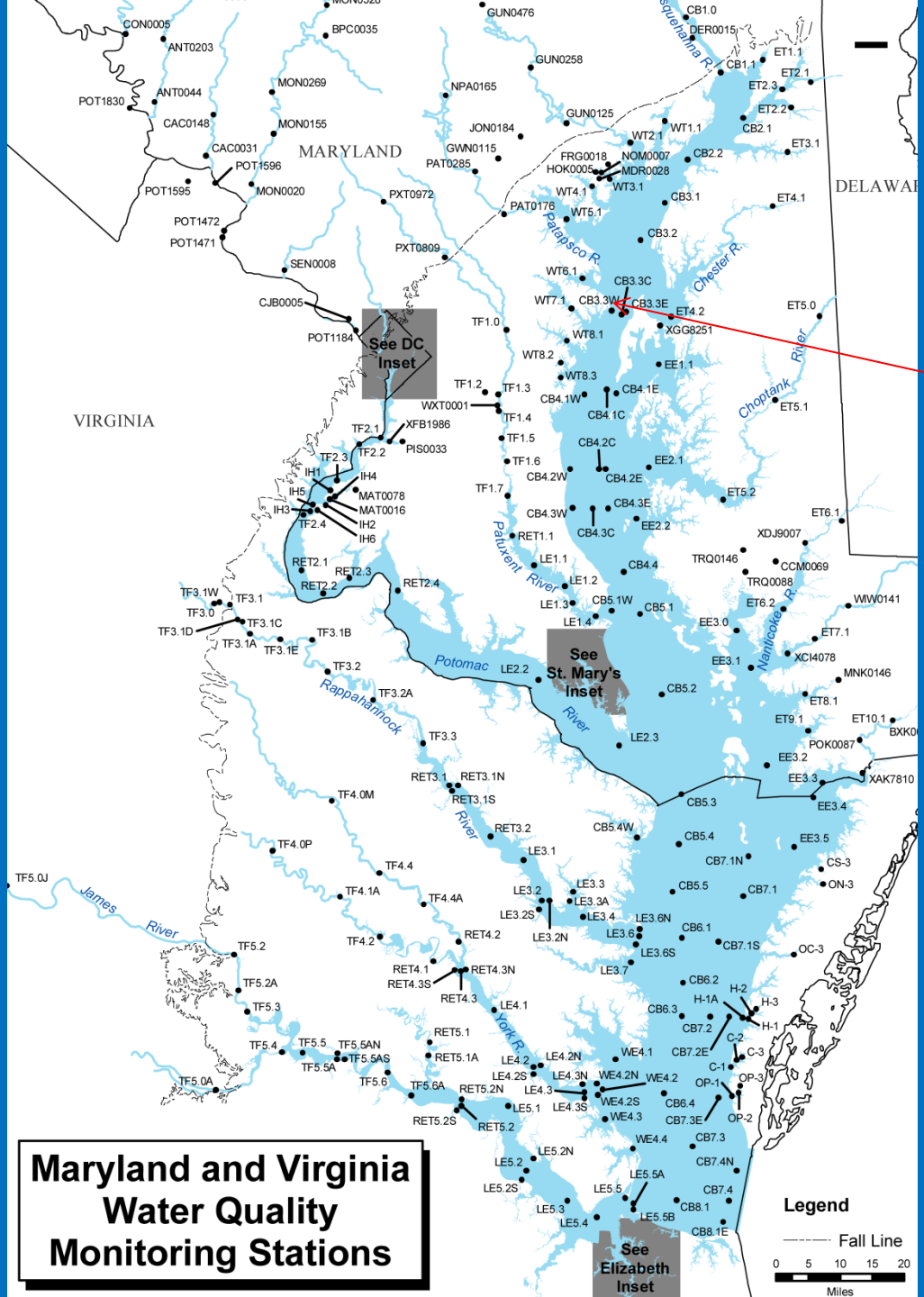
