Baseline conditions describe persistent spatial and temporal environmental patterns in Puget Sound, Willapa Bay and Grays Harbor. The baseline is environmentally informed and allows the Marine Water Condition Index to report change in a geographical and seasonal variable environment

- Baseline conditions carry important information about persistent environmental gradients, and the seasonality of Washington's marine water bodies. We include these spatial and temporal gradients in our MWC Index formulation. **Baseline conditions are a snapshot in time, they should not to be confused with pristine environmental conditions!**

- We estimated site-specific baseline conditions using representative monthly conditions (monthly medians) during 1999-2008. This fixed historical reference frame define a suite of site-specific and season-specific baseline conditions that reflect the spatial (e.g., horizontal and vertical salinity gradients) and temporal complexity (e.g., tides, seasonality) of the estuarine environment.

- The comprehensive lists of site-specific monthly baseline values for all 12 indicators of the MWCI are found in Tables 1-11. The tables are sorted according to highest yearly median values. This allows you to explore geographical and seasonal gradient for each index indicator.

- The number of data points to establish the baseline values are shown in Tables 13-16.

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Table 1. Site-specific objectives (baseline conditions) listed for each month for the variable Thermal Energy Content (GJ m^{-2}) used in the Ventilation module. *Explanation:* We sorted the table to reflect persistent environmental gradients. Seasonal range and maximum depth considered by the MWCI are included. In cases where stations are shallow, we selected a depth equal to the minimum low tide water line.

Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Median	Range	Depth (m)
GOR001	1.82	1.66	1.65	1.74	1.90	2.22	2.48	2.64	2.64	2.48	2.22	1.96	**2.09**	**0.99**	**50**
NSQ002	1.76	1.66	1.64	1.78	1.91	2.31	2.57	2.69	2.74	2.59	2.23	1.93	**2.08**	**1.09**	**50**
HCB004	2.01	1.95	1.94	1.97	2.02	2.10	2.23	2.16	2.09	2.13	2.12	2.06	**2.08**	**0.29**	**50**
CMB003	1.84	1.67	1.64	1.69	1.80	2.09	2.28	2.43	2.47	2.40	2.23	1.99	**2.04**	**0.83**	**50**
EAP001	1.83	1.66	1.65	1.71	1.83	2.13	2.38	2.50	2.44	2.47	2.19	1.93	**2.03**	**0.85**	**50**
ELB015	1.86	1.67	1.64	1.70	1.92	2.04	2.35	2.48	2.52	2.44	2.17	1.97	**2.01**	**0.88**	**50**
PSS019	1.77	1.69	1.67	1.72	1.85	2.01	2.20	2.35	2.31	2.26	2.23	1.98	**1.99**	**0.67**	**50**
ADM003	1.71	1.63	1.63	1.70	1.88	2.11	2.33	2.46	2.46	2.36	2.10	1.88	**1.99**	**0.83**	**50**
SAR003	1.81	1.72	1.69	1.70	1.81	1.99	2.16	2.23	2.28	2.29	2.20	1.97	**1.98**	**0.61**	**50**
ADM001	1.65	1.60	1.62	1.69	1.84	2.07	2.26	2.42	2.34	2.21	2.00	1.81	**1.92**	**0.82**	**50**
GRG002	1.57	1.52	1.54	1.69	1.81	1.97	2.26	2.36	2.20	2.07	1.87	1.75	**1.84**	**0.84**	**50**
ADM002	1.55	1.54	1.59	1.62	1.77	1.84	1.94	1.99	2.01	1.90	1.81	1.68	**1.79**	**0.47**	**50**
DNA001	1.23	1.14	1.14	1.25	1.41	1.66	1.85	1.93	1.96	1.76	1.57	1.31	**1.49**	**0.82**	**35**
PSB003	1.03	0.95	0.92	0.98	1.08	1.25	1.41	1.45	1.46	1.36	1.26	1.11	**1.18**	**0.54**	**29**
WPA006	0.38	0.38	0.43	0.54	0.65	0.78	0.87	0.85	0.77	0.66	0.47	0.33	**0.59**	**0.54**	**13**
SIN001	0.46	0.44	0.45	0.51	0.56	0.65	0.77	0.77	0.76	0.68	0.56	0.50	**0.56**	**0.33**	**14**
GYS004	0.34	0.33	0.34	0.44	0.61	0.71	0.78	0.81	0.75	0.58	0.42	0.31	**0.51**	**0.50**	**12**
BUD005	0.33	0.33	0.34	0.38	0.44	0.51	0.60	0.61	0.60	0.53	0.45	0.39	**0.44**	**0.27**	**11**
OAK004	0.27	0.28	0.33	0.37	0.48	0.57	0.67	0.67	0.61	0.48	0.40	0.31	**0.44**	**0.40**	**10**
WPA001	0.25	0.24	0.28	0.32	0.48	0.57	0.66	0.63	0.58	0.43	0.30	0.24	**0.38**	**0.41**	**9**
BLL009	0.27	0.27	0.29	0.32	0.37	0.45	0.52	0.50	0.45	0.39	0.33	0.30	**0.35**	**0.25**	**10**
WPA007	0.18	0.18	0.21	0.28	0.34	0.41	0.44	0.45	0.41	0.34	0.23	0.15	**0.31**	**0.30**	**7**
WPA004	0.20	0.20	0.22	0.26	0.30	0.35	0.39	0.38	0.36	0.30	0.24	0.18	**0.28**	**0.21**	**7**
GYS016	0.20	0.21	0.21	0.23	0.29	0.32	0.33	0.36	0.30	0.28	0.27	0.21	**0.27**	**0.17**	**7**
WPA008	0.15	0.15	0.18	0.23	0.30	0.35	0.39	0.38	0.35	0.28	0.19	0.12	**0.26**	**0.26**	**6**
WPA003	0.16	0.16	0.18	0.22	0.29	0.34	0.38	0.36	0.33	0.25	0.19	0.15	**0.24**	**0.24**	**6**
GYS008	0.10	0.09	0.10	0.12	0.16	0.20	0.22	0.20	0.19	0.15	0.11	0.08	**0.13**	**0.14**	**4**

Table 2. Site-specific objectives listed for each month for the energy required for the variable Vertical Mixing (-D Potential Energy, KJ m^{-2}) used in the Ventilation module. *Explanation:* We sorted the table to reflect persistent environmental gradients. Seasonal range and maximum depth considered by the MWCI are included. In cases where stations are shallow, we selected a depth equal to the minimum low tide water line.

Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Median	Range	Depth (m)
SAR003	-6.53	-6.29	-5.77	-5.42	-5.02	-7.71	-5.99	-4.00	-3.87	-2.41	-6.40	-9.72	**-5.88**	**7.31**	**50**
PSS019	-5.16	-5.50	-4.83	-6.43	-5.84	-8.21	-6.68	-3.68	-3.05	-4.09	-5.05	-4.62	**-5.11**	**5.16**	**50**
HCB004	-5.53	-6.04	-3.76	-5.21	-5.89	-4.90	-6.26	-4.86	-4.42	-3.36	-2.13	-5.53	**-5.06**	**4.14**	**50**
ADM003	-2.22	-1.06	-1.60	-1.95	-2.86	-3.68	-2.62	-2.09	-1.29	-2.55	-0.57	-0.42	**-2.02**	**3.26**	**50**
GRG002	-1.33	-0.64	-0.61	-1.05	-3.32	-4.93	-5.24	-4.49	-1.56	-2.48	-1.31	-1.32	**-1.44**	**4.62**	**50**
ADM002	-1.09	-1.05	-0.25	-0.90	-1.71	-2.57	-1.44	-1.41	-1.83	-1.47	-0.79	-1.40	**-1.40**	**2.33**	**50**
CMB003	-1.25	-1.15	-1.07	-1.79	-2.09	-2.49	-1.99	-1.45	-1.55	-1.28	-0.93	-0.94	**-1.36**	**1.56**	**50**
ADM001	-0.49	-0.50	-0.57	-1.54	-2.09	-1.16	-1.30	-1.33	-0.97	-1.38	-0.50	-0.18	**-1.07**	**1.90**	**50**
ELB015	-0.77	-0.91	-1.14	-1.10	-1.36	-2.22	-1.32	-1.06	-0.98	-0.94	-0.68	-0.93	**-1.02**	**1.54**	**50**
GYS004	-1.60	-1.14	-0.41	-1.31	-0.96	-0.40	-0.55	-0.55	-0.22	-1.05	-1.41	-1.48	**-1.01**	**1.39**	**12**
EAP001	-0.45	-0.55	-0.61	-0.83	-1.03	-1.55	-1.24	-1.19	-0.97	-0.92	-0.39	-0.79	**-0.88**	**1.16**	**50**
NSQ002	-0.66	-0.85	-0.78	-0.81	-0.56	-1.08	-0.86	-0.75	-0.73	-0.44	-0.29	-1.01	**-0.76**	**0.79**	**50**
GOR001	-0.26	-0.50	-0.57	-0.59	-0.64	-0.65	-0.64	-0.42	-0.43	-0.39	-0.26	-1.26	**-0.53**	**1.00**	**50**
DNA001	-0.55	-0.43	-0.29	-0.38	-0.11	-0.16	-0.35	-0.39	-0.24	-0.06	-0.07	-0.60	**-0.32**	**0.54**	**35**
PSB003	-0.40	-0.28	-0.20	-0.37	-0.36	-0.43	-0.31	-0.18	-0.20	-0.12	-0.09	-0.34	**-0.29**	**0.33**	**29**
WPA001	-0.28	-0.20	-0.15	-0.27	-0.16	-0.18	-0.21	-0.07	-0.05	-0.20	-0.25	-0.16	**-0.19**	**0.23**	**9**
SIN001	-0.07	-0.06	-0.06	-0.07	-0.06	-0.08	-0.13	-0.11	-0.08	-0.03	-0.03	-0.05	**-0.07**	**0.10**	**14**
OAK004	-0.08	-0.13	-0.08	-0.12	-0.07	-0.06	-0.05	-0.04	-0.01	-0.02	-0.03	-0.15	**-0.06**	**0.14**	**10**
BUD005	-0.02	-0.08	-0.06	-0.08	-0.08	-0.04	-0.12	-0.09	-0.06	-0.03	-0.03	-0.05	**-0.06**	**0.09**	**11**
BLL009	-0.05	-0.01	-0.04	-0.07	-0.07	-0.17	-0.19	-0.10	-0.09	-0.05	-0.03	-0.02	**-0.06**	**0.18**	**10**
WPA003	-0.11	-0.06	-0.07	-0.06	-0.09	-0.01	-0.06	-0.01	-0.01	-0.01	-0.03	-0.14	**-0.06**	**0.13**	**6**
WPA006	-0.04	-0.04	-0.05	-0.01	-0.02	-0.01	-0.01	-0.02	-0.02	0.00	-0.05	-0.06	**-0.02**	**0.05**	**13**
GYS016	-0.03	-0.04	-0.07	-0.09	-0.02	0.00	-0.01	-0.01	0.00	0.00	0.00	-0.13	**-0.01**	**0.13**	**7**
WPA004	-0.01	-0.02	-0.12	-0.04	-0.01	0.00	-0.02	0.00	-0.01	0.00	-0.01	-0.02	**-0.01**	**0.12**	**7**
WPA008	-0.02	-0.01	-0.02	-0.01	-0.02	-0.01	-0.01	0.00	0.00	0.00	-0.01	-0.01	**-0.01**	**0.02**	**6**
GYS008	-0.01	-0.03	-0.01	-0.01	-0.02	0.00	-0.01	0.00	0.00	0.00	-0.02	-0.04	**-0.01**	**0.04**	**4**
WPA007	-0.01	-0.01	-0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	**0.00**	**0.01**	**7**

Table 3. Site-specific objectives listed for each month for the variable Oxygen Content (Kg m^{-2}) used in the Ventilation module *Explanation:* We sorted the table to reflect persistent environmental gradients. Seasonal range and maximum depth considered by the MWCI are included. In cases where stations are shallow, we selected a depth equal to the minimum low tide water line.

Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Median	Range	Depth (m)
NSQ002	0.39	0.39	0.43	0.49	0.50	0.44	0.42	0.39	0.36	0.32	0.31	0.35	**0.39**	**0.19**	**50**
EAP001	0.39	0.40	0.41	0.46	0.48	0.43	0.39	0.37	0.33	0.32	0.31	0.37	**0.39**	**0.17**	**50**
GOR001	0.38	0.39	0.43	0.46	0.49	0.43	0.40	0.38	0.35	0.31	0.30	0.35	**0.39**	**0.19**	**50**
PSS019	0.39	0.41	0.42	0.42	0.43	0.41	0.38	0.35	0.28	0.26	0.30	0.32	**0.39**	**0.17**	**50**
CMB003	0.38	0.40	0.41	0.43	0.46	0.40	0.39	0.35	0.31	0.30	0.29	0.34	**0.39**	**0.17**	**50**
ADM003	0.40	0.41	0.43	0.44	0.44	0.41	0.36	0.36	0.34	0.31	0.31	0.31	**0.38**	**0.13**	**50**
ELB015	0.37	0.40	0.41	0.43	0.44	0.43	0.39	0.35	0.31	0.29	0.30	0.35	**0.38**	**0.15**	**50**
ADM001	0.40	0.41	0.42	0.43	0.44	0.39	0.37	0.35	0.31	0.31	0.32	0.32	**0.38**	**0.13**	**50**
SAR003	0.38	0.39	0.40	0.40	0.39	0.39	0.37	0.33	0.29	0.25	0.28	0.33	**0.37**	**0.16**	**50**
GRG002	0.39	0.40	0.41	0.43	0.41	0.38	0.34	0.31	0.29	0.30	0.32	0.33	**0.36**	**0.14**	**50**
ADM002	0.39	0.39	0.38	0.36	0.36	0.32	0.29	0.29	0.26	0.25	0.30	0.29	**0.31**	**0.14**	**50**
DNA001	0.27	0.29	0.31	0.34	0.36	0.31	0.30	0.27	0.26	0.23	0.22	0.25	**0.28**	**0.13**	**35**
PSB003	0.22	0.23	0.25	0.25	0.27	0.26	0.24	0.23	0.21	0.17	0.18	0.20	**0.23**	**0.10**	**29**
HCB004	0.22	0.25	0.24	0.25	0.22	0.21	0.18	0.15	0.10	0.13	0.18	0.18	**0.19**	**0.15**	**50**
SIN001	0.10	0.11	0.12	0.14	0.14	0.13	0.13	0.12	0.11	0.09	0.09	0.10	**0.11**	**0.06**	**14**
WPA006	0.12	0.12	0.12	0.12	0.10	0.10	0.10	0.10	0.10	0.11	0.11	0.12	**0.11**	**0.03**	**13**
GYS004	0.13	0.12	0.11	0.11	0.11	0.10	0.09	0.08	0.08	0.10	0.10	0.11	**0.11**	**0.05**	**12**
BUD005	0.08	0.09	0.09	0.11	0.12	0.10	0.10	0.09	0.08	0.08	0.07	0.08	**0.09**	**0.05**	**11**
OAK004	0.08	0.08	0.09	0.09	0.10	0.09	0.09	0.09	0.08	0.06	0.07	0.08	**0.08**	**0.04**	**10**
BLL009	0.08	0.08	0.09	0.09	0.09	0.09	0.09	0.08	0.08	0.07	0.07	0.07	**0.08**	**0.02**	**10**
WPA001	0.08	0.09	0.09	0.08	0.07	0.07	0.06	0.05	0.05	0.06	0.07	0.07	**0.07**	**0.03**	**9**
WPA004	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.06	0.06	**0.06**	**0.01**	**7**
WPA007	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.04	0.05	0.05	0.05	0.06	**0.05**	**0.02**	**7**
GYS016	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.05	0.04	0.05	0.05	0.06	**0.05**	**0.02**	**7**
WPA003	0.05	0.05	0.05	0.05	0.04	0.04	0.04	0.04	0.04	0.04	0.05	0.05	**0.04**	**0.02**	**6**
WPA008	0.05	0.05	0.05	0.05	0.04	0.04	0.04	0.03	0.04	0.04	0.05	0.05	**0.04**	**0.02**	**6**
GYS008	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.03	0.03	**0.03**	**0.01**	**4**

Table 4. Site-specific objectives listed for each month for the variable Nitrate Concentration (uM L^{-1}) used in the Ambient module *Explanation:* We sorted the table to reflect persistent environmental gradients. Seasonal range and maximum depth considered by the MWCI are included. In cases where stations are shallow, we selected a depth equal to the minimum low tide water line.

Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Median	Range	Depth (m)
ADM002	27.35	27.54	25.12	23.94	19.56	21.07	21.45	22.53	22.47	26.58	26.40	28.39	**24.53**	**8.83**	**50**
PSB003	29.63	29.86	27.14	23.43	15.86	13.14	11.99	15.30	18.00	22.45	25.04	28.04	**22.94**	**17.87**	**29**
CMB003	29.12	29.73	27.98	24.79	17.74	14.68	14.22	16.83	18.01	21.05	25.74	28.26	**22.92**	**15.51**	**50**
GRG002	27.40	27.54	25.59	21.18	17.05	13.40	10.86	12.63	20.45	23.79	26.32	27.84	**22.49**	**16.98**	**50**
HCB004	28.62	26.71	25.56	19.78	18.23	18.24	15.81	16.59	21.97	24.64	26.78	22.97	**22.47**	**12.81**	**50**
ELB015	29.65	30.33	29.30	22.76	16.94	14.42	14.00	16.12	17.14	21.83	25.63	28.57	**22.29**	**16.32**	**50**
EAP001	30.22	29.28	27.89	21.46	15.18	12.34	10.88	12.77	16.13	21.45	24.57	28.29	**21.46**	**19.34**	**50**
ADM001	27.75	28.51	24.95	19.79	13.78	16.22	14.85	15.44	18.40	22.91	25.20	27.49	**21.35**	**14.74**	**50**
GYS004	32.17	34.55	28.80	23.14	17.45	13.61	10.94	12.76	15.21	16.36	26.91	26.56	**20.30**	**23.61**	**12**
GOR001	29.81	29.84	27.64	21.30	13.90	12.19	12.38	12.47	13.59	19.23	23.45	29.78	**20.26**	**17.65**	**50**
ADM003	28.66	29.14	25.98	21.07	16.12	13.78	9.91	12.75	14.16	19.42	24.83	27.36	**20.24**	**19.23**	**50**
PSS019	29.67	28.47	19.54	20.91	13.71	15.94	10.26	13.07	19.03	23.11	24.68	27.68	**20.23**	**19.41**	**50**
SAR003	27.96	27.77	20.89	23.72	19.23	14.66	10.40	15.14	17.29	11.55	22.86	27.35	**20.06**	**17.56**	**50**
WPA001	46.52	39.22	26.46	37.37	10.11	3.84	1.74	4.19	5.78	10.96	27.78	35.16	**18.71**	**44.78**	**9**
NSQ002	30.02	29.92	27.00	18.69	10.70	8.74	9.15	10.38	9.76	15.10	21.83	27.70	**16.89**	**21.29**	**50**
DNA001	30.50	30.20	26.13	16.66	8.37	7.84	7.79	7.76	8.92	14.12	21.19	27.03	**15.39**	**22.73**	**35**
SIN001	29.33	29.53	24.17	14.77	6.21	4.76	4.95	6.69	7.84	15.86	22.60	26.42	**15.32**	**24.77**	**14**
BUD005	29.02	29.78	25.21	16.00	4.90	4.10	0.42	0.43	1.68	11.19	20.03	26.55	**13.60**	**29.36**	**11**
GYS008	23.18	21.92	15.61	14.40	8.85	6.42	4.77	7.62	9.66	12.88	13.11	23.90	**13.00**	**19.13**	**4**
BLL009	28.90	27.89	22.86	9.88	7.67	4.23	4.76	4.98	7.54	15.91	26.38	28.77	**12.89**	**24.67**	**10**
OAK004	27.14	25.74	20.01	13.65	0.36	0.83	0.48	0.42	3.98	9.56	19.27	25.48	**11.61**	**26.78**	**10**
GYS016	11.57	12.29	5.88	3.60	2.04	4.05	7.83	4.67	9.83	7.68	7.74	11.87	**7.71**	**10.26**	**7**
WPA003	27.43	18.76	13.47	8.94	2.72	0.34	0.20	1.01	2.94	5.17	13.32	13.86	**7.05**	**27.23**	**6**
WPA004	12.29	11.18	6.07	2.18	0.66	0.71	0.47	0.69	3.84	4.56	8.64	8.20	**4.20**	**11.82**	**7**
WPA006	13.61	9.68	3.79	0.19	0.23	0.17	0.07	0.20	1.74	2.95	7.94	4.92	**2.34**	**13.54**	**13**
WPA008	17.36	10.34	3.51	1.61	0.47	0.12	0.28	0.46	0.67	1.58	9.74	8.89	**1.59**	**17.24**	**6**
WPA007	14.72	9.86	0.65	0.14	0.27	0.11	0.21	0.25	0.51	1.82	7.72	3.28	**0.58**	**14.61**	**7**

Table 5. Site-specific objectives listed for each month for the variable Phosphate Concentration (uM L^{-1}) used in the Ambient module *Explanation:* We sorted the table to reflect persistent environmental gradients. Seasonal range and maximum depth considered by the MWCI are included. In cases where stations are shallow, we selected a depth equal to the minimum low tide water line.

Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Median	Range	Depth (m)
HCB004	2.99	2.67	2.62	2.32	2.31	2.64	2.46	2.92	2.91	3.47	2.88	2.66	**2.67**	**1.15**	**50**
PSB003	2.68	2.62	2.43	2.06	1.60	1.59	1.66	1.76	2.09	2.35	2.50	2.59	**2.22**	**1.09**	**29**
CMB003	2.52	2.45	2.43	2.12	1.83	1.69	1.64	1.91	2.10	2.29	2.53	2.69	**2.21**	**1.05**	**50**
ELB015	2.65	2.65	2.40	2.03	1.65	1.51	1.66	1.89	2.07	2.33	2.47	2.60	**2.20**	**1.14**	**50**
GOR001	2.72	2.65	2.44	1.79	1.70	1.76	1.65	1.95	2.03	2.36	2.54	2.61	**2.19**	**1.07**	**50**
NSQ002	2.74	2.68	2.43	1.66	1.33	1.61	1.61	1.95	1.99	2.39	2.59	2.70	**2.19**	**1.40**	**50**
ADM002	2.26	2.30	2.18	2.00	1.79	1.94	2.01	2.15	2.17	2.40	2.37	2.46	**2.17**	**0.67**	**50**
BUD005	2.71	2.49	2.16	1.65	0.98	1.92	1.76	2.00	2.13	2.29	2.66	2.81	**2.15**	**1.84**	**11**
DNA001	2.76	2.67	2.29	1.59	1.17	1.58	1.60	1.93	2.00	2.45	2.64	2.75	**2.15**	**1.59**	**35**
OAK004	2.48	2.16	1.85	1.34	0.69	1.27	1.75	2.10	2.29	2.59	2.44	2.71	**2.13**	**2.03**	**10**
ADM001	2.44	2.44	2.23	1.70	1.53	1.67	1.59	1.79	2.03	2.33	2.38	2.52	**2.13**	**0.99**	**50**
EAP001	2.69	2.58	2.47	1.94	1.58	1.50	1.47	1.58	1.87	2.28	2.44	2.62	**2.11**	**1.22**	**50**
GRG002	2.43	2.34	2.10	1.86	1.72	1.42	1.21	1.50	1.94	2.20	2.40	2.42	**2.02**	**1.22**	**50**
SIN001	2.73	2.57	2.18	1.45	1.10	1.61	1.87	1.80	1.87	2.18	2.58	2.74	**2.02**	**1.64**	**14**
ADM003	2.56	2.50	2.14	1.90	1.52	1.33	1.35	1.57	1.83	2.13	2.42	2.49	**2.01**	**1.23**	**50**
PSS019	2.52	2.31	1.41	1.96	1.57	1.66	1.35	1.54	2.00	2.10	2.52	2.51	**1.98**	**1.17**	**50**
SAR003	2.25	2.45	1.73	2.12	1.82	1.75	1.34	1.66	1.67	2.07	2.33	2.52	**1.94**	**1.17**	**50**
BLL009	2.23	2.29	1.82	0.98	0.99	0.66	0.75	1.07	1.58	1.83	2.36	2.41	**1.70**	**1.75**	**10**
WPA007	0.95	0.71	0.33	0.32	0.54	0.74	1.10	1.49	1.53	1.19	1.12	0.90	**0.92**	**1.22**	**7**
GYS016	0.86	0.80	0.60	0.40	0.53	0.72	1.02	1.22	1.32	1.11	0.97	0.80	**0.83**	**0.92**	**7**
WPA006	0.93	0.77	0.33	0.18	0.45	0.59	0.73	1.18	1.14	0.93	1.08	0.85	**0.81**	**1.00**	**13**
WPA004	0.79	0.74	0.38	0.29	0.35	0.45	0.64	0.91	1.02	0.83	0.97	0.76	**0.75**	**0.74**	**7**
WPA008	0.74	0.59	0.30	0.20	0.43	0.66	0.94	1.36	1.49	1.17	1.03	0.75	**0.74**	**1.29**	**6**
GYS008	0.59	0.55	0.61	0.48	0.60	0.68	0.73	1.15	1.42	1.21	0.95	0.64	**0.66**	**0.93**	**4**
WPA003	0.62	0.53	0.40	0.33	0.34	0.50	0.64	1.09	1.15	1.05	0.84	0.70	**0.63**	**0.82**	**6**
GYS004	0.37	0.25	0.34	0.36	0.32	0.38	0.47	0.79	0.95	0.78	0.54	0.55	**0.43**	**0.70**	**12**
WPA001	0.25	0.29	0.25	0.25	0.18	0.28	0.29	0.68	0.89	0.84	0.61	0.43	**0.29**	**0.71**	**9**

Table 6. Site-specific objectives listed for each month for the ratio Nitrate-to-Dissolved Inorganic Nitrogen (DIN) used in the Ambient module *Explanation:* We sorted the table to reflect persistent environmental gradients. Seasonal range and maximum depth considered by the MWCI are included. In cases where stations are shallow, we selected a depth equal to the minimum low tide water line.

Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Median	Range	Depth (m)
GRG002	0.997	0.991	0.984	0.943	0.904	0.936	0.947	0.921	0.967	0.978	0.975	0.993	**0.97**	**0.09**	**50**
HCB004	0.993	0.982	0.971	0.950	0.892	0.933	0.925	0.952	0.982	0.985	0.965	0.978	**0.97**	**0.10**	**50**
EAP001	0.996	0.996	0.979	0.956	0.898	0.817	0.845	0.918	0.936	0.975	0.981	0.995	**0.97**	**0.18**	**50**
SAR003	0.992	0.994	0.941	0.971	0.936	0.846	0.858	0.963	0.966	0.909	0.957	0.995	**0.96**	**0.15**	**50**
PSS019	0.993	0.988	0.933	0.951	0.875	0.854	0.857	0.926	0.966	0.966	0.984	0.992	**0.96**	**0.14**	**50**
PSB003	0.990	0.993	0.963	0.950	0.875	0.823	0.828	0.916	0.932	0.966	0.983	0.992	**0.96**	**0.17**	**29**
ELB015	0.996	0.993	0.979	0.955	0.892	0.841	0.843	0.911	0.905	0.958	0.986	0.987	**0.96**	**0.15**	**50**
ADM002	0.992	0.993	0.977	0.949	0.919	0.923	0.920	0.927	0.937	0.963	0.979	0.988	**0.96**	**0.07**	**50**
ADM003	0.994	0.995	0.966	0.952	0.866	0.838	0.835	0.886	0.899	0.946	0.987	0.988	**0.95**	**0.16**	**50**
ADM001	0.990	0.994	0.967	0.939	0.897	0.868	0.889	0.909	0.920	0.950	0.977	0.989	**0.94**	**0.13**	**50**
CMB003	0.987	0.982	0.963	0.950	0.875	0.811	0.843	0.879	0.883	0.933	0.959	0.982	**0.94**	**0.18**	**50**
GOR001	0.993	0.991	0.970	0.948	0.894	0.811	0.852	0.864	0.857	0.875	0.942	0.991	**0.92**	**0.18**	**50**
GYS004	0.925	0.958	0.938	0.896	0.925	0.908	0.763	0.729	0.715	0.748	0.891	0.899	**0.90**	**0.24**	**12**
NSQ002	0.991	0.981	0.961	0.922	0.863	0.786	0.760	0.811	0.796	0.823	0.898	0.965	**0.88**	**0.23**	**50**
BLL009	0.967	0.978	0.967	0.869	0.841	0.723	0.788	0.763	0.794	0.860	0.938	0.971	**0.86**	**0.26**	**10**
DNA001	0.981	0.980	0.951	0.904	0.851	0.729	0.745	0.763	0.787	0.805	0.872	0.944	**0.86**	**0.25**	**35**
WPA001	0.946	0.925	0.931	0.912	0.872	0.715	0.521	0.455	0.480	0.541	0.834	0.892	**0.85**	**0.49**	**9**
GYS016	0.908	0.918	0.835	0.795	0.593	0.828	0.815	0.661	0.837	0.694	0.792	0.845	**0.82**	**0.33**	**7**
SIN001	0.921	0.922	0.920	0.889	0.701	0.596	0.737	0.681	0.694	0.765	0.845	0.855	**0.81**	**0.33**	**14**
GYS008	0.911	0.919	0.883	0.880	0.809	0.750	0.768	0.634	0.699	0.683	0.769	0.898	**0.79**	**0.29**	**4**
WPA004	0.913	0.928	0.893	0.781	0.487	0.730	0.430	0.407	0.708	0.821	0.787	0.789	**0.78**	**0.52**	**7**
BUD005	0.941	0.957	0.930	0.889	0.690	0.484	0.268	0.201	0.482	0.751	0.807	0.900	**0.78**	**0.76**	**11**
OAK004	0.910	0.932	0.911	0.870	0.593	0.381	0.495	0.517	0.617	0.609	0.741	0.833	**0.68**	**0.55**	**10**
WPA003	0.901	0.896	0.865	0.852	0.603	0.381	0.266	0.406	0.427	0.523	0.708	0.815	**0.66**	**0.64**	**6**
WPA006	0.867	0.922	0.863	0.583	0.371	0.622	0.417	0.303	0.575	0.666	0.748	0.741	**0.64**	**0.62**	**13**
WPA008	0.860	0.905	0.829	0.807	0.394	0.398	0.302	0.307	0.378	0.412	0.705	0.804	**0.56**	**0.60**	**6**
WPA007	0.842	0.906	0.692	0.422	0.410	0.341	0.302	0.236	0.421	0.436	0.672	0.675	**0.43**	**0.67**	**7**

Table 7. Site-specific objectives listed for each month for the variable Nitrate Enrichment (uM L^{-1}) used in the Enrichment module *Explanation:* We sorted the table to reflect persistent environmental gradients. Seasonal range and maximum depth considered by the MWCI are included. In cases where stations are shallow, we selected a depth equal to the minimum low tide water line.

Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Median	Range	Depth (m)
GYS004	30.12	34.41	27.84	20.80	17.42	10.35	6.74	9.71	10.01	13.67	21.21	20.19	**18.81**	**27.67**	**12**
WPA001	42.67	36.63	22.42	29.50	11.12	3.75	0.82	2.23	2.99	8.02	22.69	31.69	**16.77**	**41.85**	**9**
GYS008	16.34	14.93	11.93	12.19	6.38	1.23	-0.95	4.19	1.40	9.10	7.61	16.03	**8.35**	**17.29**	**4**
WPA003	12.67	11.61	10.36	5.43	0.18	-0.54	-0.29	0.53	-1.20	0.62	7.01	6.56	**3.02**	**13.86**	**6**
WPA008	4.37	3.93	1.29	0.37	-0.11	-0.63	-0.26	-0.50	-1.98	-2.71	1.15	2.48	**0.13**	**7.08**	**6**
GYS016	-0.06	0.00	0.00	-0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.06**	**7**
WPA004	-0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.04	**0.00**	**0.12**	**7**
ADM002	2.29	1.26	0.13	-0.10	-2.03	-1.93	-2.58	-1.73	-2.97	-0.53	-0.43	-0.43	**-0.48**	**5.26**	**50**
PSS019	5.85	5.31	0.38	-0.93	-4.87	-6.18	-8.99	-8.69	-6.80	-0.04	-0.66	2.34	**-0.80**	**14.84**	**50**
WPA007	-0.57	0.56	-2.17	-1.60	-0.70	-0.64	-0.40	-0.58	-2.17	-2.63	-1.03	-4.34	**-0.87**	**4.90**	**7**
WPA006	-0.86	0.88	-1.95	-1.28	-0.74	-0.69	-0.27	-1.47	-2.04	-2.25	-0.81	-2.98	**-1.07**	**3.86**	**13**
GRG002	0.84	1.81	2.02	-1.62	-4.29	-6.59	-6.01	-5.39	-3.19	-1.50	0.66	1.21	**-1.56**	**8.60**	**50**
CMB003	4.10	5.88	4.60	3.39	-3.01	-6.66	-8.58	-5.72	-5.19	-4.25	-0.43	2.34	**-1.72**	**14.45**	**50**
ELB015	4.52	4.83	5.62	1.76	-2.99	-6.88	-9.12	-6.08	-5.45	-4.03	-0.88	3.43	**-1.93**	**14.74**	**50**
HCB004	3.32	-3.28	0.97	-1.97	-1.78	-3.84	-6.81	-5.07	-7.54	-1.53	0.95	-1.96	**-1.97**	**10.86**	**50**
PSB003	4.36	4.96	3.80	0.89	-3.69	-8.27	-10.63	-8.22	-5.27	-3.10	-1.19	1.40	**-2.15**	**15.59**	**29**
ADM003	3.95	4.69	1.61	-0.73	-3.47	-8.59	-12.60	-10.24	-10.43	-5.53	-1.95	1.25	**-2.71**	**17.29**	**50**
EAP001	4.88	5.11	3.64	0.68	-4.55	-9.16	-11.84	-8.36	-8.35	-4.28	-1.71	2.41	**-3.00**	**16.96**	**50**
ADM001	2.91	2.95	1.12	-2.29	-5.49	-6.20	-8.06	-5.48	-5.99	-3.72	-1.17	-0.54	**-3.00**	**11.01**	**50**
SAR003	6.07	4.26	-2.50	2.19	-1.62	-6.66	-11.19	-7.08	-11.07	-12.98	-3.97	1.94	**-3.24**	**19.05**	**50**
GOR001	4.89	5.71	3.39	-0.77	-6.65	-10.79	-9.33	-9.69	-10.77	-6.59	-2.50	4.67	**-4.54**	**16.50**	**50**
NSQ002	4.79	5.15	3.26	-3.62	-10.47	-14.25	-12.43	-11.58	-14.47	-10.22	-4.00	2.15	**-7.11**	**19.62**	**50**
DNA001	5.90	5.83	2.35	-3.13	-12.08	-14.69	-14.19	-14.30	-15.40	-11.60	-4.49	2.20	**-8.04**	**21.30**	**35**
SIN001	4.81	4.88	0.37	-5.59	-14.02	-18.03	-16.71	-14.83	-16.92	-10.67	-3.12	0.83	**-8.13**	**22.92**	**14**
BLL009	4.73	3.01	0.36	-8.30	-10.79	-16.98	-15.92	-15.36	-14.45	-8.50	0.37	3.14	**-8.40**	**21.71**	**10**
OAK004	7.21	6.76	1.63	-5.12	-17.50	-19.16	-20.82	-20.39	-20.67	-15.03	-3.48	2.44	**-10.08**	**28.04**	**10**
BUD005	5.16	6.95	2.79	-3.93	-16.56	-18.01	-21.43	-20.82	-21.67	-14.89	-6.27	-0.42	**-10.58**	**28.62**	**11**

Table 8. Site-specific objectives listed for each month for the variable Phosphate Enrichment (uM L^{-1}) used in the Enrichment module. *Explanation:* We sorted the table to reflect persistent environmental gradients. Seasonal range and maximum depth considered by the MWCI are included. In cases where stations are shallow, we selected a depth equal to the minimum low tide water line.

Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Median	Range	Depth (m)
HCB004	0.89	0.10	0.63	0.48	0.41	0.54	0.82	1.10	1.62	1.25	0.89	0.73	0.78	1.52	50
WPA007	0.16	0.10	-0.04	0.06	0.24	0.26	0.42	0.58	0.56	0.50	0.26	0.20	0.25	0.61	7
OAK004	0.75	0.57	0.26	-0.36	-0.95	-0.56	-0.16	0.18	0.22	0.41	0.50	0.81	0.24	1.76	10
GYS004	0.14	0.12	0.25	0.19	0.25	0.27	0.06	0.19	0.34	0.22	0.24	0.15	0.21	0.28	12
GYS008	0.17	0.08	0.10	0.22	0.25	0.00	-0.09	0.30	0.25	0.37	0.27	0.12	0.20	0.46	4
WPA008	0.12	0.12	0.06	0.01	0.18	0.21	0.37	0.57	0.59	0.53	0.21	0.16	0.19	0.59	6
BUD005	0.68	0.58	0.25	-0.18	-0.99	-0.01	-0.16	0.23	0.03	0.04	0.38	0.63	0.13	1.67	11
WPA006	0.11	0.06	-0.07	-0.04	0.12	0.08	0.20	0.21	0.16	0.10	0.19	0.13	0.12	0.27	13
ELB015	0.53	0.45	0.33	0.17	-0.26	-0.30	-0.32	-0.15	-0.05	0.05	0.29	0.36	0.11	0.85	50
CMB003	0.49	0.38	0.38	0.12	-0.02	-0.39	-0.43	0.01	-0.01	0.10	0.29	0.41	0.11	0.91	50
PSB003	0.62	0.50	0.35	0.08	-0.26	-0.31	-0.52	-0.35	-0.03	0.10	0.24	0.33	0.09	1.14	29
WPA001	0.05	0.10	0.11	0.14	0.06	-0.05	-0.08	0.00	0.06	0.19	0.11	0.11	0.08	0.27	9
WPA003	0.00	-0.01	0.05	0.00	0.11	0.07	0.05	0.11	0.28	0.24	0.03	0.03	0.05	0.28	6
NSQ002	0.58	0.60	0.38	-0.22	-0.63	-0.38	-0.36	-0.05	-0.20	0.14	0.34	0.43	0.04	1.23	50
DNA001	0.74	0.64	0.31	-0.18	-0.73	-0.36	-0.35	-0.08	-0.16	0.16	0.40	0.49	0.04	1.48	35
GOR001	0.66	0.59	0.41	-0.15	-0.34	-0.25	-0.35	-0.05	-0.15	0.07	0.30	0.42	0.01	1.01	50
ADM002	0.15	0.11	0.05	-0.07	-0.17	-0.02	-0.16	-0.02	-0.10	0.04	0.04	0.13	0.01	0.32	50
GYS016	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7
WPA004	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7
EAP001	0.59	0.42	0.39	-0.03	-0.26	-0.44	-0.65	-0.39	-0.32	0.03	0.18	0.35	0.00	1.24	50
PSS019	0.47	0.40	0.00	-0.04	-0.27	-0.21	-0.49	-0.32	-0.15	0.18	0.29	0.29	-0.02	0.96	50
ADM001	0.35	0.27	0.18	-0.10	-0.28	-0.28	-0.41	-0.18	-0.18	0.02	0.06	0.15	-0.04	0.76	50
GRG002	0.21	0.17	0.14	-0.15	-0.34	-0.39	-0.61	-0.34	-0.12	-0.03	0.13	0.10	-0.08	0.82	50
ADM003	0.55	0.40	0.20	-0.07	-0.38	-0.47	-0.60	-0.57	-0.38	-0.09	0.20	0.21	-0.08	1.15	50
SIN001	0.61	0.47	0.22	-0.51	-0.90	-0.40	-0.46	-0.17	-0.26	-0.03	0.36	0.46	-0.10	1.51	14
SAR003	0.50	0.43	-0.01	0.18	-0.19	-0.19	-0.55	-0.25	-0.48	-0.28	0.18	0.31	-0.10	1.05	50
BLL009	0.20	0.20	-0.19	-0.94	-0.84	-1.10	-0.90	-0.75	-0.36	-0.28	0.11	0.15	-0.32	1.30	10

Table 9. Site-specific objectives listed for each month for the variable Ammonium Enrichment (uM L^{-1}) used in the Enrichment module. *Explanation:* We sorted the table to reflect persistent environmental gradients. Seasonal range and maximum depth considered by the MWCI are included. In cases where stations are shallow, we selected a depth equal to the minimum low tide water line.

Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Median	Range	Depth (m)
WPA001	1.74	2.86	1.59	1.79	1.64	0.54	1.61	2.75	4.26	6.09	3.26	2.35	2.07	**5.56**	**9**
SIN001	1.99	1.77	1.51	0.12	1.31	2.77	1.96	1.41	2.10	2.57	4.43	4.00	1.97	**4.31**	**14**
GYS004	1.70	1.21	1.41	1.89	1.36	1.32	1.95	3.15	4.15	3.99	2.56	1.15	1.80	**3.00**	**12**
DNA001	0.24	0.17	0.62	0.41	0.41	1.72	2.04	1.29	1.53	2.46	2.02	1.14	1.21	**2.28**	**35**
GYS008	1.63	1.23	1.03	1.10	0.85	0.37	0.63	2.07	2.36	3.83	2.41	1.10	1.16	**3.46**	**4**
OAK004	2.33	1.59	1.36	0.41	-0.44	-0.07	-0.13	-0.64	0.75	5.09	5.70	4.28	1.06	**6.34**	**10**
WPA003	0.75	1.60	0.52	0.39	1.51	0.11	-0.01	1.01	0.93	3.41	2.20	0.95	0.94	**3.41**	**6**
BUD005	1.35	0.94	0.93	0.87	0.68	2.07	0.57	0.17	0.45	2.92	3.66	2.16	0.94	**3.50**	**11**
NSQ002	0.05	0.08	0.54	0.19	0.65	1.71	2.04	1.16	1.60	2.24	1.47	0.61	0.91	**2.20**	**50**
CMB003	0.28	0.40	0.50	-0.02	0.98	1.34	0.77	0.30	1.97	0.76	0.55	0.28	0.53	**1.98**	**50**
GOR001	0.01	-0.03	0.34	-0.18	0.41	1.61	1.59	0.87	1.42	1.35	0.59	0.07	0.50	**1.78**	**50**
BLL009	0.70	0.16	0.18	0.46	0.42	-0.31	0.03	0.10	1.41	1.96	1.23	0.50	0.44	**2.28**	**10**
WPA008	1.39	0.61	-0.12	0.16	0.19	0.09	-0.05	0.16	0.70	1.57	1.30	0.49	0.34	**1.70**	**6**
ADM001	0.08	-0.03	0.32	0.17	0.36	1.20	0.86	0.53	0.24	-0.03	0.03	0.09	0.21	**1.23**	**50**
PSB003	0.09	0.02	0.32	0.04	0.21	1.58	0.92	0.12	0.20	0.54	0.05	0.13	0.16	**1.55**	**29**
ADM002	0.00	-0.02	0.11	-0.03	0.37	0.50	0.71	0.43	0.28	-0.01	0.06	0.10	0.10	**0.74**	**50**
ADM003	0.02	-0.05	0.28	-0.18	0.08	1.06	0.67	0.03	0.14	0.13	0.04	0.12	0.10	**1.24**	**50**
ELB015	0.01	0.01	0.07	-0.16	0.68	1.08	2.03	-0.01	0.51	0.09	-0.08	0.27	0.08	**2.18**	**50**
PSS019	0.04	0.07	0.66	-0.35	0.11	0.44	0.11	-0.53	-0.55	-0.29	-0.03	0.11	0.05	**1.21**	**50**
GYS016	-0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.01**	**7**
WPA004	-0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	0.00	**0.02**	**7**
EAP001	-0.02	-0.05	0.11	-0.24	0.17	1.04	1.39	-0.34	-0.01	-0.45	0.10	0.00	-0.01	**1.83**	**50**
SAR003	0.04	-0.01	0.31	-0.47	-0.02	0.38	-0.14	-0.67	-0.44	-0.13	0.47	0.03	-0.02	**1.13**	**50**
GRG002	-0.01	-0.05	0.02	0.03	0.30	-0.37	-0.28	-0.39	-0.30	-0.39	0.38	0.06	-0.03	**0.77**	**50**
HCB004	-0.01	0.07	0.16	-0.23	0.24	-0.57	-0.09	-0.78	-0.51	-0.49	0.09	0.22	-0.05	**1.02**	**50**
WPA007	0.91	0.48	-0.35	-0.09	-0.45	-0.14	-0.01	-0.42	-0.12	0.41	1.01	-0.38	-0.10	**1.46**	**7**
WPA006	0.54	0.19	-0.36	-0.09	-0.23	-0.07	-0.59	-0.47	-0.47	0.02	0.90	-0.34	-0.16	**1.49**	**13**

