

**Limnological parameters in Skarvsnes lakes between the 47th and 48th Japanese Antarctic Research Expedition in 2006-2007
-Long-term monitoring study-**

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1. Introduction

This is a report on the limnological parameters which were continuously recorded by means of moored data-logger arrays in two Skarvsnes lakes, Oyako Ike and Naga Ike (Fig. 1) during the 47th and 48th Japanese Antarctic Research Expeditions (JARE) in 2006-2007. This study was one of our “Long-term monitoring studies on Antarctic terrestrial ecosystem” which were started in 2006, under the umbrella of the VII term of Antarctic research expedition plans. Water temperature, photosynthetically active radiation (PAR), chlorophyll fluorescence and turbidity in lakes were measured and recorded automatically at intervals of 10-60 min. Trials of similar continuous observation of limnological parameters in a shallow lakes using prototype mooring arrays have been reported by Kudoh *et al.* (2003) and Tanabe *et al.* (2008).

2. Materials and Methods

Design of the mooring array: The mooring array consisted of three temperature loggers (NWT, Nichiyu), two PAR loggers (MDS-type L, Arec) and a chlorophyll-turbidity logger (ACLW-CMP, Arec). These were attached at given depths of a rope as shown in Fig. 2. The array was moored at the lake center where the near-maximum depth was detected. Exact depths at the mooring sites were 7.5 m and 9.0 m in Oyako Ike and Naga Ike, respectively. The positions were measured by a portable GPS (GPS map 60cs, Garmin), were 69°28.517'S, 39°36.140'E and 69°29.236'S, 39°35.873'E in Oyako Ike and Naga Ike, respectively.

Settings of the data loggers: Temperature data were sampled every 30 minutes from 0:00 (local time) on 18 January 2006 to 23:30 on 12 January 2007 in Oyako Ike, and from 0:00 on 19 January to

23:30 on 13 January in Naga Ike. PAR data were recorded at 10 minute intervals, and the chlorophyll fluorescence and turbidity data were recorded at 60 minute intervals at the same times in both lakes. All loggers were pre- and post-calibrated by the manufacturers, who found no significant drifts in the measurements over the course of the study. Units of recorded data were °C and $\mu\text{ mol/m}^2/\text{s}$ for temperature and PAR, respectively. Fluorescence from chlorophyll *a* was recorded as relative intensity against fluorescein sodium (Uranine) concentration, and turbidity was recorded as Formazin Nephelometric Units (FTU).

3. Data

Temperature data collected at three different depths in Oyako Ike are illustrated in Fig. 3, and the monthly summarized data are listed in Tables 1-1 to 1-13. From the middle of January to the end of February in 2006, and from the beginning of January to the end of the present observation in 2007, temperatures at three different depths took almost the same values; the three lines in Fig. 3 during these periods overlapped. Temperature data at three different depths of Naga Ike are illustrated in Fig. 4, and listed in Tables 2-1 to 2-13. Temperatures at three separate depths took almost the same values from the middle of January to the end of February in 2006, and from the beginning of November to the end of the present observation in 2007. PAR data at 2.7 m and 6.5 m depths in Oyako Ike are illustrated in Fig. 5 and Fig. 6, and the monthly summarized data are listed in Tables 3-1 to 3-13. PAR at 2.7 m and 8.1 m depths in Naga Ike are illustrated in Fig. 7 and Fig. 8, and the monthly summarized data are listed in Tables 4-1 to 4-13. Chlorophyll fluorescence and turbidity data in Oyako Ike are illustrated in Fig. 9, and the monthly summarized data are listed in Tables 5-1 to 5-13. Those for Naga Ike data are in Fig. 10 and Tables 6-1 to 6-13. Extra-ordinary high values over 100 units of chlorophyll fluorescence and turbidity data were recorded in Oyako Ike during 12:00–23:30 on 30 October 2006. A possible reason for such high fluorescence and turbidity was that some photobenthos mats lifted-off and floated in the water column, and those might have remained to the wiper of the chlorophyll-turbidity logger for a while. Lift-off mat assemblages are a commonly recognized feature in Skarvsnes lakes and also in Antarctic lakes even in ice-covered seasons (Quesada *et al.*, 2008).

