

Supplementary Material

Table S1. Water depths of each layer in Shingal reservoir

Water depth (m)	2016		2017		
	A, B	C	July A, B, C	September A	B, C
Surface	0	0	0	0	0
Epilimnion	1.2	-	1	-	-
Metalimnion	2.5	3	3	2.5	3
Hypolimnion	5	5.3	5	5	5

A: the CWCS deployment site

B: 100 m away from A

C: 200 m away from B

Table S2. Water temperature differences at experiment sites and water depths on each data experiment date

Parameter		Date											
		2016				2017							
		Sep. 6	Sep. 12	Sep. 22	Sep. 28	Oct. 6	Oct. 21	Jul. 20	Jul. 27	Sep. 8 10 a.m.	Sep. 8 12 p.m.	Sep. 8 2 p.m.	Sep. 21
Deployment site (A)	$\Delta T_{(epi. - hypo)}$	3.5	3.6	2.2	1.0	0.1	0.4	4.8	5.1	1.0	2.0	1.7	2.0
Control (B)		3.7	4.1	2.7	1.3	0.8	0.6	7.5	5.6	-	-	-	2.8
Control (C)	(°C)	4.2	4.0	2.7	3.1	2.1	1.4	8.7	5.3	1.3	2.4	3.7	-
Epilimnion (0 m)	$\Delta T_{(A - C)}$	0.1	0.1	-0.2	-0.8	-1.2	-0.4	-	-0.1	0.01	-0.08	-1.70	-
Hypolimnion (5 m)	(°C)	0.8	0.5	0.3	1.3	0.8	0.6	2.2	0.1	0.32	0.38	0.31	-

* Smaller temperature differences represent improved effectiveness of the convectonal water circulation system

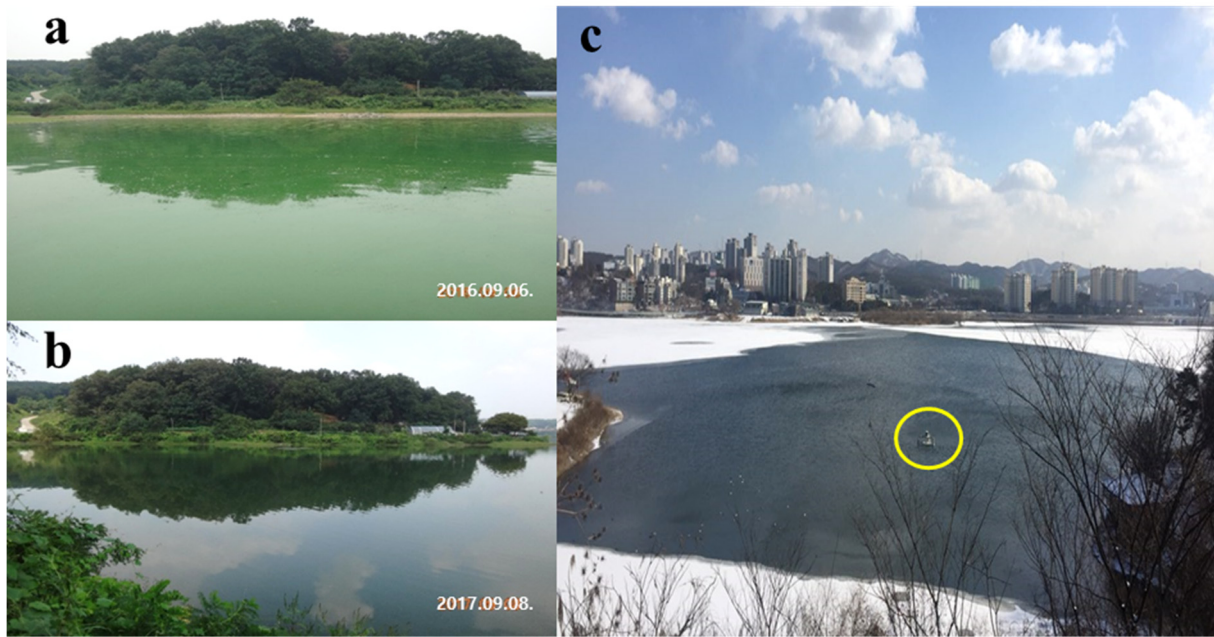


Figure S1. Photos taken at the study site, Shingal reservoir, in (a) September 6, 2016, (b) September 8, 2017, and (c) as viewed from the west in December 2017. Yellow circle indicates the CWCS unit in operation.