Assessment of the DO and Chlorophyll Water Quality Standards

Water Quality Goal Implementation Team

Gettysburg, PA

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Overview

- Phase 5.3 and WQSTM scenarios completed.
- Reasons why we think the analysis and targets are stable even though we're changing the WQSTM calibration in the shallow water. Basinwide nitrogen, phosphorus, and sediment loads and their influence on CB4 Deep Water/Deep Channel.
- Updated stoplight plots for DO and chlorophyll water quality standards including recent Phase 5.3 loading scenarios (and including some old familiar tunes).
- Summary plot and conclusions.

Decisions Made or Pending That Have or Will Have Slight Influence On the Nutrient Target Loads

Final refinements and checks to the shallow water SAV-clarity simulation are being made.

Final 5.3 loads sent to CoE on 3/22/10 with very small changes.

The reflected ocean boundary which changes the ocean boundary loads to changes in the Chesapeake loads needs to be implemented in all future runs.

The adjustment of the ocean boundary loads to changes in atmospheric deposition to the coastal waters needs to be implemented in all future runs.

It's expected that these changes will have small but positive influences in achievement of the water quality standards.

Initial Phase 5.3 Scenarios Completed:

- 2010 E3 Scenario
- 2010 No Action
- 2007 Scenario (Key scenario needed by Scenario Builder for future scenarios.)
- Initial VA EPIL* (requested by Virginia)
- 1985 Scenario (highest load benchmark for Phase 4.3 and Phase 5.3)
- 1985 E3 Scenario (requested by New York)
- 1985 No Action (requested by New York)

* Enhanced Program Implementation Level

Phase 5.3 Scenarios Pending:

- Tributary Strategy Scenario
- Next Phase VA EPIL* (requested by Virginia)
- 1985 Scenario (highest load benchmark for Phase 4.3 and Phase 5.3)
- 2002 Scenario (benchmark for Phase 4.3 and Phase 5.3)

* Enhanced Program Implementation Level

Initial WQSTM Scenarios Completed:

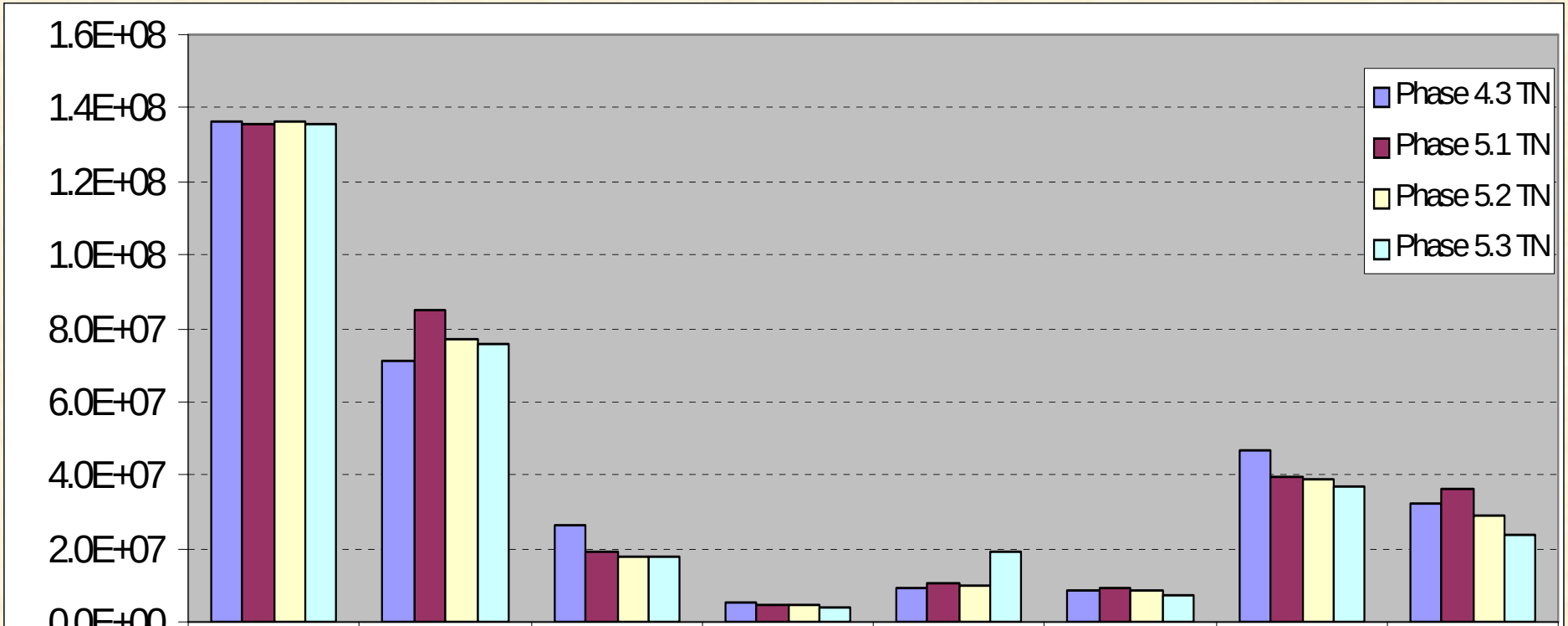
- Base Calibration Scenario (320 TN & 19.8 TP)
- 2007 Scenario (TN=254, TP=17.1 This was an early run that was updated and corrected with a more recent 2007.)
- Target Load Option 3 Scenario (TN=195, TP=14.3, TSS=same % as TP reduction)