4. Scientists who carried out the field study

Installation of the mooring arrays was carried out by Manabu Fukui and Shiori Takano (the 47th JARE members) and the retrieval of the arrays was carried out by Sakae Kudoh, Nobue Kasamatsu, Tamotsu Hosino and Dong-Hoon Han (the 48th JARE members).

5. Data policy

Before using the data for publication or presentation in any media, please request permission in writing. Inquiries should be addressed to:

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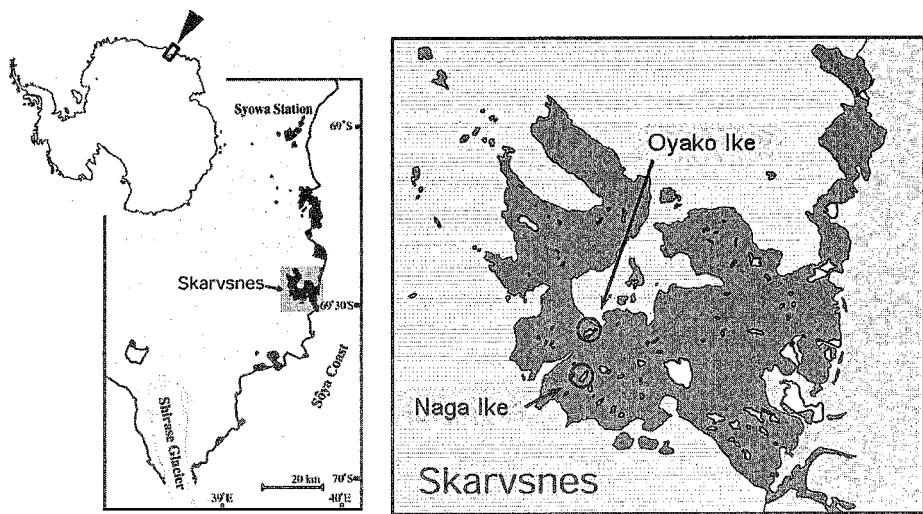


Fig. 1. Maps of studied lakes.

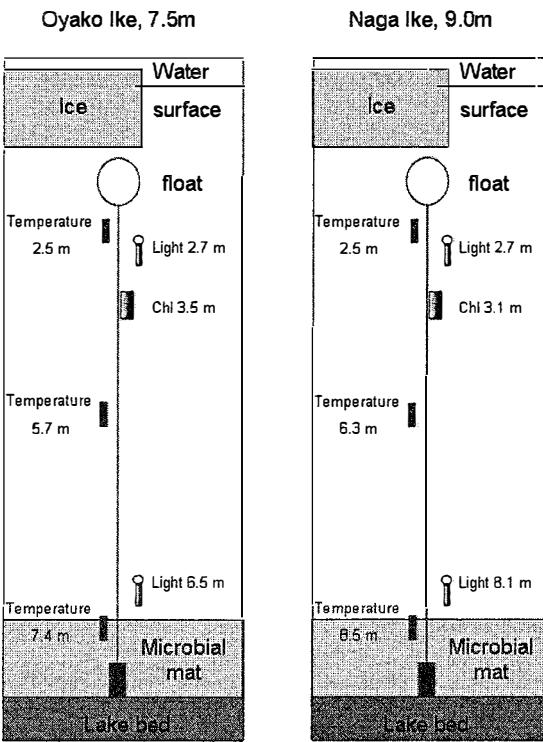


Fig. 2. Designs of mooring arrays set in Oyako Ike (left) and Naga Ike (right).