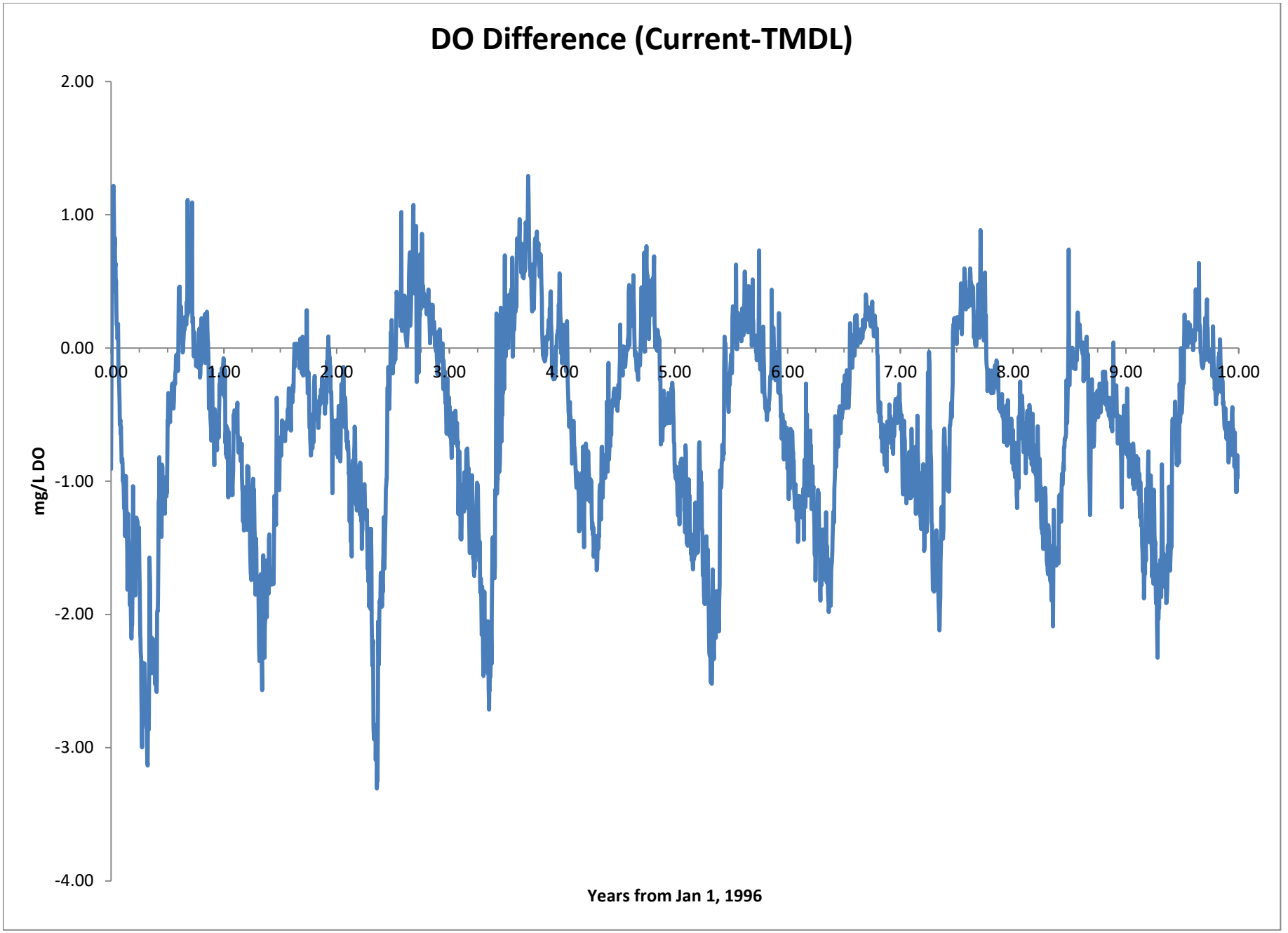
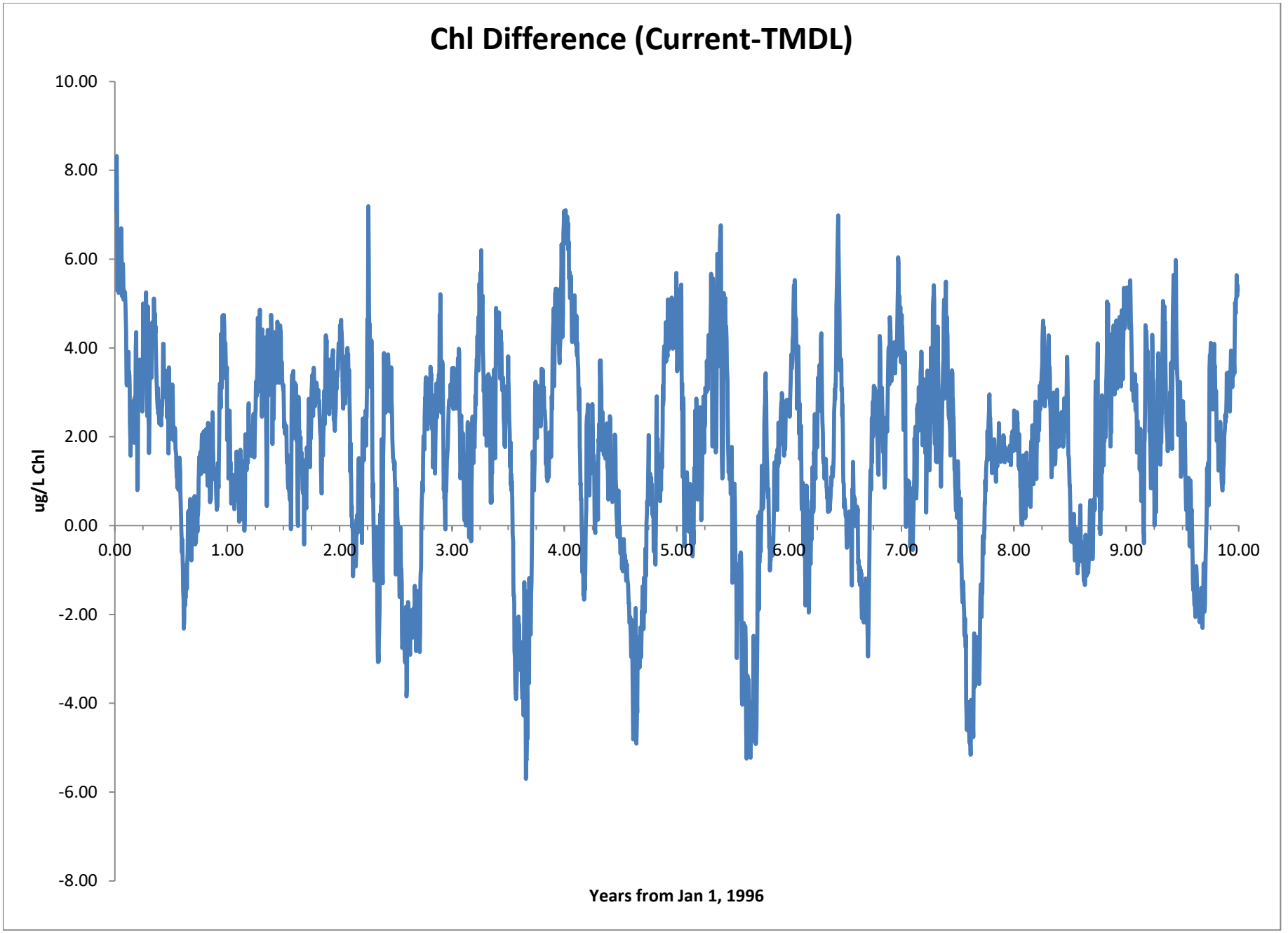