WQSTM Scenarios Pending:

When we receive the final WQSTM calibration with final P5.3 loads and final ocean boundary adjustment capability. We'll rerun two scenarios and add others:

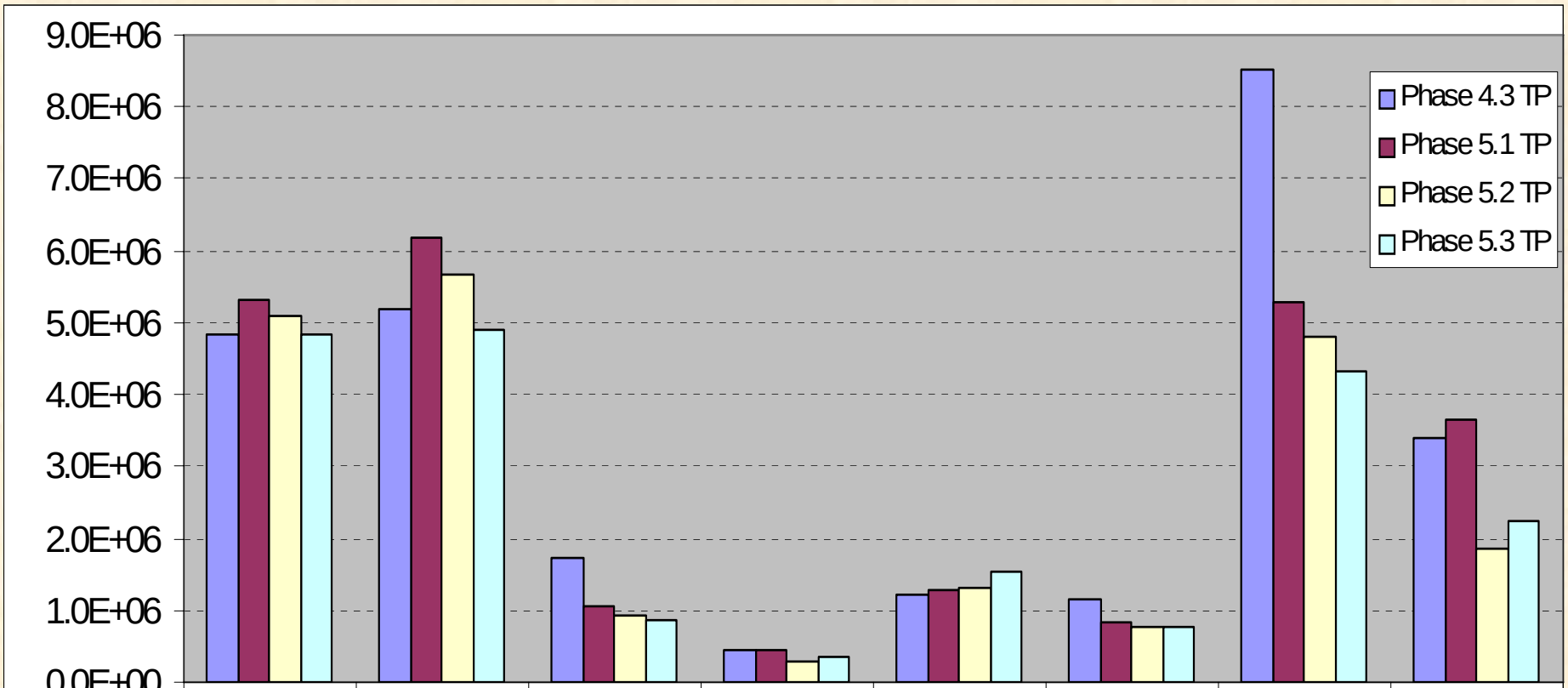
- Base Case 1991-2000 (320 TN & 19.8 TP)
- Target Load Scenario (194 TN & 14.3 TP)
- E3 Scenario (139 TN & 8.6 TP)
- Intermediate Scenarios as Needed (to refine Target Load or to optimize TN and TP Target Loads)
- Tributary Strategy Scenario (P5.3 Loads TBD, P5.2 = 200 TN & 15 TP).