Table 10. Site-specific objectives listed for each month for the ratio Dissolved Inorganic Nitrogen (DIN)-to-Phosphate used in the Impact module. *Explanation:* We sorted the table to reflect persistent environmental gradients. Seasonal range and maximum depth considered by the MWCI are included. In cases where stations are shallow, we selected a depth equal to the minimum low tide water line.

Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Median	Range	Depth (m)
WPA001	209.79	151.19	123.55	196.58	67.46	24.81	14.56	12.60	13.30	21.02	58.34	121.79	**63**	**197**	**9**
GYS004	120.55	168.82	103.88	75.39	66.25	37.42	27.52	26.34	24.05	29.10	56.32	98.47	**61**	**145**	**12**
GYS008	47.56	45.60	29.52	28.83	14.66	11.58	8.53	9.35	10.12	16.86	18.30	45.42	**18**	**39**	**4**
WPA003	52.72	41.75	40.00	34.32	10.01	3.13	1.36	2.68	5.38	10.42	22.01	24.80	**16**	**51**	**6**
ADM002	11.82	11.92	12.12	12.19	11.45	11.68	11.71	11.23	10.98	11.37	11.42	11.51	**12**	**1**	**50**
GRG002	11.32	11.78	12.08	11.57	11.10	9.85	10.02	10.54	10.50	11.04	11.39	11.60	**11**	**2**	**50**
ADM001	11.52	11.81	12.18	11.75	10.89	10.79	9.96	10.05	9.81	10.36	11.02	11.03	**11**	**2**	**50**
CMB003	11.62	12.50	12.46	12.37	11.71	10.73	9.73	9.75	10.00	9.94	10.57	11.05	**11**	**3**	**50**
ADM003	11.53	11.64	12.02	11.31	11.01	10.34	9.31	8.49	9.05	9.83	10.73	11.12	**11**	**4**	**50**
ELB015	10.89	11.51	12.43	11.97	11.57	10.85	10.08	9.30	9.02	9.69	10.77	11.25	**11**	**3**	**50**
PSB003	11.12	11.51	12.27	12.08	11.21	10.46	9.38	8.61	9.39	9.92	10.34	10.60	**11**	**4**	**29**
BLL009	13.26	12.38	14.07	11.01	9.40	5.81	5.82	5.72	6.36	10.01	11.70	11.89	**11**	**8**	**10**
PSS019	11.43	11.89	12.00	11.97	10.76	9.93	7.94	8.49	8.63	10.05	9.97	11.08	**10**	**4**	**50**
EAP001	11.17	11.82	12.05	11.64	10.58	10.10	8.97	8.74	8.77	9.62	9.87	10.86	**10**	**3**	**50**
SAR003	12.13	11.36	11.62	10.96	10.84	9.81	8.22	8.23	7.48	6.35	9.61	10.89	**10**	**6**	**50**
GOR001	11.11	11.36	11.94	11.75	10.39	9.37	8.67	7.71	7.80	9.23	9.57	11.51	**10**	**4**	**50**
SIN001	11.89	12.24	12.66	10.97	7.27	4.67	4.77	5.03	5.71	8.88	10.84	11.34	**10**	**8**	**14**
NSQ002	11.47	11.34	11.80	11.22	10.18	7.51	6.97	6.43	6.34	8.37	9.15	10.80	**10**	**5**	**50**
GYS016	17.52	16.46	10.94	9.61	6.77	6.72	6.56	6.04	8.83	9.50	9.70	17.60	**10**	**12**	**7**
DNA001	11.18	11.72	11.85	11.35	8.09	6.36	6.53	5.56	5.07	7.37	9.07	10.87	**9**	**7**	**35**
WPA008	25.57	19.92	13.24	21.01	2.13	0.90	0.77	1.00	2.16	3.17	13.82	14.79	**8**	**25**	**6**
OAK004	12.42	13.07	12.05	9.82	0.94	1.76	0.36	0.25	1.77	6.51	10.94	10.89	**8**	**13**	**10**
BUD005	11.38	12.49	12.18	10.72	5.47	5.02	1.01	0.69	1.60	6.70	9.31	11.12	**8**	**12**	**11**
HCB004	9.54	9.56	9.91	9.01	7.44	6.85	4.98	5.24	5.34	6.31	8.36	8.57	**8**	**5**	**50**
WPA004	17.67	15.11	20.45	7.00	4.38	2.98	1.56	2.09	5.54	7.47	12.59	13.69	**7**	**19**	**7**
WPA006	16.70	13.54	13.52	3.04	0.40	0.58	0.27	0.81	2.28	4.64	11.52	7.80	**4**	**16**	**13**
WPA007	18.48	14.22	4.74	1.13	0.88	0.46	0.38	0.58	1.25	2.84	11.06	5.39	**2**	**18**	**7**

Table 11. Site-specific objectives listed for each month for the ratio Silicate-to-Dissolved Inorganic Nitrogen (DIN) used in the Impact module. *Explanation:* We sorted the table to reflect persistent environmental gradients. Seasonal range and maximum depth considered by the MWCI are included. In cases where stations are shallow, we selected a depth equal to the minimum low tide water line.

Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Median	Range	Depth (m)
WPA007	4.35	5.63	40.46	117.68	66.71	122.89	86.22	30.60	15.73	10.80	5.17	10.73	23	119	**7**
WPA008	4.33	5.95	13.57	53.15	59.05	99.90	134.03	28.71	19.00	10.18	4.69	5.83	16	130	**6**
WPA006	4.02	5.16	9.39	78.19	190.67	127.36	238.33	29.77	12.16	9.46	3.94	7.21	11	234	**13**
WPA004	3.62	4.43	7.13	20.77	31.20	47.79	41.61	15.02	5.62	6.62	3.35	4.91	7	44	**7**
WPA003	3.56	4.51	5.55	7.08	17.40	39.93	74.52	12.83	7.06	5.39	3.62	4.07	6	71	**6**
GYS004	4.63	3.67	4.81	6.61	9.71	10.32	9.85	8.73	5.78	5.85	5.15	3.22	6	7	**12**
GYS016	4.70	4.16	6.71	9.66	17.84	6.56	8.87	5.80	4.17	4.63	3.44	5.06	5	14	**7**
GYS008	4.71	5.00	4.41	6.71	10.34	11.48	14.50	6.71	5.19	4.62	4.85	4.10	5	10	**4**
OAK004	3.38	3.55	4.14	5.70	31.46	13.08	124.94	112.38	17.35	4.26	3.16	2.54	5	122	**10**
WPA001	3.24	3.58	4.35	4.15	11.34	29.75	22.62	9.41	5.37	4.75	3.84	2.81	5	27	**9**
BUD005	2.66	2.74	2.70	3.58	11.08	4.59	190.55	196.28	69.62	4.24	2.85	2.63	4	194	**11**
HCB004	2.72	2.92	2.69	2.89	3.47	3.09	3.19	4.06	6.04	3.30	2.75	3.40	3	3	**50**
BLL009	2.08	2.09	2.34	2.55	3.15	17.06	11.20	5.50	4.23	2.95	2.13	2.02	3	15	**10**
SIN001	2.31	2.24	2.17	2.86	3.93	2.58	6.93	7.44	5.45	2.87	2.40	2.20	3	5	**14**
NSQ002	2.36	2.43	2.38	2.38	2.67	2.86	3.69	3.54	4.01	2.85	2.53	2.29	3	2	**50**
DNA001	2.40	2.51	2.45	2.51	3.31	2.28	3.33	3.94	5.09	3.17	2.59	2.43	3	3	**35**
SAR003	2.43	2.37	2.70	2.52	2.45	2.28	3.68	2.23	2.32	4.49	2.61	2.21	2	2	**50**
GOR001	2.26	2.34	2.34	2.41	2.20	2.18	2.71	3.00	2.89	2.51	2.38	2.40	2	1	**50**
PSS019	2.28	2.31	2.39	2.52	2.51	2.32	3.76	2.36	2.09	2.05	2.19	2.11	2	2	**50**
ADM003	2.17	2.21	2.25	2.31	2.30	2.23	3.09	2.29	2.35	2.29	2.16	2.06	2	1	**50**
ELB015	2.32	2.19	2.20	2.37	2.70	2.25	2.17	2.44	2.21	2.13	2.28	2.55	2	1	**50**
EAP001	2.13	2.23	2.19	2.31	2.41	2.16	2.39	2.48	2.47	2.06	2.19	2.24	2	0	**50**
PSB003	2.25	2.19	2.20	2.23	2.34	2.16	2.48	2.38	2.14	2.05	2.12	2.00	2	0	**29**
CMB003	2.35	2.43	2.31	2.22	2.12	1.97	2.02	2.16	2.26	2.14	2.31	2.16	2	0	**50**
ADM001	2.26	2.15	2.12	2.21	2.34	2.02	2.05	1.96	1.96	2.01	2.16	1.98	2	0	**50**
GRG002	2.05	2.06	2.01	1.89	1.98	2.44	2.68	2.45	2.22	2.03	1.95	2.01	2	1	**50**
ADM002	1.90	1.93	1.87	1.91	1.92	1.74	1.89	1.86	1.85	1.90	1.98	1.88	2	0	**50**

Table 12. Site-specific objectives listed for each month for the variable Chlorophyll-a content (mg Chl *a* m^{-2}) used in the Impact module. *Explanation:* We sorted the table to reflect persistent environmental gradients. Seasonal range and maximum depth considered by the MWCI are included. In cases where stations are shallow, we selected a depth equal to the minimum low tide water line.

Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Median	Range	Depth (m)
HCB004	37.6	185.2	144.5	189.8	254.2	191.9	265.6	252.9	194.2	135.4	113.6	26.8	**188**	**239**	**50**
SAR003	30.2	32.3	110.5	151.3	189.7	167.0	149.1	261.8	206.0	159.6	97.4	26.7	**150**	**235**	**50**
DNA001	18.3	26.3	47.0	187.2	385.8	114.9	128.4	232.1	192.6	154.1	68.7	27.7	**122**	**367**	**35**
PSS019	23.4	37.2	170.5	121.2	224.6	111.6	164.3	259.6	177.8	69.9	27.6	23.9	**116**	**236**	**50**
BUD005	10.6	16.7	21.8	96.1	235.0	128.2	330.0	346.6	360.2	232.8	47.1	8.4	**112**	**352**	**11**
NSQ002	20.2	20.4	41.9	114.5	419.0	95.1	229.1	291.6	245.4	191.6	63.6	25.3	**105**	**399**	**50**
ADM001	18.6	27.9	49.3	74.2	237.1	158.9	282.2	195.0	163.8	109.1	23.2	23.1	**92**	**264**	**50**
GOR001	3.9	27.2	49.6	101.4	281.0	78.0	144.9	248.0	235.8	106.8	35.5	18.1	**90**	**277**	**50**
SIN001	9.8	20.6	47.4	120.5	176.0	122.8	89.8	125.7	166.9	64.9	20.5	6.5	**77**	**169**	**14**
WPA006	22.3	35.7	53.5	76.3	77.8	89.5	122.3	123.5	104.1	85.9	37.4	19.8	**77**	**104**	**13**
GRG002	24.4	23.9	69.4	83.2	128.6	105.9	109.7	129.3	123.8	60.4	18.2	13.2	**76**	**116**	**50**
ELB015	14.6	18.9	42.1	69.2	110.4	107.6	115.8	142.9	120.6	70.2	19.1	15.6	**70**	**128**	**50**
EAP001	11.2	20.7	45.5	77.0	294.2	57.4	164.7	242.6	322.4	155.3	28.6	21.7	**67**	**311**	**50**
ADM003	14.8	47.4	49.5	39.6	224.6	124.5	139.2	196.8	130.0	79.6	17.1	16.2	**65**	**210**	**50**
BLL009	7.3	15.5	48.6	117.3	83.9	85.0	73.1	97.0	91.0	22.6	14.5	3.7	**61**	**114**	**10**
CMB003	13.3	20.1	43.3	97.3	116.7	57.9	98.6	153.1	123.0	63.7	10.9	9.3	**61**	**144**	**50**
WPA004	10.3	16.5	28.2	57.0	56.3	57.1	68.2	62.2	51.8	64.5	21.4	10.3	**54**	**58**	**7**
PSB003	7.9	22.4	26.8	55.7	171.0	100.2	105.5	149.2	136.8	38.0	12.3	8.0	**47**	**163**	**29**
ADM002	17.0	14.8	36.5	38.3	97.5	45.9	159.4	131.9	95.5	55.2	24.1	18.6	**42**	**145**	**50**
OAK004	8.2	18.6	24.2	40.3	102.4	103.8	115.0	118.4	100.1	41.7	25.1	12.2	**41**	**110**	**10**
GYS016	13.5	13.1	23.9	43.9	32.1	51.2	62.0	54.8	57.9	47.2	19.5	7.4	**38**	**55**	**7**
WPA001	15.8	12.5	24.8	25.3	54.2	89.8	69.5	80.5	64.4	38.0	22.7	19.2	**32**	**77**	**9**
WPA007	13.2	16.1	25.9	31.3	31.1	35.1	41.8	44.2	46.4	38.9	18.9	11.8	**31**	**35**	**7**
WPA003	8.6	16.3	23.9	40.5	38.5	40.6	53.9	39.4	35.2	24.0	19.2	7.8	**30**	**46**	**6**
WPA008	11.7	9.5	19.2	29.7	35.2	34.8	41.6	45.9	38.6	27.8	17.2	9.0	**29**	**37**	**6**
GYS004	12.9	16.5	18.5	23.3	43.8	39.7	65.5	77.9	43.7	23.9	28.2	8.1	**26**	**70**	**12**
GYS008	5.1	7.8	10.5	14.3	22.7	22.9	38.8	29.7	19.5	17.0	14.0	5.8	**16**	**34**	**4**

Table 13. Number of replicates that we used to develop our baseline for Nitrate, Phosphate, and Nitrate: DIN ratio.

	Nitrate (µM L-1)													Phosphate (µM L-1)													NO3 : DIN											
Station/Month	1	2	3	4	5	6	7	8	9	10	11	12	**Avg.**	1	2	3	4	5	6	7	8	9	10	11	12	**Avg.**	1	2	3	4	5	6	7	8	9	10	11	12	**Avg.**
ADM001	5	7	10	9	7	10	8	9	9	6	6	2	**7.3**	5	7	10	9	7	10	8	9	9	6	6	2	**7.3**	5	7	10	9	7	10	8	9	9	6	6	2	**7.3**
ADM002	5	5	9	5	8	8	7	5	9	8	4	3	**6.3**	5	5	9	5	8	8	7	5	9	8	4	3	**6.3**	5	5	9	5	8	8	7	5	9	8	4	3	**6.3**
ADM003	5	7	7	9	9	10	10	9	10	5	5	3	**7.4**	5	7	7	9	9	10	10	9	10	5	5	3	**7.4**	5	7	7	9	9	10	10	9	10	5	5	3	**7.4**
BLL009	4	6	9	10	10	9	9	10	9	8	4	5	**7.8**	4	6	9	10	10	9	9	10	9	8	4	5	**7.8**	4	6	9	10	10	9	9	10	9	8	4	5	**7.8**
BUD005	6	9	9	10	10	10	8	9	8	9	4	7	**8.3**	6	9	9	10	10	10	9	10	8	9	4	7	**8.4**	6	9	9	10	10	10	8	9	8	9	4	7	**8.3**
CMB003	5	10	8	10	10	10	9	10	8	9	4	7	**8.3**	5	10	8	10	10	10	9	10	8	9	4	7	**8.3**	5	10	8	10	10	10	9	10	8	9	4	7	**8.3**
DNA001	4	6	8	8	6	9	7	9	9	6	4	3	**6.6**	4	6	8	8	6	9	7	9	9	6	4	3	**6.6**	4	6	8	8	6	9	7	9	9	6	4	3	**6.6**
EAP001	4	6	8	10	8	10	9	9	7	5	5	2	**6.9**	4	6	8	10	8	10	9	9	7	5	5	2	**6.9**	4	6	8	10	8	10	9	9	7	5	5	2	**6.9**
ELB015	6	8	10	10	8	9	9	10	10	8	4	3	**7.9**	6	8	10	10	8	9	9	10	10	8	4	3	**7.9**	6	8	10	10	8	9	9	10	10	8	4	3	**7.9**
GOR001	3	5	9	8	7	9	8	8	10	5	4	2	**6.5**	3	5	9	8	7	9	8	8	10	5	4	2	**6.5**	3	5	9	8	7	9	8	8	10	5	4	2	**6.5**
GRG002	1	4	8	9	9	10	7	5	8	7	4	2	**6.2**	1	4	8	9	9	10	7	5	8	7	4	2	**6.2**	1	4	8	9	9	10	7	5	8	7	4	2	**6.2**
GYS004	4	7	8	9	9	9	9	9	10	6	7	4	**7.6**	4	7	8	9	9	9	9	9	10	6	7	4	**7.6**	4	7	8	9	9	9	9	9	10	6	7	4	**7.6**
GYS008	4	9	8	9	9	9	8	9	10	7	6	4	**7.7**	4	9	8	9	9	10	8	9	10	7	6	4	**7.8**	4	9	8	9	9	9	8	9	10	7	6	4	**7.7**
GYS016	4	8	8	9	9	10	9	8	10	8	5	2	**7.5**	4	8	8	9	9	10	9	8	10	8	5	2	**7.5**	4	8	8	9	9	10	9	8	10	8	5	2	**7.5**
HCB004	4	9	10	10	9	10	9	10	9	8	5	5	**8.2**	4	9	10	10	10	10	9	10	9	8	5	5	**8.3**	4	9	10	10	9	10	9	10	9	8	5	5	**8.2**
NSQ002	3	6	9	8	7	9	9	8	9	7	4	4	**6.9**	3	6	9	8	7	9	9	8	9	7	4	4	**6.9**	3	6	9	8	7	9	9	8	9	7	4	4	**6.9**
OAK004	4	10	8	10	8	9	7	7	6	9	4	5	**7.3**	4	10	8	10	10	10	8	10	8	9	4	5	**8.0**	4	10	8	10	8	9	7	7	6	9	4	5	**7.3**
PSB003	5	6	9	10	9	9	10	10	10	7	6	3	**7.8**	5	6	9	10	9	9	10	10	10	7	6	3	**7.8**	5	6	9	10	9	9	10	10	10	7	6	3	**7.8**
PSS019	4	6	8	9	10	10	8	10	9	6	5	5	**7.5**	4	6	8	9	10	10	8	10	9	6	5	5	**7.5**	4	6	8	9	10	10	8	10	9	6	5	5	**7.5**
SAR003	3	7	8	10	10	10	8	9	8	7	5	3	**7.3**	3	7	8	10	10	10	8	9	8	7	5	3	**7.3**	3	7	8	10	10	10	8	9	8	7	5	3	**7.3**
SIN001	4	8	8	10	10	9	9	10	8	7	5	8	**8.0**	4	8	8	10	10	9	9	10	8	7	5	8	**8.0**	4	8	8	10	10	9	9	10	8	7	5	8	**8.0**
WPA001	4	5	6	7	10	9	9	8	7	7	6	2	**6.7**	4	5	6	7	10	9	9	8	7	7	6	2	**6.7**	4	5	6	7	10	9	9	8	7	7	6	2	**6.7**
WPA003	4	5	5	6	9	8	7	9	6	8	6	1	**6.2**	4	5	5	6	10	9	8	9	6	8	6	1	**6.4**	4	5	5	6	9	8	7	9	6	8	6	1	**6.2**
WPA004	4	5	9	7	8	8	8	9	9	8	7	1	**6.9**	4	5	9	7	10	9	9	9	9	8	7	1	**7.3**	4	5	9	7	8	8	8	9	9	8	7	1	**6.9**
WPA006	4	5	8	8	5	8	5	8	8	8	7	1	**6.3**	4	5	8	8	8	9	5	8	9	8	7	1	**6.7**	4	5	8	8	5	8	5	8	8	8	7	1	**6.3**
WPA007	4	6	7	7	5	7	7	8	9	8	6	1	**6.3**	4	6	7	7	9	10	9	9	9	8	6	1	**7.1**	4	6	7	7	5	7	7	8	9	8	6	1	**6.3**
WPA008	4	4	6	7	8	6	7	9	9	8	7	1	**6.3**	4	4	6	7	10	10	8	9	9	8	7	1	**6.9**	4	4	6	7	8	6	7	9	9	8	7	1	**6.3**
Avg.	**4**	**7**	**8**	**9**	**8**	**9**	**8**	**9**	**9**	**7**	**5**	**3**	**7.2**	**4**	**7**	**8**	**9**	**9**	**9**	**8**	**9**	**9**	**7**	**5**	**3**	**7.3**	**4**	**7**	**8**	**9**	**8**	**9**	**8**	**9**	**9**	**7**	**5**	**3**	**7.2**

Table 14. Number of replicates that we used to develop our baseline for the enrichment of Nitrate, Phosphate, and Ammonium.