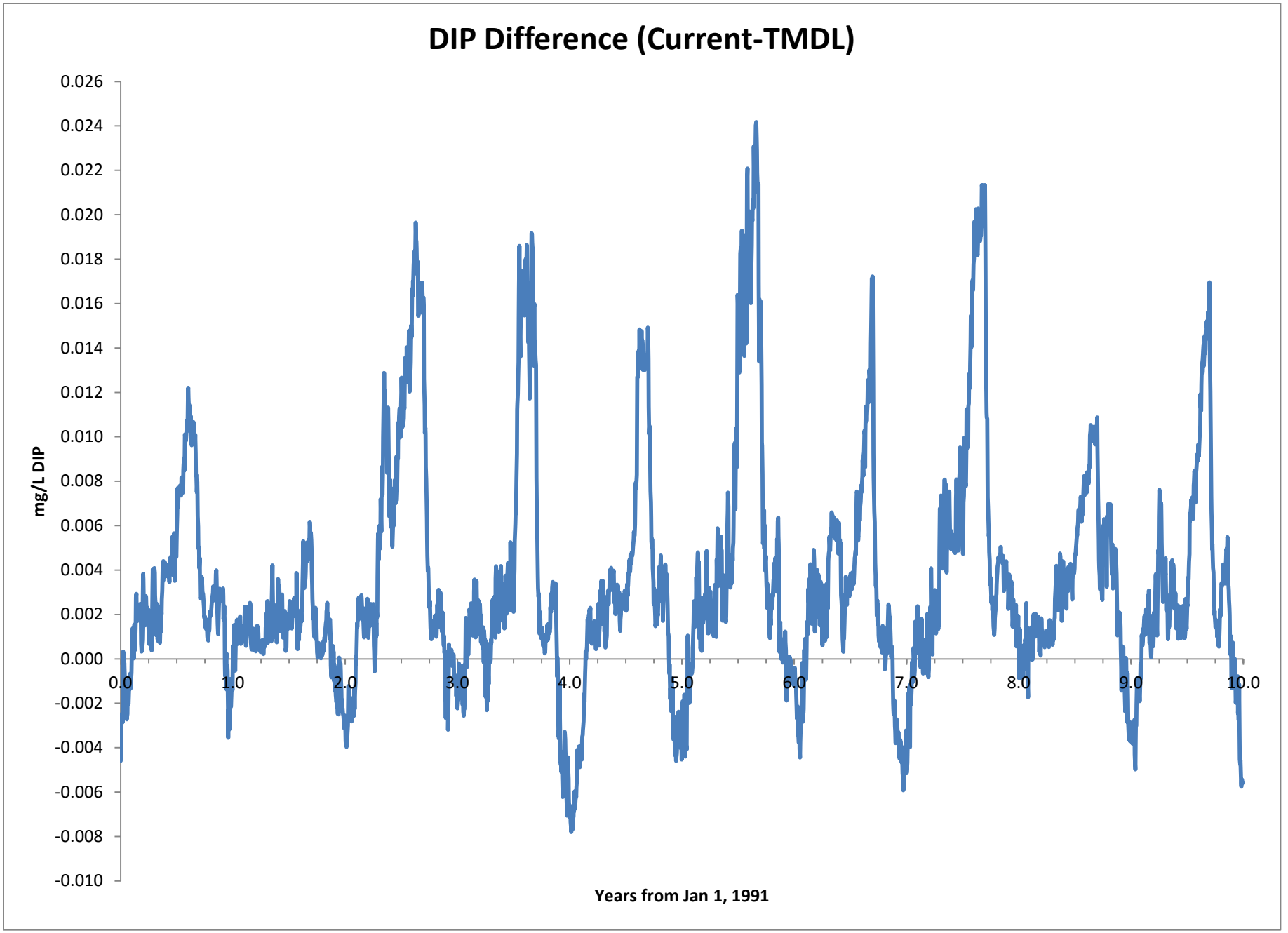
Effect on the TMDL