Major Basin TN Loads For P4.3 and All P5 Phases



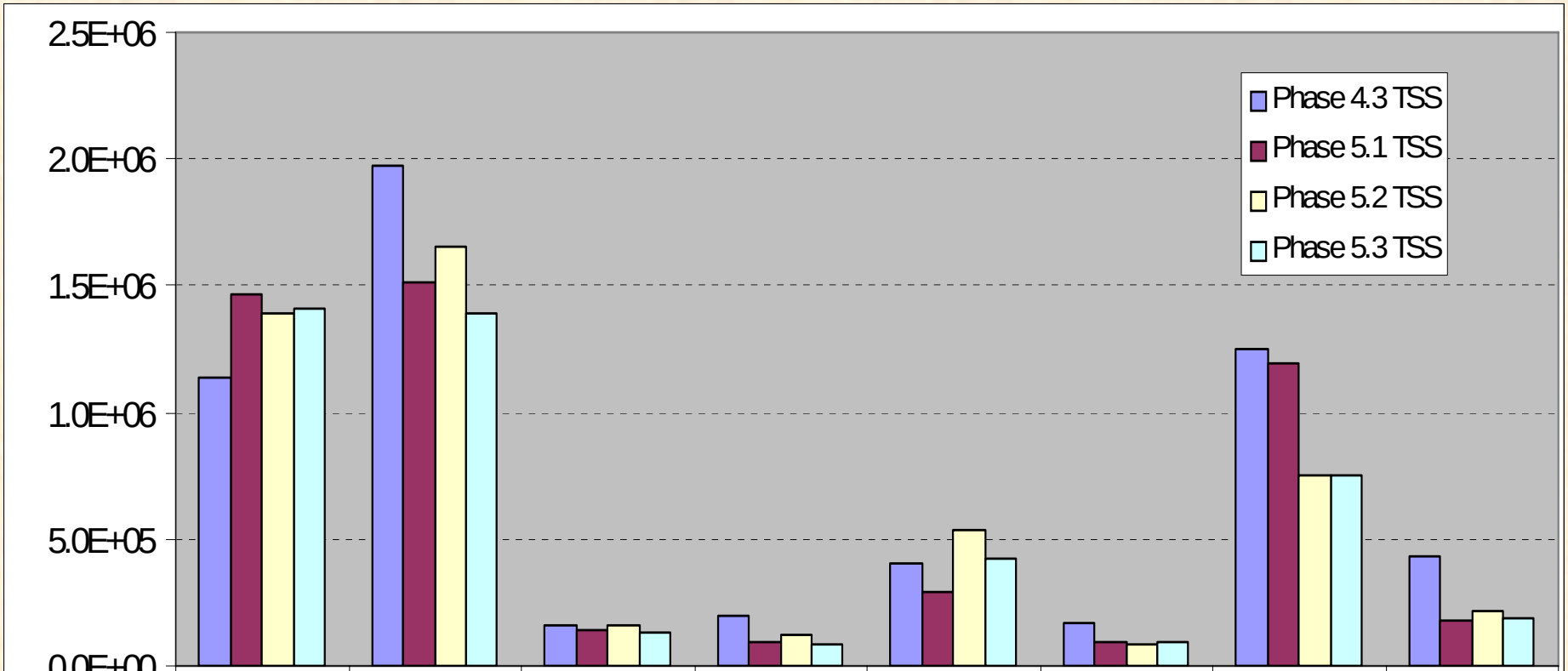
	Susquehanna	Potomac	Western Shore	Patuxent	Rappahannock	York	James	Eastern Shore
Phase 4.3 TN	136,174,538	70,954,364	26,220,938	4,969,330	9,335,952	8,846,418	46,862,659	32,438,342
Phase 5.1 TN	135,957,200	84,709,200	18,792,460	4,610,540	10,496,550	9,112,942	39,400,760	36,527,750
Phase 5.2 TN	136,052,800	77,006,940	17,975,520	4,302,200	9,648,914	8,335,362	39,101,330	29,100,390
Phase 5.3 TN	135,899,500	75,467,740	17,788,320	3,864,584	18,871,510	7,372,240	36,843,840	23,854,720