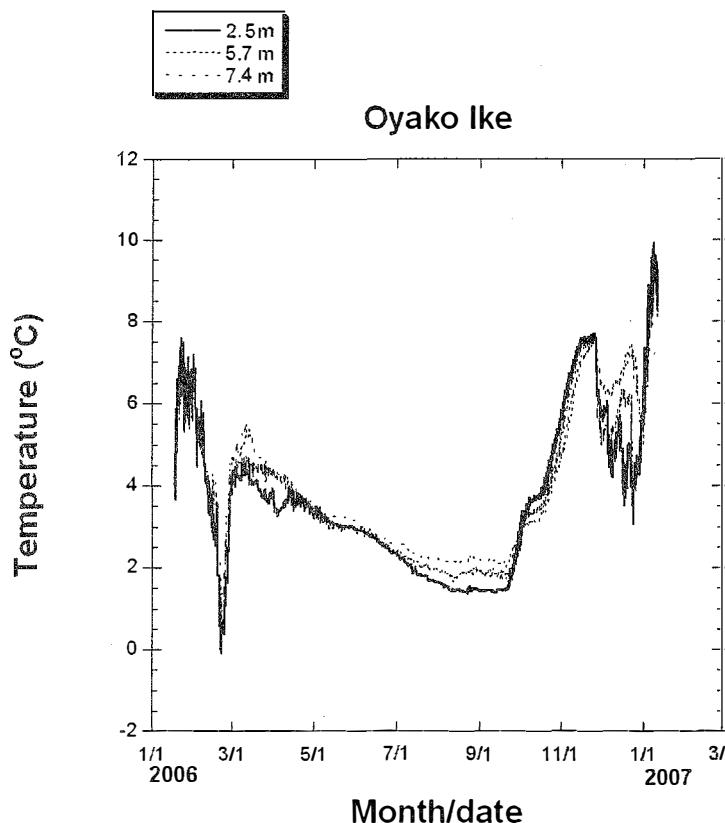


Fig. 3. Seasonal changes of water temperature at three depths in Oyako Ike (2006-2007). 30-minute interval data.

Table 1-1. Water temperature data (°C) at 3 depths in Oyako Ike, January 2006

Depth Date	2.5 m			5.7 m			7.4 m		
	daily average	minimum	maximum	daily average	minimum	maximum	daily average	minimum	maximum
2006/1/18	4.062	3.676	4.767	4.006	3.654	4.676	4.185	3.932	4.643
2006/1/19	4.912	3.978	5.857	4.585	4.013	5.083	4.623	4.206	4.870
2006/1/20	5.861	5.235	6.590	5.432	4.858	5.897	5.235	4.797	5.582
2006/1/21	6.331	5.982	6.890	6.073	5.747	6.543	5.863	5.500	6.167
2006/1/22	6.718	6.199	7.361	6.441	6.061	6.752	6.305	5.955	6.531
2006/1/23	6.994	6.428	7.590	6.458	6.163	6.755	6.365	6.159	6.465
2006/1/24	6.820	6.206	7.471	6.343	5.827	6.898	6.182	5.766	6.538
2006/1/25	5.979	5.366	6.935	5.854	5.309	6.754	5.882	5.514	6.518
2006/1/26	6.185	5.596	6.858	5.925	5.500	6.446	5.847	5.625	6.009
2006/1/27	6.288	5.724	6.785	6.180	5.652	6.717	6.110	5.749	6.458
2006/1/28	6.362	5.893	7.102	5.997	5.557	6.803	5.902	5.475	6.465
2006/1/29	6.135	5.477	6.741	5.853	5.392	6.479	5.881	5.530	6.320
2006/1/30	6.357	5.982	6.822	6.087	5.759	6.423	5.941	5.613	6.138
2006/1/31	6.317	5.838	6.711	6.042	5.559	6.544	5.927	5.624	6.182
<i>Monthly average</i>	6.094	3.676	7.590	5.805	3.654	6.898	5.732	3.932	6.538