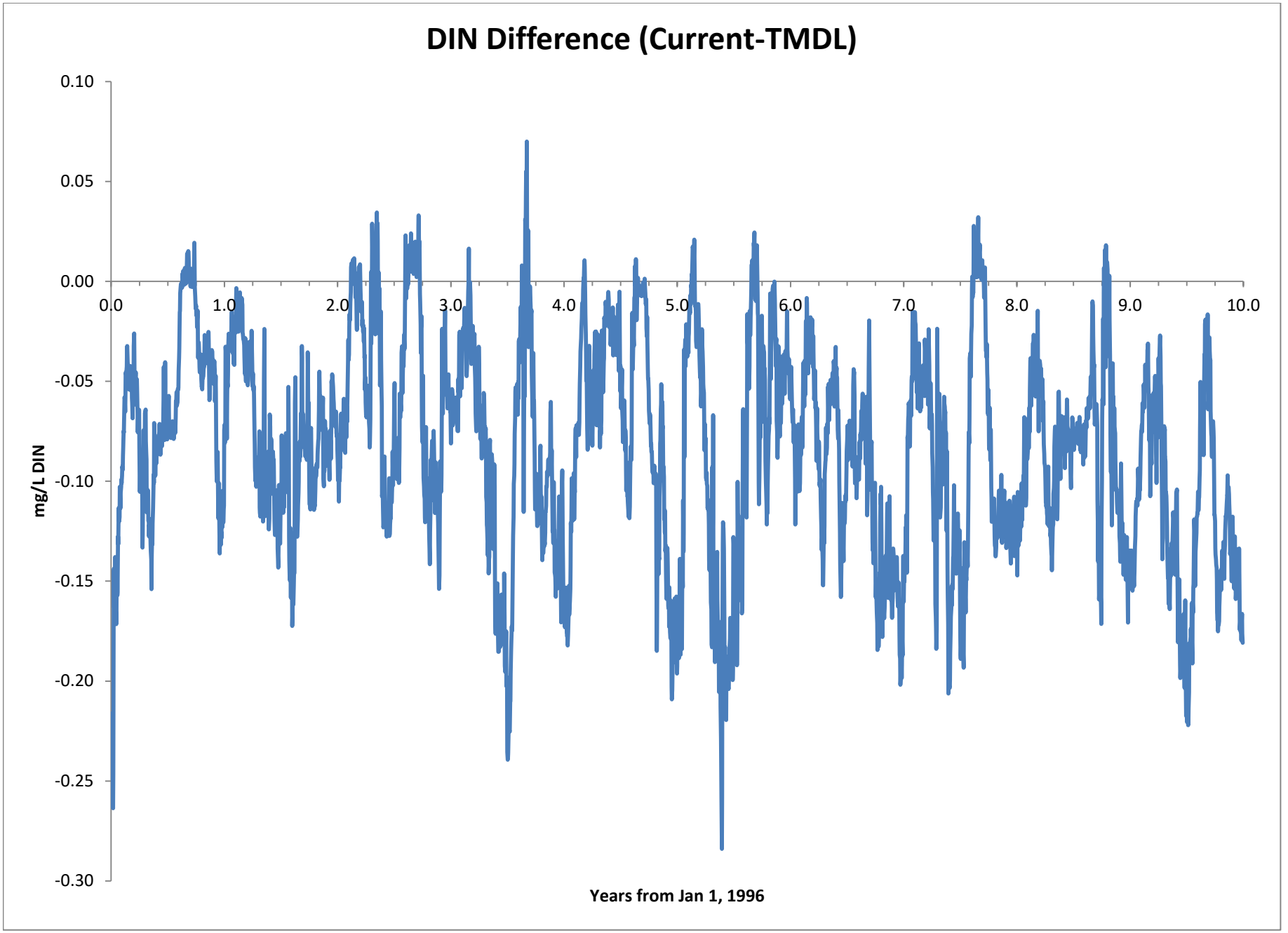
- Let's take the TMDL watershed loads and run them through the current model.
- We allocate the loads according to the new splits into WQM variables.
- The current model version also includes several parameter changes from the TMDL model. So this is not exclusively a test of loading of reactive material.
- In many cases the differences are too small to be discerned through side-by-side comparisons of plots. We're going to look at difference plots.