Major Basin TP Loads For P4.3 and All P5 Phases



	Susquehanna	Potomac	Western Shore	Patuxent	Rappahannock	York	James	Eastern Shore
Phase 4.3 TP	4,840,360	5,191,782	1,744,411	439,371	1,219,356	1,159,214	8,511,112	3,388,834
Phase 5.1 TP	5,315,788	6,189,597	1,070,603	449,849	1,293,852	832,068	5,270,311	3,659,904
Phase 5.2 TP	5,083,855	5,667,111	920,599	301,687	1,305,190	755,586	4,800,928	1,861,943
Phase 5.3 TP	4,843,573	4,897,244	870,467	359,157	1,525,716	760,461	4,336,546	2,234,960

Major Basin TSS Loads For P4.3 and All P5 Phases



	Susquehanna	Potomac	Western Shore	Patuxent	Rappahannock	York	James	Eastern Shore
Phase 4.3 TSS	1,133,682	1,976,652	162,248	199,368	404,941	166,318	1,248,293	433,805
Phase 5.1 TSS	1,463,259	1,515,766	143,034	95,292	294,158	91,056	1,189,197	182,590
Phase 5.2 TSS	1,394,542	1,650,656	156,625	125,359	532,689	88,506	754,658	220,078
Phase 5.3 TSS	1,409,855	1,394,125	133,874	85,663	420,356	89,892	751,012	188,810

Phase 5.3 Scenarios Run So Far On the WQSTM – Where We Can Compare the Phase 5.1 and 5.3 Calibrations the Results Look Much the Same

Cbseg	P51 91 -'00 Base Scenario, 340TN 24.1TP '96-'98 DO Deep Water	P53 91 -'00 Base Scenario '96-'98 DO Deep Water	P53 2007 '96-'98 DO Deep Water	P51 91 -'00 Base Scenario, 340TN 24.1TP '96-'98 DO Deep Channel	P53 91 -'00 Base Scenario '96-'98 DO Deep Channel	P53 2007 '96-'98 DO Deep Channel	P51 91 -'00 Base Scenario, 340TN 24.1TP '96-'98 DO Open Water	P53 91 -'00 Base Scenario '96-'98 DO Open Water	P53 2007 '96-'98 DO Open Water
APPTF	N/A	N/A	N/A	N/A	N/A	N/A	0.0%	0.0%	0.0%
BACOH	N/A	N/A	N/A	N/A	N/A	N/A	0.0%	0.0%	0.0%
BIGMH	N/A	N/A	N/A	N/A	N/A	N/A	0.0%	0.0%	0.0%
BOHOH	N/A	N/A	N/A	N/A	N/A	N/A	0.0%	0.0%	0.0%
BSHOH	N/A	N/A	N/A	N/A	N/A	N/A	4.6%	4.6%	0.0%
CB1TF	N/A	N/A	N/A	N/A	N/A	N/A	0.0%	0.0%	0.0%
CB2OH	N/A	N/A	N/A	N/A	N/A	N/A	0.0%	0.0%	0.0%
CB3MH	2.4%	2.4%	1.3%	13.3%	13.3%	8.8%	0.0%	0.0%	0.0%
CB4MH	18.1%	18.1%	12.4%	52.6%	52.6%	31.7%	0.0%	0.0%	0.0%
CB5MH	3.6%	3.7%	1.4%	18.9%	19.9%	0.3%	0.0%	0.0%	0.0%
CB6PH	0.0%	0.0%	0.0%	N/A	N/A	N/A	1.1%	1.1%	0.0%
CB7PH	0.0%	0.0%	0.0%	N/A	N/A	N/A	4.4%	4.4%	0.5%
CB8PH	N/A	N/A	N/A	N/A	N/A	N/A	0.0%	0.0%	0.0%
CHKOH	N/A	N/A	N/A	N/A	N/A	N/A	0.0%	0.0%	0.0%
CHOMH1	N/A	N/A	N/A	N/A	N/A	N/A	1.2%	1.2%	0.1%
CHOMH2	N/A	N/A	N/A	N/A	N/A	N/A	1.4%	1.4%	0.0%
CHOOH	N/A	N/A	N/A	N/A	N/A	N/A	0.0%	0.0%	0.0%
CHOTF	N/A	N/A	N/A	N/A	N/A	N/A	3.4%	3.4%	0.3%
CHSMH	1.3%	1.3%	0.2%	5.6%	5.6%	6.6%	0.0%	0.0%	0.0%
CHSOH	N/A	N/A	N/A	N/A	N/A	N/A	0.0%	0.0%	0.0%
CHSTF	N/A	N/A	N/A	N/A	N/A	N/A	0.6%	0.6%	0.6%
CNDOH	N/A	N/A	N/A	N/A	N/A	N/A	0.0%	0.0%	0.0%
CRRMH	N/A	N/A	N/A	N/A	N/A	N/A	9.6%	9.6%	0.3%
DCATF	N/A	N/A	N/A	N/A	N/A	N/A	14.0%	14.0%	10.9%
DCPTF	N/A	N/A	N/A	N/A	N/A	N/A	0.0%	0.0%	0.0%
DENTF	N/A	N/A	N/A	N/A	N/A	N/A	4.6%	4.6%	0.0%
EASMH	7.6%	7.6%	3.3%	29.3%	29.3%	18.7%	0.0%	0.0%	0.0%
EBEMH	N/A	N/A	N/A	N/A	N/A	N/A	16.6%	17.7%	6.4%
ELIPH	N/A	N/A	N/A	N/A	N/A	N/A	0.8%	1.5%	0.0%

