483012093035001 KABETOGAMA LAKE AT CEMETARY ISLAND NEAR RAY, MN

Rainy Basin
Rainy Lake Subbasin

LOCATION.--Lat 48°30′12″, long 93°03′50″ referenced to North American Datum of 1927, St. Louis County, MN, Hydrologic Unit 09030003.

WATER-QUALITY RECORDS

REMARKS.--This site is part of a nutrient cycling study in Kabetogama Lake, Voyageurs National Park. Objectives of this study are to determine if the changes in Kabetogama Lake water levels since a change in rules governing dam operation (2000 rule curves) are affecting algal production (chlorophyll-a) and nutrient enrichment (total phosphorus) in the lake. Another objective is to assess nutrient loading to the lake from inflow sources and the potential contribution of nutrients from lake bottom sediment.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Part 1 of 2
[Remark codes: M, presence verified but not quantified.]

Date	Time	Medium name	Dis-solved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif-ic conduc-tance, wat unf µS/cm @ 25 degC (00095)	Temper-ature, water, deg C (00010)	Sam-pling depth, feet (00003)	Alka-linity, wat flt inf tit field, mg/L as CaCO3 (39086)	Bicar-bonate, wat flt infl pt titr., field, mg/L (00453)	Ortho-phos-phate, solids, recover-able, µg/g (63715)
May										
11...	1710	Surface water	12.0	8.5	84	9.8	.10	33.4	40.6	--
11...	1715	Surface water	12.2	8.3	84	9.3	3.00	--	--	--
11...	1720	Surface water	12.1	8.3	83	8.0	6.00	--	--	--
11...	1725	Surface water	12.0	8.3	83	7.8	9.00	--	--	--
11...	1730	Surface water	12.0	8.2	84	7.7	12.0	--	--	--
11...	1735	Surface water	11.9	8.2	84	7.6	15.0	--	--	--
11...	1740	Bottom material	--	--	--	--	--	--	--	1.2
11...	1740	Surface water	11.8	8.2	84	7.5	--	3.1	3.8	--
11...	1745	Surface water	11.8	8.2	84	7.5	18.0	--	--	--
Jun										
17...	0954	Surface water	--	--	--	--	--	--	--	--
Jul										
13...	0959	Surface water	--	--	--	--	--	--	--	--
Aug										
04...	1010	Surface water	8.7	7.8	93	18.2	.50	38.4	46.8	--
04...	1030	Surface water	8.5	7.7	93	17.9	15.0	38.4	46.7	--
05...	0900	Bottom material	--	--	--	--	--	--	--	2.0
Sep										
10...	1109	Surface water	--	--	--	--	--	--	--	--

483012093035001 KABETOGAMA LAKE AT CEMETARY ISLAND NEAR RAY, MN—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009
Part 2 of 2
[Remark codes: M, presence verified but not quantified.]

Date	Ammonia + org-N, bed sed total, mg/kg as N (00626)	Ammonia bed sedimnt total, mg/kg as N (00611)	Nitrate + nitrite bed sed total, mg/kg as N (00633)	Phos-phorus, bed sedimnt total, mg/kg as P (00668)	Ammonia water, unfltrd mg/L (71845)	Nitrate + nitrite water, fltrd, mg/L as N (00631)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L as P (00666)	Phos-phorus, water, unfltrd mg/L as P (00665)	Total nitro-gen, wat unf by anal ysis, mg/L (62855)	Chloro-phyll a phyto-plank-ton, acid m, µg/L (32211)
May											
11...	--	--	--	--	M	.000	.000	.006	.014	.20	.800
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	6,800	2.1	1	700	--	--	--	--	--	--	--
11...	--	--	--	--	M	.000	.000	.009	.017	.21	--
11...	--	--	--	--	--	--	--	--	--	--	--
Jun											
17...	--	--	--	--	.01	.050	.000	.009	.004	.38	1.90
Jul											
13...	--	--	--	--	M	.005	.000	.005	.011	.43	4.10
Aug											
04...	--	--	--	--	.02	.000	.000	.006	.015	.45	1.10
04...	--	--	--	--	.01	.000	.000	.006	.012	.44	--
05...	760	11	12	760	--	--	--	--	--	--	--
Sep											
10...	--	--	--	--	.04	.000	.004	.005	.300	.56	4.50