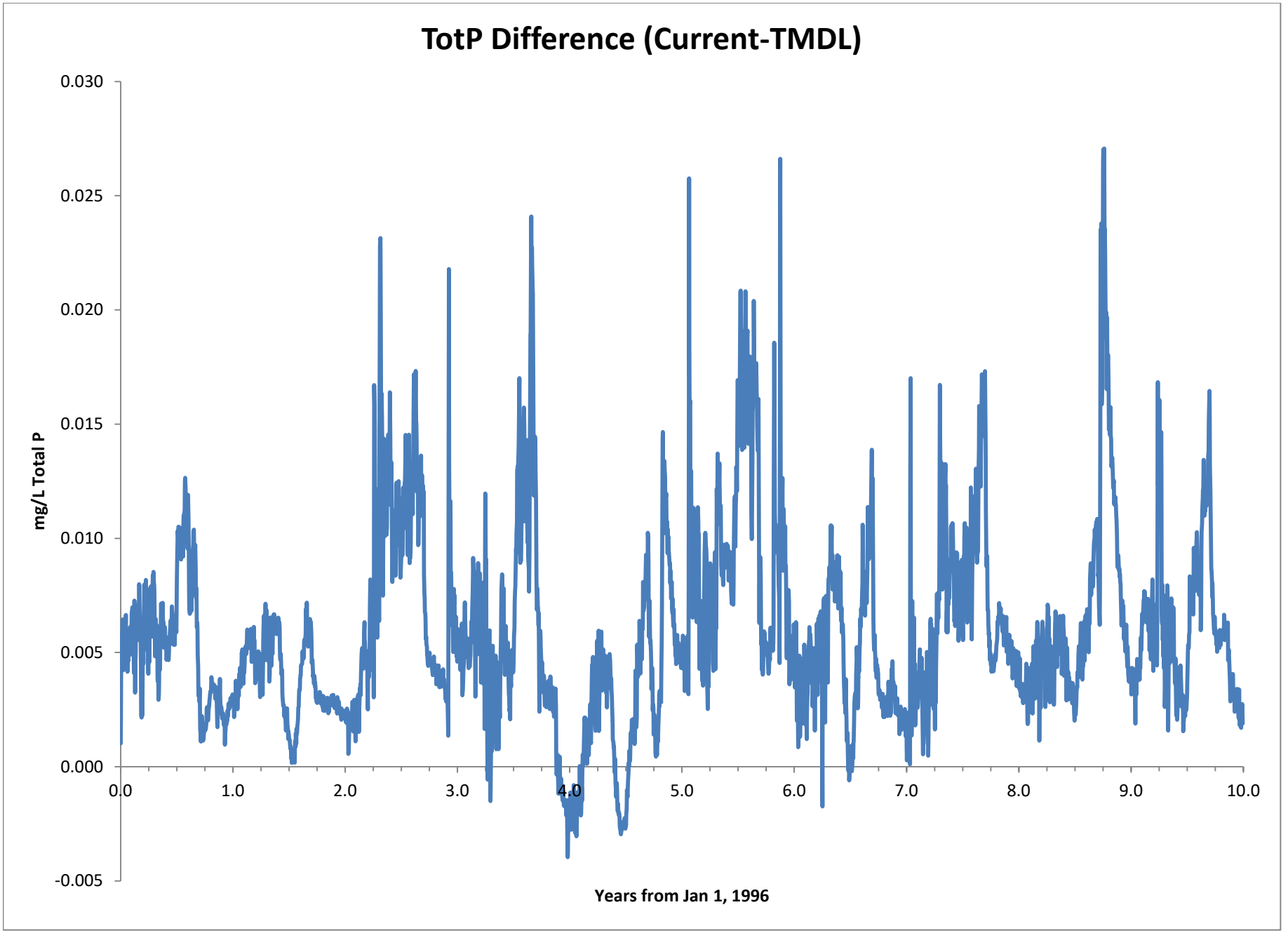

Maryland and Virginia
Water Quality
Monitoring Stations
MARYLAND
VIRGINIA
DELAWARE
See DC Inset
See St. Mary's Inset
See Elizabeth Inset
Potomac River
Rappahannock River
Patuxent River
Patapsco R.
Chester R.
Choptank River
Nanticoke R.
Susquehanna R.
James River
York R.
Legend
Fall Line
0 5 10 15 20
Miles
CB3.3C