An Estimate of the Deep Water DO Response

Here we have the same three Phase 5.3 Base, 2007, and Target Scenarios as before with the Phase 5.1 scenarios of 1985, E3, & Intermediate A & B added to get a sense of how the DO response changes to nutrient and sediment reductions.

Cbseg	1985 Scenario (P51) 320 TN 19.8 TP '96-'98 DO Deep Water	91 -'00 Base Scenario (P53) 320 TN 19.8 TP '96-'98 DO Deep Water	2007 Scenario (P53) 254 TN 17.1 TP '96-'98 DO Deep Water	Inter. B Scenario (P51) 279TN 17.2TP '96-'98 DO Deep Water	Inter. A Scenario (P51) 209TN 13.7TP '96-'98 DO Deep Water	Target Load (P53) 195 TN 14.3 TP '96-'98 DO Deep Water	E3 2010 Scenario (P51), 138TN 12.0TP '96-'98 DO Deep Water
APPTF	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BACOH	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BIGMH	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BOHOH	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BSHOH	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CB1TF	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CB2OH	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CB3MH	1.8%	2.4%	1.3%	0.9%	0.3%	0.5%	0.0%
CB4MH	21.1%	18.1%	12.4%	15.6%	9.4%	6.1%	4.4%
CB5MH	5.2%	3.7%	1.4%	2.5%	0.7%	0.5%	0.0%
CB6PH	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
CB7PH	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
CB8PH	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHKOH	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHOMH1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHOMH2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHOOH	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHOTF	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHSMH	0.0%	1.3%	0.2%	0.0%	0.0%	0.0%	0.0%
CHSOH	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHSTF	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CNDOH	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CRRMH	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DCATF	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DCPTF	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DENTF	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EASMH	10.1%	7.6%	3.3%	0.4%	0.0%	1.7%	0.1%
EBEMH	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ELIPH	N/A	N/A	N/A	N/A	N/A	N/A	N/A

An Estimate of the Deep Channel DO Response

Here we have the same three Phase 5.3 Base, 2007, and Target Scenarios as before with the Phase 5.1 scenarios of 1985, E3, and Intermediate A & B added to get a sense of how the DO response changes to nutrient and sediment reductions.

Cbseg	1985 Scenario (P51) 320 TN 19.8 TP '96-'98 DO Deep Channel	91 -'00 Base Scenario (P53) 320 TN 19.8 TP '96-'98 DO Deep Channel	2007 Scenario (P53) 254 TN 17.1 TP '96-'98 DO Deep Channel	Inter. B Scenario (P51) 279TN 17.2TP '96-'98 DO Deep Channel	Inter. A Scenario (P51) 209TN 13.7TP '96-'98 DO Deep Channel	Target Load (P53) 195 TN 14.3 TP '96-'98 DO Deep Channel	E3 2010 Scenario (P51), 138TN 12.0TP '96-'98 DO Deep Channel
APPTF	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BACOH	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BIGMH	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BOHOH	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BSHOH	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CB1TF	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CB2OH	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CB3MH	9.0%	13.3%	8.8%	4.8%	1.3%	0.8%	0.0%
CB4MH	56.3%	52.6%	31.7%	42.0%	10.6%	0.4%	0.0%
CB5MH	24.1%	19.9%	0.3%	4.7%	0.0%	0.0%	0.0%
CB6PH	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CB7PH	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CB8PH	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHKOH	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHOMH1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHOMH2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHOOH	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHOTF	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHSMH	1.3%	5.6%	6.6%	0.5%	1.9%	3.9%	0.7%
CHSOH	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHSTF	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CNDOH	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CRRMH	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DCATF	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DCPTF	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DENTF	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EASMH	30.6%	29.3%	18.7%	18.5%	7.4%	3.3%	0.1%
EBEMH	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ELIPH	N/A	N/A	N/A	N/A	N/A	N/A	N/A