	NO3 Enrichment													PO4 Enrichment													NH4 Enrichment											
Station/Month	1	2	3	4	5	6	7	8	9	10	11	12	**Avg.**	1	2	3	4	5	6	7	8	9	10	11	12	**Avg.**	1	2	3	4	5	6	7	8	9	10	11	12	**Avg.**
ADM001	5	7	10	8	7	9	8	8	9	5	6	2	**7.0**	5	7	10	8	7	9	8	8	9	5	6	2	**7.0**	5	7	10	8	7	9	8	8	9	5	6	2	**7.0**
ADM002	5	5	9	5	8	8	6	5	9	8	4	3	**6.3**	5	5	9	5	8	8	6	5	9	8	4	3	**6.3**	5	5	9	5	8	8	6	5	9	8	4	3	**6.3**
ADM003	5	7	7	8	9	9	10	9	10	5	5	3	**7.3**	5	7	7	8	9	9	10	9	10	5	5	3	**7.3**	5	7	7	8	9	9	10	9	10	5	5	3	**7.3**
BLL009	4	6	9	9	10	9	9	10	9	8	4	5	**7.7**	4	6	9	9	10	9	9	10	9	8	4	5	**7.7**	4	6	9	9	10	9	9	10	9	8	4	5	**7.7**
BUD005	6	9	9	10	10	9	9	10	7	7	4	7	**8.1**	6	9	9	10	10	9	9	10	7	7	4	7	**8.1**	6	9	9	10	10	9	9	10	7	7	4	7	**8.1**
CMB003	5	9	8	9	10	10	9	10	7	8	4	7	**8.0**	5	9	8	9	10	10	9	10	7	8	4	7	**8.0**	5	9	8	9	10	10	9	10	7	8	4	7	**8.0**
DNA001	4	6	8	7	6	9	7	9	9	6	4	3	**6.5**	4	6	8	7	6	9	7	9	9	6	4	3	**6.5**	4	6	8	7	6	9	7	9	9	6	4	3	**6.5**
EAP001	4	6	8	10	8	10	9	9	7	5	5	2	**6.9**	4	6	8	10	8	10	9	9	7	5	5	2	**6.9**	4	6	8	10	8	10	9	9	7	5	5	2	**6.9**
ELB015	6	8	10	10	8	9	9	10	10	7	3	3	**7.8**	6	8	10	10	8	9	9	10	10	7	3	3	**7.8**	6	8	10	10	8	9	9	10	10	7	3	3	**7.8**
GOR001	3	5	9	8	7	9	8	8	10	5	4	2	**6.5**	3	5	9	8	7	9	8	8	10	5	4	2	**6.5**	3	5	9	8	7	9	8	8	10	5	4	2	**6.5**
GRG002	1	4	8	9	9	10	7	5	8	7	4	2	**6.2**	1	4	8	9	9	10	7	5	8	7	4	2	**6.2**	1	4	8	9	9	10	7	5	8	7	4	2	**6.2**
GYS004	4	7	7	9	9	9	9	8	10	5	6	4	**7.3**	4	7	7	9	9	9	9	8	10	5	6	4	**7.3**	4	7	7	9	9	9	9	8	10	5	6	4	**7.3**
GYS008	4	8	7	9	8	10	6	7	10	7	5	2	**6.9**	4	8	7	9	8	10	6	7	10	7	5	2	**6.9**	4	8	7	9	8	10	6	7	10	7	5	2	**6.9**
GYS016	4	8	7	9	8	9	9	8	10	8	4	2	**7.2**	4	8	7	9	8	9	9	8	10	8	4	2	**7.2**	4	8	7	9	8	9	9	8	10	8	4	2	**7.2**
HCB004	4	8	10	10	10	9	9	10	9	7	5	5	**8.0**	4	8	10	10	10	9	9	10	9	7	5	5	**8.0**	4	8	10	10	10	9	9	10	9	7	5	5	**8.0**
NSQ002	3	5	9	8	6	9	9	8	9	7	4	4	**6.8**	3	5	9	8	6	9	9	8	9	7	4	4	**6.8**	3	5	9	8	6	9	9	8	9	7	4	4	**6.8**
OAK004	4	10	8	10	10	9	8	10	8	7	4	5	**7.8**	4	10	8	10	10	9	8	10	8	7	4	5	**7.8**	4	10	8	10	10	9	8	10	8	7	4	5	**7.8**
PSB003	5	6	9	10	8	8	9	10	10	7	5	3	**7.5**	5	6	9	10	8	8	9	10	10	7	5	3	**7.5**	5	6	9	10	8	8	9	10	10	7	5	3	**7.5**
PSS019	4	6	8	8	10	10	8	10	9	5	5	5	**7.3**	4	6	8	8	10	10	8	10	9	5	5	5	**7.3**	4	6	8	8	10	10	8	10	9	5	5	5	**7.3**
SAR003	3	7	7	8	10	10	8	9	8	5	5	3	**6.9**	3	7	7	8	10	10	8	9	8	5	5	3	**6.9**	3	7	7	8	10	10	8	9	8	5	5	3	**6.9**
SIN001	4	8	8	10	9	9	9	10	7	6	4	8	**7.7**	4	8	8	10	9	9	9	10	7	6	4	8	**7.7**	4	8	8	10	9	9	9	10	7	6	4	8	**7.7**
WPA001	4	5	5	6	9	9	8	7	7	7	6	2	**6.3**	4	5	5	6	9	9	8	7	7	7	6	2	**6.3**	4	5	5	6	9	9	8	7	7	7	6	2	**6.3**
WPA003	3	5	5	5	9	9	8	9	6	7	6	1	**6.1**	3	5	5	5	9	9	8	9	6	7	6	1	**6.1**	3	5	5	5	9	9	8	9	6	7	6	1	**6.1**
WPA004	4	5	8	7	9	9	8	9	9	7	6	1	**6.8**	4	5	8	7	9	9	8	9	9	7	6	1	**6.8**	4	5	8	7	9	9	8	9	9	7	6	1	**6.8**
WPA006	4	5	7	8	7	9	5	8	8	7	5	1	**6.2**	4	5	7	8	7	9	5	8	8	7	5	1	**6.2**	4	5	7	8	7	9	5	8	8	7	5	1	**6.2**
WPA007	4	6	6	7	9	10	7	9	8	7	6	1	**6.7**	4	6	6	7	9	10	7	9	8	7	6	1	**6.7**	4	6	6	7	9	10	7	9	8	7	6	1	**6.7**
WPA008	4	4	5	7	9	10	8	9	8	7	6	1	**6.5**	4	4	5	7	9	10	8	9	8	7	6	1	**6.5**	4	4	5	7	9	10	8	9	8	7	6	1	**6.5**
Avg.	**4**	**6**	**8**	**8**	**9**	**9**	**8**	**9**	**9**	**7**	**5**	**3**	**7.0**	**4**	**6**	**8**	**8**	**9**	**9**	**8**	**9**	**9**	**7**	**5**	**3**	**7.0**	**4**	**6**	**8**	**8**	**9**	**9**	**8**	**9**	**9**	**7**	**5**	**3**	**7.0**

Table 15. Number of replicates that we used to develop our baseline for Chlorophyll-a and ratios in Nitrogen:Phosphate and Silicate:DIN.