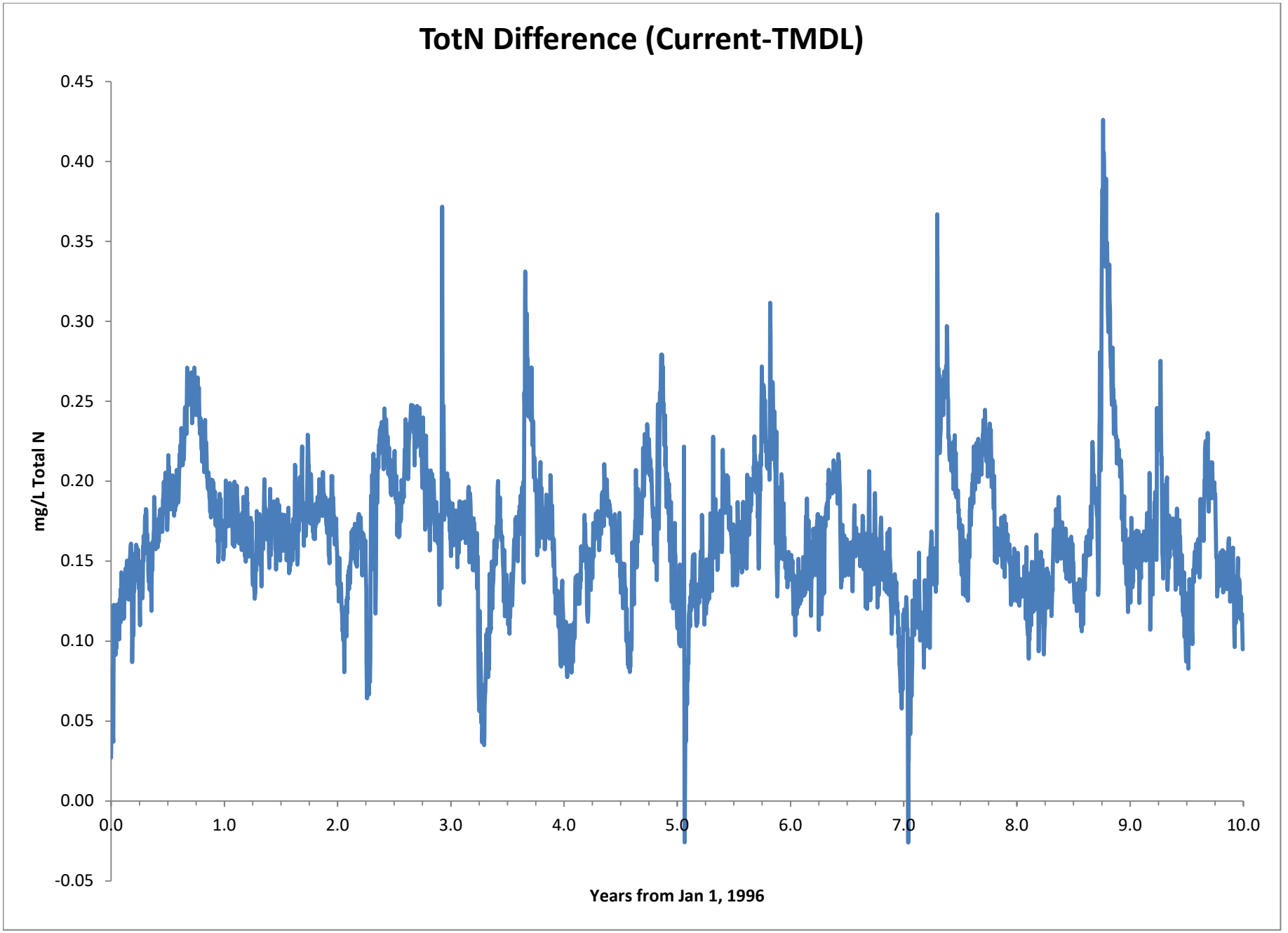

DO Difference (Current-TMDL)
2.00
1.00
0.00
-1.00
-2.00
-3.00
-4.00
mg/L DO
0.00
1.00
2.00
3.00
4.00
5.00
6.00
7.00
8.00
9.00
10.00
Years from Jan 1, 1996