An Estimate of the Open Water DO Response

Here we have the same three Phase 5.3 Base, 2007, and Target Scenarios as before with the Phase 5.1 scenarios of 1985, E3, and Intermediate A & B added to get a sense of how the DO response changes to nutrient and sediment reductions.

Cbseg	1985 Scenario (P51) 320 TN 19.8 TP '96-'98 DO Open Water Summer Monthly	91 -'00 Base Scenario (P53) 320 TN 19.8 TP '96-'98 DO Open Water Summer Monthly	2007 Scenario (P53) 254 TN 17.1 TP '96-'98 DO Open Water Summer Monthly	Inter. B Scenario (P51) 279TN 17.2TP '96-'98 DO Open Water Summer Monthly	Inter. A Scenario (P51) 209TN 13.7TP '96-'98 DO Open Water Summer Monthly	Target Load (P53) 195 TN 14.3 TP '96-'98 DO Open Water Summer Monthly	E3 2010 Scenario (P51), 138TN 12.0TP '96-'98 DO Open Water Summer Monthly
APPTF	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
BACOH	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
BIGMH	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
BOHOH	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
BSHOH	4.6%	4.6%	0.0%	4.6%	4.6%	0.0%	0.0%
CB1TF	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
CB2OH	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
CB3MH	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
CB4MH	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
CB5MH	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
CB6PH	2.4%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%
CB7PH	6.5%	4.4%	0.5%	1.0%	0.0%	0.0%	0.0%
CB8PH	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
CHKOH	0.0%	0.0%	0.0%	4.6%	0.1%	0.0%	0.0%
CHOMH1	3.2%	1.2%	0.1%	0.5%	0.0%	0.0%	0.0%
CHOMH2	15.0%	1.4%	0.0%	0.5%	0.0%	0.0%	0.0%
CHOOH	4.6%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%
CHOTF	1.8%	3.4%	0.3%	0.0%	0.3%	0.0%	0.0%
CHSMH	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
CHSOH	0.0%	0.0%	0.0%	0.0%	0.5%	0.0%	1.4%
CHSTF	4.6%	0.6%	0.6%	0.0%	2.4%	0.0%	1.4%
CNDOH	3.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
CRRMH	10.8%	9.6%	0.3%	1.5%	0.0%	0.0%	0.0%
DCATF	13.2%	14.0%	10.9%	2.8%	1.5%	3.9%	0.0%
DCPTF	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
DENTF	4.6%	4.6%	0.0%	0.0%	0.0%	0.0%	0.0%
EASMH	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
EBEMH	32.5%	17.7%	6.4%	0.0%	0.0%	1.9%	0.0%
ELIPH	6.4%	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%

Again, of the Phase 5.3 Scenarios Run So Far On the WQSTM the Phase 5.1 and 5.3 Calibration Results Look Much the Same For James Chlorophyll

Spring Chlorophyll Response

Cbseg	Scenario→ Year → State	P51 '91-'93 CL Spring Seasonal	P53 '91-'93 CL Spring Seasonal	2007 (P53) '91-'93 CL Spring Seasonal	Target Load (P53) '91-'93 CL Spring Seasonal	P51 '92-'94 CL Spring Seasonal	P53 '92-'94 CL Spring Seasonal	2007 (P53) '92-'94 CL Spring Seasonal	Target Load (P53) '92-'94 CL Spring Seasonal	P51 '93-'95 CL Spring Seasonal	P53 '93-'95 CL Spring Seasonal	2007 (P53) '93-'95 CL Spring Seasonal	Target Load (P53) '93-'95 CL Spring Seasonal
DCATF	DC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DCPTF	DC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
JMSTFL	VA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	11.0%	5.6%	5.7%	3.7%
JMSTFU	VA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
JMSOH	VA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
JMSMH	VA	29.6%	29.6%	19.5%	2.1%	5.3%	5.3%	1.6%	0.0%	0.0%	0.0%	0.0%	0.0%
JMSPH	VA	21.8%	19.8%	0.9%	0.0%	0.0%	5.4%	0.9%	0.0%	0.0%	5.4%	0.9%	0.0%

