

10 Appendix D – HSPF River Water Quality Parameters

Lake: parameter applies to:

2 = both rivers and reservoirs

1 = reservoirs only

0 = rivers only

Module, Table, Parameter: HSPF module, variable table, and parameter name. See HSPF documentation for description

Start: Starting value in the calibration. For uncalibrated parameters, this is the final value as well.

Min and Max: enforced minimum and maximum for the calibration

Type: Refers to calibration update sensitivity.

A = Additive. The parameter is somewhat linearly related to the calibration metric. Sensitivities are calculated and adjustments made on the untransformed parameter.

M = Multiplicative. The log of the parameter is somewhat linearly related to the calibration metric. Sensitivities are calculated and adjustments made on the log transformed parameter.

Lake	Module	Table	Parameter	Start	Min	Max	Type
2	ADCALC	ADCALC-DATA	CRRAT	1.5	1	2	A
2	SEDTRN	SAND-PM	KSAND	0.001	0.00001	1	M
2	SEDTRN	SAND-PM	EXPSND	4	2	5	A
2	SEDTRN	SILT-CLAY-PM#1	SW	0.01	0.0001	0.1	M
2	SEDTRN	SILT-CLAY-PM#1	STAUCD	95	10	100	A
2	SEDTRN	SILT-CLAY-PM#1	STAUCS	99	99	99	A
2	SEDTRN	SILT-CLAY-PM#1	SM	0.2	0.00005	10	M
2	SEDTRN	SILT-CLAY-PM#2	CW	0.001	0.00001	0.01	M
2	SEDTRN	SILT-CLAY-PM#2	CTAUCD	90	10	100	A
2	SEDTRN	SILT-CLAY-PM#2	CTAUCS	98	98	98	A
2	SEDTRN	SILT-CLAY-PM#2	CM	0.4	0.0001	20	M
2	RQUAL	SCOUR-PARMS	SCRVEL	5	1	10	A
2	RQUAL	SCOUR-PARMS	SCRMUL	2	1	5	A
2	OXR	OX-GENP	KBOD20	0.05	0.005	0.5	M
2	OXR	OX-GENP	KODSET	0.01	0.001	0.1	M
2	OXR	OX-GENP	SUPSAT	1.15	1	1.35	A
2	OXR	OX-BENP	BENOD	40	1	200	A
2	OXR	OX-BENP	BRBOD1	0.01	0.001	0.1	M
2	OXR	OX-BENP	BRBOD2	0.01	0.001	0.1	M
0	OXR	OX-REAP	REAK	0.5	0.05	5	M
1	OXR	OX-CFOEA	CFOEA	1	0.1	2	A

1	NUTRX	NUT-BENPARM	BRTAM1	0.5	0.01	40	A
1	NUTRX	NUT-BENPARM	BRTAM2	2	0.04	100	A
1	NUTRX	NUT-BENPARM	BRPO41	0.05	0.001	2	A
1	NUTRX	NUT-BENPARM	BRPO42	0.25	0.005	10	A
1	NUTRX	NUT-BENPARM	ANAER	1	0.2	7	A
2	NUTRX	NUT-NITDENIT	KTAM20	0.2	0.005	1	M
2	NUTRX	NUT-NITDENIT	KNO320	0.002	0.001	0.1	M
2	NUTRX	NUT-NITDENIT	DENOXT	15	10	30	A
2	NUTRX	NUT-NH3VOLAT	EXPNVG	0.5	0.3	0.7	A
2	NUTRX	NUT-NH3VOLAT	EXPNVL	0.6667	0.4	0.9	A
2	NUTRX	NUT-BEDCONC	NH4-sand	2	0.2	20	M
2	NUTRX	NUT-BEDCONC	NH4-silt	20	2	200	M
2	NUTRX	NUT-BEDCONC	NH4-clay	200	20	2000	M
2	NUTRX	NUT-BEDCONC	PO4-sand	8	0.2	30	M
2	NUTRX	NUT-BEDCONC	PO4-silt	80	2	300	M
2	NUTRX	NUT-BEDCONC	PO4-clay	800	20	3000	M
2	NUTRX	NUT-ADSPARM	NH4-sand	150	1.5	1500	M
2	NUTRX	NUT-ADSPARM	NH4-silt	1500	15	10000	M
2	NUTRX	NUT-ADSPARM	NH4-clay	15000	150	15000	M
2	NUTRX	NUT-ADSPARM	PO4-sand	3333	33	33333	M
2	NUTRX	NUT-ADSPARM	PO4-silt	10000	100	100000	M
2	NUTRX	NUT-ADSPARM	PO4-clay	30000	300	300000	M
2	PLANK	PLNK-PARM1	NONREF	0.75	0.5	0.9	A
2	PLANK	PLNK-PARM1	LITSED	0.01	0.001	1	M
2	PLANK	PLNK-PARM1	ALNPR	0.8	0.6	0.9	A
2	PLANK	PLNK-PARM1	EXTB	0.1	0.01	1	M
2	PLANK	PLNK-PARM1	MALGR	0.2	0.001	0.8	A
2	PLANK	PLNK-PARM2	CMMMLT	0.033	0.000001	0.1	M
2	PLANK	PLNK-PARM2	CMMN	0.045	0.0025	0.25	M
2	PLANK	PLNK-PARM2	CMMP	0.015	0.0005	0.05	M
2	PLANK	PLNK-PARM2	CMMNP	0.0284	0.0005	0.05	M
2	PLANK	PLNK-PARM2	TALGRH	95	95	200	A
2	PLANK	PLNK-PARM2	TALGRL	43	0	-118	A
2	PLANK	PLNK-PARM2	TALGRM	77	50	90	A
2	PLANK	PLNK-PARM3	ALR20	0.003	0.0003	0.03	M
2	PLANK	PLNK-PARM3	ALDH	0.01	0.0002	0.02	M
2	PLANK	PLNK-PARM3	ALDL	0.001	0.0002	0.02	M
2	PLANK	PLNK-PARM3	OXALD	0.03	0.003	0.3	M
2	PLANK	PLNK-PARM3	NALDH	0.001	0.0001	0.01	M
2	PLANK	PLNK-PARM3	PALDH	0.0001	0.00001	0.001	M
2	PLANK	PHYTO-PARM	SEED	0.2	0.02	2	M
2	PLANK	PHYTO-PARM	MXSTAY	0.2	0.02	2	M
2	PLANK	PHYTO-PARM	OREF	1000	100	10000	M
2	PLANK	PHYTO-PARM	CLALDH	50	5	500	M

2	PLANK	PHYTO-PARM	PHYSET	0.01	0.00001	0.1	M
2	PLANK	PHYTO-PARM	REFSET	0.01	0.000001	0.2	M
2	PLANK	BENAL-PARM	MBAL	600	1000	1000000	M
2	PLANK	BENAL-PARM	CFBALR	0.4	0.1	0.8	A
2	PLANK	BENAL-PARM	CFBALG	0.4	0.1	0.8	A
2	SCRORG	SCR-CONC	RORN	5	0.05	100	M
2	SCRORG	SCR-CONC	RORP	2	0.001	50	M