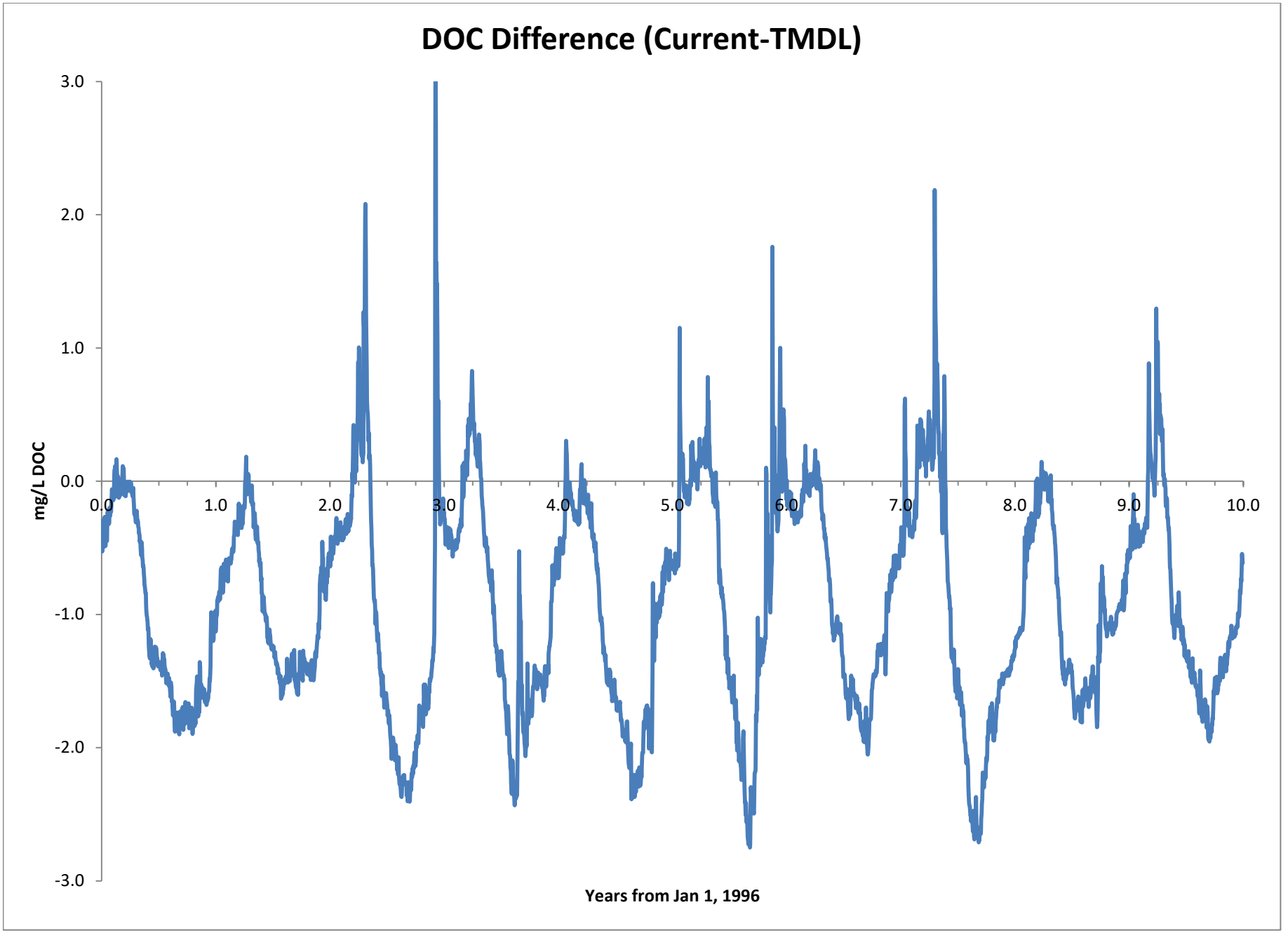

Chl Difference (Current-TMDL)
10.00
8.00
6.00
4.00
2.00
0.00
-2.00
-4.00
-6.00
-8.00
ug/L Chl
0.00
1.00
2.00
3.00
4.00
5.00
6.00
7.00
8.00
9.00
10.00
Years from Jan 1, 1996

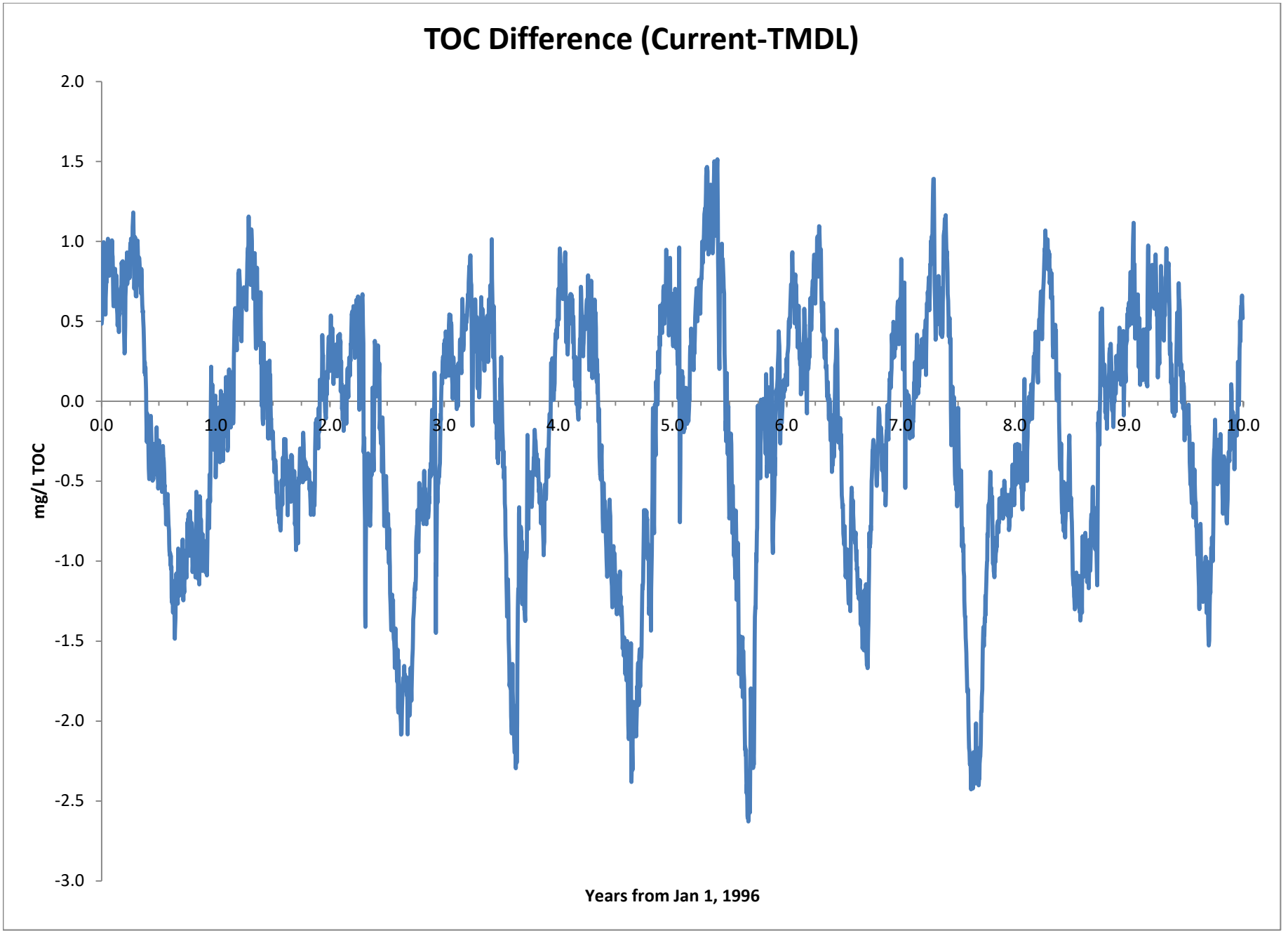

DIP Difference (Current-TMDL)
0.026
0.024
0.022
0.020
0.018
0.016
0.014
0.012
0.010
0.008
0.006
0.004
0.002
0.000
-0.002
-0.004
-0.006
-0.008
-0.010
mg/L DIP
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
Years from Jan 1, 1991