Summer Chlorophyll Response

Cbseg	Scenario→ Year → State	P51 '91-'93 CL Summer Seasonal	P53 '91-'93 CL Summer Seasonal	2007 (P53) '91-'93 CL Summer Seasonal	Target Load (P53) '91-'93 CL Summer Seasonal	P51 '92-'94 CL Summer Seasonal	P53 '92-'94 CL Summer Seasonal	2007 (P53) '92-'94 CL Summer Seasonal	Target Load (P53) '92-'94 CL Summer Seasonal	P51 '93-'95 CL Summer Seasonal	P53 '93-'95 CL Summer Seasonal	2007 (P53) '93-'95 CL Summer Seasonal	Target Load (P53) '93-'95 CL Summer Seasonal
DCATF	DC	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
DCPTF	DC	9.3%	9.3%	2.8%	0.0%	9.3%	9.3%	2.8%	21.8%	33.6%	33.6%	27.1%	46.1%
JMSTFL	VA	35.6%	35.1%	0.0%	0.0%	36.4%	36.2%	0.0%	0.0%	20.6%	20.2%	0.0%	0.0%
JMSTFU	VA	22.2%	22.3%	10.3%	6.3%	21.7%	21.7%	7.5%	5.3%	17.1%	17.1%	7.5%	5.3%
JMSOH	VA	3.3%	0.0%	0.0%	0.0%	3.3%	0.0%	0.0%	0.0%	3.3%	0.0%	0.0%	0.0%
JMSMH	VA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
JMSPH	VA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.7%	0.0%	0.0%

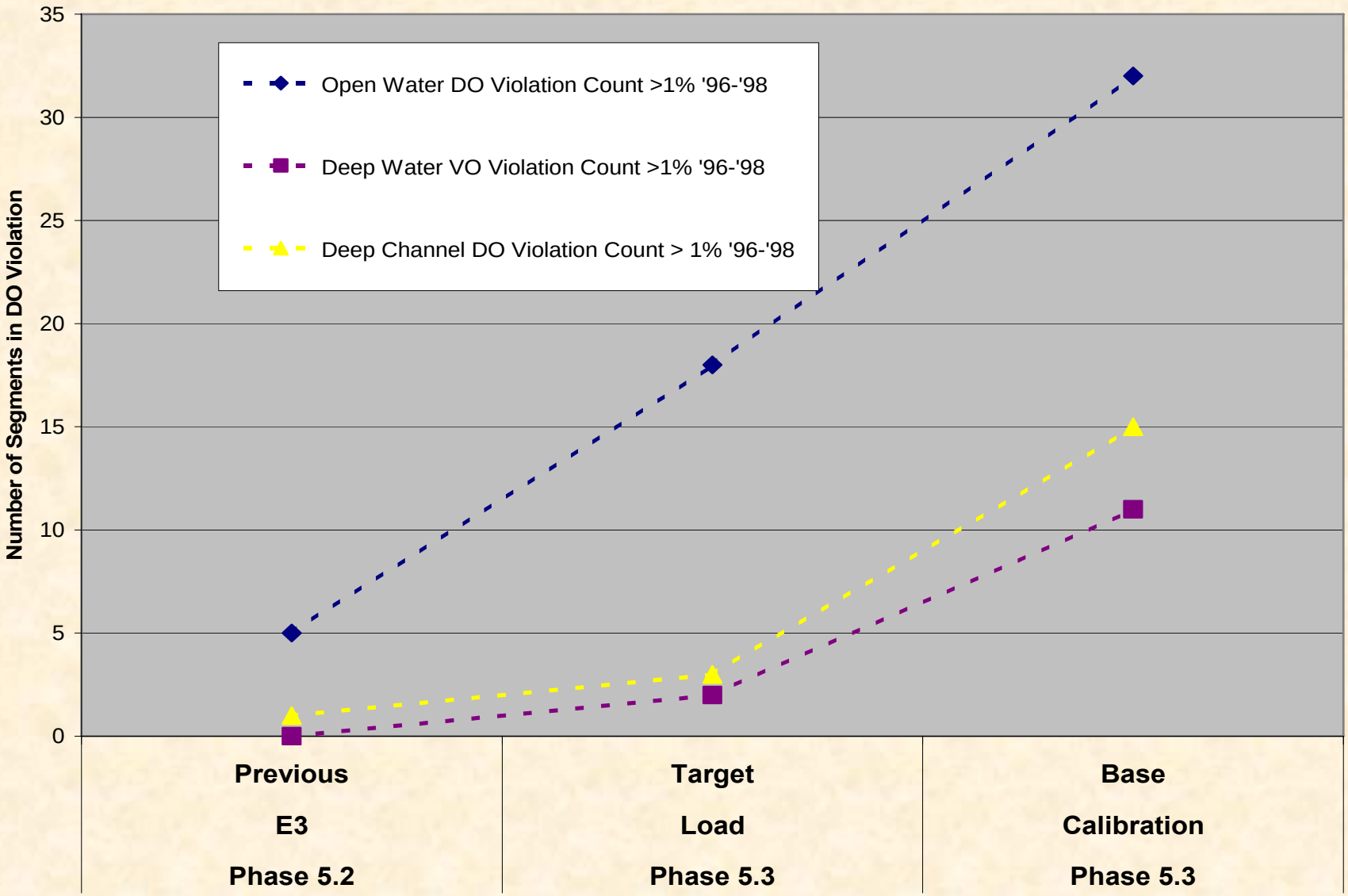
Estimated Chlorophyll Response in the James