	DIN: PO4													SI(OH)4: DIN													Chl a (mg m-2)											
Station/Month	1	2	3	4	5	6	7	8	9	10	11	12	**Avg.**	1	2	3	4	5	6	7	8	9	10	11	12	**Avg.**	1	2	3	4	5	6	7	8	9	10	11	12	**Avg.**
ADM001	5	7	10	9	7	10	8	9	9	6	6	2	**7.3**	5	7	10	9	7	10	8	9	9	6	6	2	**7.3**	3	7	9	7	7	8	9	9	7	6	6	3	**6.8**
ADM002	5	5	9	5	8	8	7	5	9	8	4	3	**6.3**	5	5	9	5	8	8	7	5	9	8	4	3	**6.3**	4	6	8	5	8	6	6	5	8	7	4	3	**5.8**
ADM003	5	7	7	9	9	10	10	9	10	5	5	3	**7.4**	5	7	7	9	9	10	10	9	10	5	5	3	**7.4**	4	7	7	7	9	7	10	9	9	6	5	3	**6.9**
BLL009	4	6	9	10	10	9	9	10	9	8	4	5	**7.8**	4	6	9	10	10	9	9	10	9	8	4	5	**7.8**	4	5	8	9	8	7	9	10	9	9	4	5	**7.3**
BUD005	6	9	9	10	10	10	9	10	8	9	4	7	**8.4**	6	9	9	10	10	10	9	10	8	9	4	7	**8.4**	6	9	8	9	9	7	9	10	8	9	4	6	**7.8**
CMB003	5	10	8	10	10	10	9	10	8	9	4	7	**8.3**	5	10	8	10	10	10	9	10	8	9	4	7	**8.3**	5	9	6	8	9	8	9	10	8	9	4	7	**7.7**
DNA001	4	6	8	8	6	9	7	9	9	6	4	3	**6.6**	4	6	8	8	6	9	7	9	9	6	4	3	**6.6**	4	8	7	6	7	7	8	9	8	6	5	4	**6.6**
EAP001	4	6	8	10	8	10	9	9	7	5	5	2	**6.9**	4	6	8	10	8	10	9	9	7	5	5	2	**6.9**	4	8	7	9	9	8	10	10	6	5	6	4	**7.2**
ELB015	6	8	10	10	8	9	9	10	10	8	4	3	**7.9**	6	8	10	10	8	9	9	10	10	8	4	3	**7.9**	5	9	9	9	9	8	9	10	10	8	5	3	**7.8**
GOR001	3	5	9	8	7	9	8	8	10	5	4	2	**6.5**	3	5	9	8	7	9	8	8	10	5	4	2	**6.5**	3	7	7	7	8	7	9	9	9	5	4	3	**6.5**
GRG002	1	4	8	9	9	10	7	5	8	7	4	2	**6.2**	1	4	8	9	9	10	7	5	8	7	4	2	**6.2**	3	5	7	8	7	8	7	4	8	7	4	2	**5.8**
GYS004	4	7	8	9	9	9	9	9	10	6	7	4	**7.6**	4	7	8	9	9	9	9	9	10	6	7	4	**7.6**	4	7	6	8	7	8	9	8	10	4	7	4	**6.8**
GYS008	4	9	8	9	9	10	8	9	10	7	6	4	**7.8**	4	9	8	9	9	10	8	9	10	7	6	4	**7.8**	3	8	6	8	8	8	7	7	10	6	7	5	**6.9**
GYS016	4	8	8	9	9	10	9	8	10	8	5	2	**7.5**	4	8	8	9	9	10	9	8	10	8	5	2	**7.5**	4	8	6	8	7	8	9	8	10	6	5	3	**6.8**
HCB004	4	9	10	10	10	10	9	10	9	8	5	5	**8.3**	4	9	10	10	10	10	9	10	9	8	5	5	**8.3**	3	8	9	9	9	8	9	10	9	8	5	5	**7.7**
NSQ002	3	6	9	8	7	9	9	8	9	7	4	4	**6.9**	3	6	9	8	7	9	9	8	9	7	4	4	**6.9**	3	7	7	7	7	7	10	9	8	7	5	4	**6.8**
OAK004	4	10	8	10	10	10	8	10	8	9	4	5	**8.0**	4	10	8	10	10	10	8	10	8	9	4	5	**8.0**	4	9	7	9	9	7	9	10	8	8	4	4	**7.3**
PSB003	5	6	9	10	9	9	10	10	10	7	6	3	**7.8**	5	6	9	10	9	9	10	10	10	7	6	3	**7.8**	4	7	8	9	8	5	9	10	8	7	5	3	**6.9**
PSS019	4	6	8	9	10	10	8	10	9	6	5	5	**7.5**	4	6	8	9	10	10	8	10	9	6	5	5	**7.5**	4	6	7	9	8	8	8	10	9	5	5	5	**7.0**
SAR003	3	7	8	10	10	10	8	9	8	7	5	3	**7.3**	3	7	8	10	10	10	8	9	8	7	5	3	**7.3**	4	7	5	9	8	8	9	10	8	6	6	4	**7.0**
SIN001	4	8	8	10	10	9	9	10	8	7	5	8	**8.0**	4	8	8	10	10	9	9	10	8	7	5	8	**8.0**	5	7	7	9	8	7	9	10	8	7	4	7	**7.3**
WPA001	4	5	6	7	10	9	9	8	7	7	6	2	**6.7**	4	5	6	7	10	9	9	8	7	7	6	2	**6.7**	3	5	5	5	8	8	7	7	7	5	7	1	**5.7**
WPA003	4	5	5	6	10	9	8	9	6	8	6	1	**6.4**	4	5	5	6	10	9	8	9	6	8	6	1	**6.4**	4	5	5	5	8	8	8	9	7	6	6	2	**6.1**
WPA004	4	5	9	7	10	9	9	9	9	8	7	1	**7.3**	4	5	9	7	10	9	9	9	9	8	7	1	**7.3**	4	6	7	6	8	8	9	8	9	6	7	2	**6.7**
WPA006	4	5	8	8	8	9	5	8	9	8	7	1	**6.7**	4	5	8	8	8	9	5	8	9	8	7	1	**6.7**	4	5	7	7	6	8	7	8	8	6	7	2	**6.3**
WPA007	4	6	7	7	9	10	9	9	9	8	6	1	**7.1**	4	6	7	7	9	10	9	9	9	8	6	1	**7.1**	4	6	6	7	8	8	8	8	8	6	5	2	**6.3**
WPA008	4	4	6	7	10	10	8	9	9	8	7	1	**6.9**	4	4	6	7	10	10	8	9	9	8	7	1	**6.9**	4	4	5	6	8	8	9	9	8	6	7	3	**6.4**
Avg.	**4**	**7**	**8**	**9**	**9**	**9**	**8**	**9**	**9**	**7**	**5**	**3**	**7.3**	**4**	**7**	**8**	**9**	**9**	**9**	**8**	**9**	**9**	**7**	**5**	**3**	**7.3**	**4**	**7**	**7**	**8**	**8**	**8**	**9**	**9**	**8**	**7**	**5**	**4**	**6.8**

Table 16. Replicates to develop baseline for Thermal Energy, Potential Energy, and Dissolved Oxygen.

	Thermal Energy (GJ m-2)													-Potential Energy (KJ m-2)													Dissolved Oxygen (Kg m-2)												
Station/Month	1	2	3	4	5	6	7	8	9	10	11	12	**Avg.**	1	2	3	4	5	6	7	8	9	10	11	12	**Avg.**	1	2	3	4	5	6	7	8	9	10	11	12	**Avg.**
ADM001	6	8	10	8	9	9	9	9	10	6	7	3	**7.8**	6	8	10	8	9	9	9	9	10	6	7	3	**7.8**	6	8	10	8	9	9	9	10	10	6	7	3	**7.9**
ADM002	7	7	9	5	9	8	6	5	9	8	5	3	**6.8**	7	7	9	5	9	8	6	5	9	8	5	3	**6.8**	7	7	9	5	9	8	6	5	9	8	5	3	**6.8**
ADM003	7	8	8	8	10	9	10	9	10	6	6	3	**7.8**	7	8	8	8	10	9	10	9	10	6	6	3	**7.8**	7	8	8	8	10	9	10	9	10	6	6	3	**7.8**
BLL009	5	6	9	9	10	9	9	10	9	9	4	6	**7.9**	5	6	9	9	10	9	9	10	9	9	4	6	**7.9**	5	6	9	9	9	9	9	9	9	9	4	6	**7.8**
BUD005	7	10	9	10	10	9	9	10	7	8	4	7	**8.3**	7	10	9	10	10	9	9	10	7	8	4	7	**8.3**	7	10	9	10	10	9	9	10	7	8	4	7	**8.3**
CMB003	7	10	8	9	10	10	9	10	7	9	5	9	**8.6**	7	10	8	9	10	10	9	10	7	9	5	9	**8.6**	7	10	8	9	10	10	9	10	7	9	5	9	**8.6**
DNA001	8	10	9	7	7	9	8	9	9	7	6	5	**7.8**	8	10	9	7	7	9	8	9	9	7	6	5	**7.8**	8	10	9	7	7	9	8	9	9	7	6	5	**7.8**
EAP001	9	9	8	10	9	10	10	10	7	5	8	5	**8.3**	9	9	8	10	9	10	10	10	7	5	8	5	**8.3**	9	9	8	10	9	10	10	10	7	5	8	5	**8.3**
ELB015	7	10	10	10	9	9	9	10	10	8	6	5	**8.6**	7	10	10	10	9	9	9	10	10	8	6	5	**8.6**	7	10	10	10	9	9	9	10	10	8	6	5	**8.6**
GOR001	8	9	9	8	8	9	9	9	10	6	6	3	**7.8**	8	9	9	8	8	9	9	9	10	6	6	3	**7.8**	8	9	9	8	8	9	9	9	10	6	6	3	**7.8**
GRG002	4	5	9	9	9	10	7	5	8	7	4	3	**6.7**	4	5	9	9	9	10	7	5	8	7	4	3	**6.7**	4	5	9	9	8	10	7	5	8	7	4	3	**6.6**
GYS004	5	6	7	9	9	10	9	8	10	5	7	4	**7.4**	5	6	7	9	9	10	9	8	10	5	7	4	**7.4**	5	7	7	9	9	10	9	8	10	5	7	4	**7.5**
GYS008	5	8	7	9	9	9	6	7	8	7	6	3	**7.0**	5	8	7	9	9	9	6	7	8	7	6	3	**7.0**	5	8	7	9	9	10	7	7	10	7	6	3	**7.3**
GYS016	5	9	7	9	9	9	8	8	10	8	5	3	**7.5**	5	9	7	9	9	9	8	8	10	8	5	3	**7.5**	5	9	7	9	9	9	9	8	10	8	5	3	**7.6**
HCB004	5	8	10	10	10	9	9	10	9	8	6	6	**8.3**	5	8	10	10	10	9	9	10	9	8	6	6	**8.3**	5	8	10	10	10	9	9	10	9	8	6	6	**8.3**
NSQ002	7	9	9	8	7	9	10	9	9	7	7	5	**8.0**	7	9	9	8	7	9	10	9	9	7	7	5	**8.0**	7	9	9	8	7	9	10	9	9	7	7	5	**8.0**
OAK004	6	10	8	10	10	9	9	10	8	8	5	6	**8.3**	6	10	8	10	10	9	9	10	8	8	5	6	**8.3**	6	10	8	10	10	9	9	10	8	8	5	6	**8.3**
PSB003	8	8	9	10	9	8	9	10	10	7	5	4	**8.1**	8	8	9	10	9	8	9	10	10	7	5	4	**8.1**	8	8	9	10	9	8	9	9	10	7	5	4	**8.0**
PSS019	6	8	9	9	10	10	8	10	9	6	5	6	**8.0**	6	8	9	9	10	10	8	10	9	6	5	6	**8.0**	6	8	9	9	9	10	8	10	9	6	5	6	**7.9**
SAR003	6	7	9	8	10	10	9	10	9	6	6	5	**7.9**	6	7	9	8	10	10	9	10	9	6	6	5	**7.9**	6	7	9	8	9	10	9	10	9	6	6	5	**7.8**
SIN001	6	9	8	10	9	9	9	10	7	7	4	8	**8.0**	6	9	8	10	9	9	9	10	7	7	4	8	**8.0**	6	9	8	10	9	9	9	10	7	7	4	8	**8.0**
WPA001	5	5	6	7	9	9	8	7	7	7	7	2	**6.6**	5	5	6	7	9	9	8	7	7	7	7	2	**6.6**	5	5	6	7	9	9	8	7	7	7	7	2	**6.6**
WPA003	5	5	6	7	9	9	8	8	7	7	6	2	**6.6**	5	5	6	7	9	9	8	8	7	7	6	2	**6.6**	5	5	6	7	9	9	8	9	7	7	6	2	**6.7**
WPA004	5	6	8	7	9	9	8	9	9	7	7	2	**7.2**	5	6	8	7	9	9	8	9	9	7	7	2	**7.2**	5	6	8	7	9	9	8	9	9	7	7	2	**7.2**
WPA006	5	5	8	8	7	9	6	8	8	7	7	2	**6.7**	5	5	8	8	7	9	6	8	8	7	7	2	**6.7**	5	5	8	8	7	9	6	8	8	7	6	2	**6.6**
WPA007	5	6	8	8	9	10	7	9	8	7	6	2	**7.1**	5	6	8	8	9	10	7	9	8	7	6	2	**7.1**	5	6	8	8	9	10	8	9	8	7	6	2	**7.2**
WPA008	5	4	6	8	9	10	9	9	8	7	7	3	**7.1**	5	4	6	8	9	10	9	9	8	7	7	3	**7.1**	5	4	6	8	9	10	9	9	8	7	6	3	**7.0**
Avg.	**6**	**8**	**8**	**9**	**9**	**9**	**8**	**9**	**9**	**7**	**6**	**4**	**7.6**	**6**	**8**	**8**	**9**	**9**	**9**	**8**	**9**	**9**	**7**	**6**	**4**	**7.6**	**6**	**8**	**8**	**9**	**9**	**9**	**9**	**9**	**9**	**7**	**6**	**4**	**7.6**