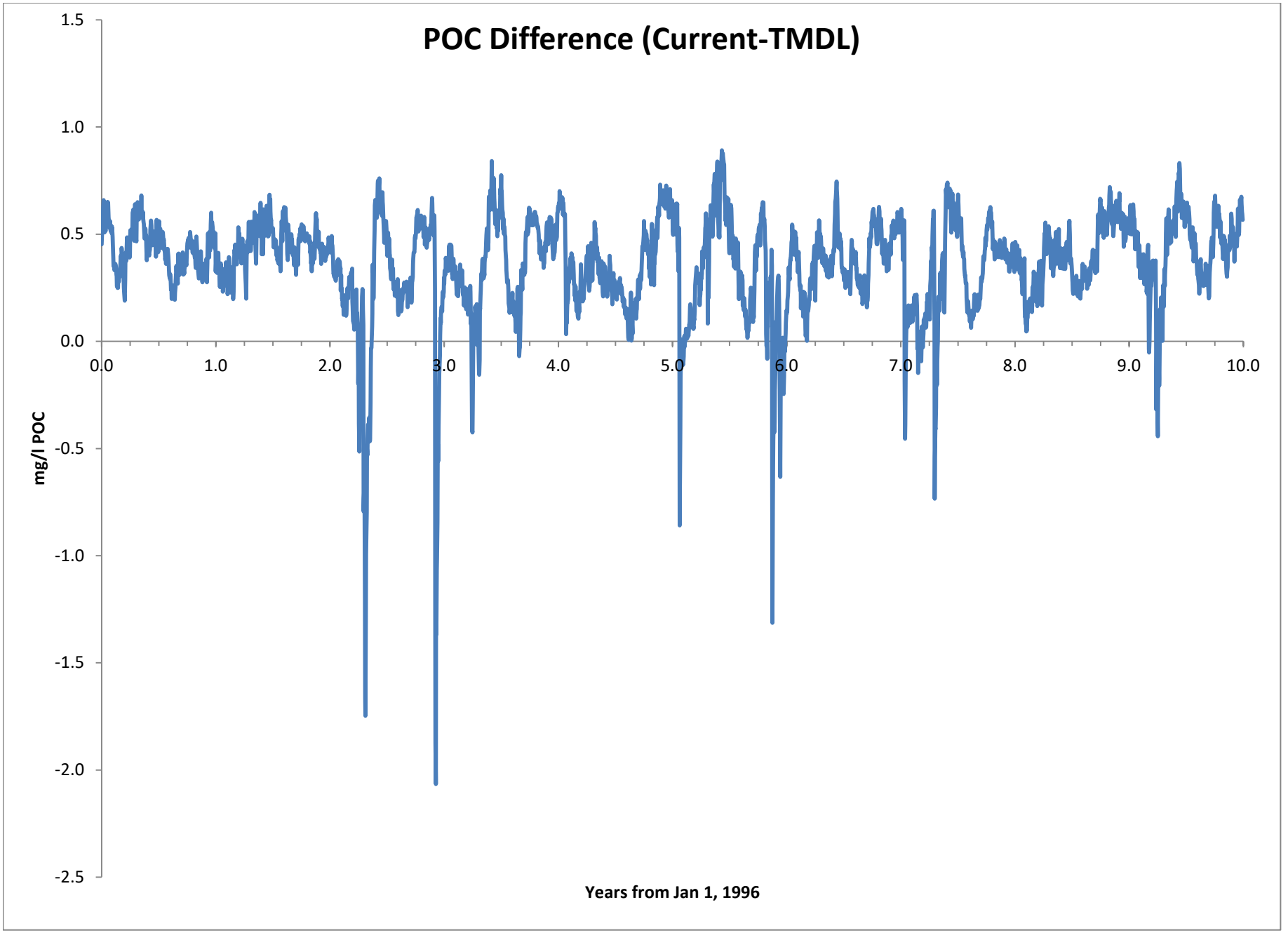

DIN Difference (Current-TMDL)
0.10
0.05
0.00
-0.05
-0.10
-0.15
-0.20
-0.25
-0.30
mg/L DIN
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
Years from Jan 1, 1996


TotP Difference (Current-TMDL)
0.030
0.025
0.020
0.015
0.010
0.005
0.000
-0.005
mg/L Total P
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
Years from Jan 1, 1996


TotN Difference (Current-TMDL)
0.45
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
-0.05
mg/L Total N
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
Years from Jan 1, 1996


DOC Difference (Current-TMDL)
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
mg/L DOC
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
Years from Jan 1, 1996


TOC Difference (Current-TMDL)
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
mg/L TOC
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
Years from Jan 1, 1996


POC Difference (Current-TMDL)
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
mg/l POC
Years from Jan 1, 1996

Conclusions

- There is remarkably little difference in the G3 organic matter loads between the two model versions.
- We have substantially shifted the fractions of available organic matter. This is a result of the analysis of Conowingo organic matter and of decisions in allocation of WSM loads to WQM.
- The decisions made in allocating WSM variables to WQM variables are more significant than the splits into G1, G2, G3. (dissolved fractions, reactivity of PIP)