Here we have the same three Phase 5.3 Base, 2007, and Target Scenarios as before with the Phase 5.1 scenarios of 1985, E3, & Intermediate A & B added to get a sense of how the chlorophyll response changes to nutrient and sediment reductions in the hardest year (’97-’99) nonattainment.

Cbseg	1985 Scenario (P51) '97-'99 CL Spring Seasonal	91 -'00 Base Scenario (P53) '97-'99 CL Spring Seasonal	2007 Scenario (P53) '97-'99 CL Spring Seasonal	Intermediate B Scenario (P51) 279TN 17.2TP '97-'99 CL Spring Seasonal	Intermediate A Scenario (P51) 209TN 13.7TP '97-'99 CL Spring Seasonal	Target Load (P53) '97-'99 CL Spring Seasonal	E3 2010 Scenario (P51), 138TN 12.0TP '97-'99 CL Spring Seasonal
DCATF	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DCPTF	N/A	N/A	N/A	N/A	N/A	N/A	N/A
JMSTFL	21.8%	30.0%	27.2%	35.5%	7.4%	10.0%	6.3%
JMSTFU	0.8%	0.0%	0.8%	0.0%	0.0%	0.0%	0.0%
JMSOH	3.4%	9.9%	8.9%	2.7%	1.3%	0.0%	0.6%
JMSMH	34.6%	8.3%	0.0%	0.0%	0.0%	0.0%	0.0%
JMSPH	21.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Cbseg	1985 Scenario (P51) '97-'99 CL Summer Seasonal	91 -'00 Base Scenario (P53) '97-'99 CL Summer Seasonal	2007 Scenario (P53) '97-'99 CL Summer Seasonal	Intermediate B Scenario (P51) 279TN 17.2TP '97-'99 CL Summer Seasonal	Intermediate A Scenario (P51) 209TN 13.7TP '97-'99 CL Summer Seasonal	Target Load (P53) '97-'99 CL Summer Seasonal	E3 2010 Scenario (P51), 138TN 12.0TP '97-'99 CL Summer Seasonal
DCATF	7.6%	0.0%	13.0%	0.0%	0.0%	4.8%	1.5%
DCPTF	21.8%	21.8%	21.8%	21.8%	21.8%	21.8%	11.5%
JMSTFL	22.8%	21.8%	0.1%	35.5%	25.1%	0.0%	0.0%
JMSTFU	11.5%	28.5%	16.2%	26.2%	13.6%	1.2%	0.0%
JMSOH	4.4%	0.8%	0.0%	3.4%	2.7%	0.0%	0.0%
JMSMH	42.5%	26.4%	23.7%	0.2%	0.0%	12.9%	0.0%
JMSPH	21.8%	21.8%	21.8%	0.0%	0.0%	12.3%	0.0%

DO Stoplight Plot Summary Information



Key Points:

- Overall, the input nutrient and sediment loads are relatively stable among the different Watershed Model versions.
- The DO and chlorophyll calibrations in the WQSTM are unchanged and the results and findings from our last WQGIT meeting are stable.
- The response to the current Target Load Scenario (195TN,14.3TP) approximates the response to the previous Target Load Scenario.
- At the level of the Target Load Scenario nutrient loads problems remain in attaining the James chlorophyll standard in the tidal fresh region.

FEEDBACK REQUESTED:

WQGIT feedback on methods and next steps for revising draft basinwide nutrient target loads for presentation to the Principals' Staff Committee at their April 29th – 30th, 2010 meeting pending confirmation that these target loads also meet water quality standards for clarity in shallow waters.