Table 1-2. Water temperature data (°C) at 3 depths in Oyako Ike, February 2006

Depth Date	2.5 m			5.7 m			7.4 m		
	daily average	minimum	maximum	daily average	minimum	maximum	daily average	minimum	maximum
2006/2/1	6.694	6.423	7.175	6.492	6.252	6.798	6.334	6.114	6.537
2006/2/2	6.203	5.908	6.849	6.119	5.820	6.793	6.134	5.877	6.572
2006/2/3	5.463	5.291	5.878	5.385	5.163	5.785	5.494	5.311	5.836
2006/2/4	5.117	4.492	5.848	4.872	4.419	5.257	5.053	4.747	5.361
2006/2/5	5.396	5.126	5.651	5.222	4.959	5.488	5.237	5.099	5.406
2006/2/6	5.334	4.973	5.651	5.219	4.835	5.512	5.266	4.977	5.413
2006/2/7	5.452	4.958	6.050	5.325	4.767	5.940	5.354	4.976	5.762
2006/2/8	5.259	4.698	5.762	5.106	4.569	5.650	5.204	4.791	5.604
2006/2/9	4.763	4.463	5.245	4.675	4.324	5.169	4.798	4.495	5.226
2006/2/10	4.287	4.098	4.529	4.240	4.056	4.470	4.415	4.309	4.552
2006/2/11	3.955	3.770	4.211	3.929	3.755	4.190	4.170	3.992	4.336
2006/2/12	3.779	3.345	4.223	3.755	3.370	4.123	4.087	3.796	4.261
2006/2/13	3.662	3.281	4.004	3.654	3.298	3.970	3.974	3.719	4.265
2006/2/14	3.309	2.999	3.735	3.331	2.954	3.770	3.661	3.361	3.936
2006/2/15	3.063	2.873	3.567	3.246	2.959	3.720	3.936	3.772	4.339
2006/2/16	2.896	2.686	3.129	3.066	2.818	3.317	3.815	3.545	4.224
2006/2/17	2.890	2.511	3.098	3.052	2.664	3.233	3.589	3.242	4.085
2006/2/18	2.944	2.584	3.434	2.980	2.522	3.627	3.315	3.050	3.542
2006/2/19	2.385	1.809	2.942	2.477	1.791	3.094	3.007	2.217	3.667
2006/2/20	0.969	0.576	1.806	1.059	0.539	1.784	1.557	0.910	2.166
2006/2/21	0.365	0.022	0.879	0.368	-0.035	1.353	0.562	0.230	1.727
2006/2/22	0.192	-0.071	0.541	0.310	-0.120	1.126	0.746	0.063	1.448
2006/2/23	0.493	0.387	0.722	1.211	1.034	1.453	1.693	1.427	1.903
2006/2/24	0.719	0.383	1.151	1.722	1.238	2.412	2.235	1.710	2.689
2006/2/25	1.437	1.064	1.749	2.560	2.287	2.860	2.967	2.628	3.340
2006/2/26	2.050	1.638	2.468	3.175	2.836	3.674	3.455	3.075	3.798
2006/2/27	2.733	2.405	3.066	3.705	3.549	3.801	3.888	3.553	4.239
2006/2/28	3.388	3.020	3.812	4.043	3.795	4.306	4.210	3.835	4.609
<i>Monthly average</i>	3.400	-0.071	7.175	3.582	-0.120	6.798	3.863	0.063	6.572

Table 1-3. Water temperature data (°C) at 3 depths in Oyako Ike, March 2006

Depth Date	2.5 m			5.7 m			7.4 m		
	daily average	minimum	maximum	daily average	minimum	maximum	daily average	minimum	maximum
2006/3/1	3.990	3.778	4.206	4.195	4.094	4.337	4.451	4.172	4.735
2006/3/2	4.171	4.007	4.342	4.280	4.079	4.363	4.571	4.340	4.807
2006/3/3	4.080	4.055	4.170	4.355	4.267	4.399	4.587	4.523	4.661
2006/3/4	4.205	3.985	4.442	4.446	4.377	4.574	4.773	4.488	5.061
2006/3/5	4.309	4.214	4.391	4.474	4.441	4.524	4.919	4.750	5.108
2006/3/6	4.229	4.191	4.264	4.554	4.451	4.630	4.846	4.772	4.918
2006/3/7	4.175	4.146	4.216	4.552	4.533	4.580	4.788	4.749	4.851
2006/3/8	4.165	4.122	4.230	4.582	4.528	4.641	4.853	4.715	5.019
2006/3/9	4.280	4.122	4.513	4.609	4.533	4.678	5.036	4.802	5.254
2006/3/10	4.359	4.249	4.567	4.472	4.233	4.718	5.212	5.017	5.411
2006/3/11	4.346	4.265	4.454	4.395	4.265	4.598	5.287	5.130	5.467
2006/3/12	4.350	4.249	4.494	4.548	4.428	4.716	5.302	5.114	5.565
2006/3/13	4.327	4.274	4.377	4.597	4.479	4.699	5.269	5.195	5.356
2006/3/14	4.248	4.177	4.338	4.385	4.035	4.689	5.282	5.181	5.417
2006/3/15	4.172	4.129	4.254	4.443	4.286	4.583	5.184	5.124	5.266
2006/3/16	4.065	4.033	4.119	4.446	4.293	4.563	5.125	5.056	5.258
2006/3/17	4.048	4.023	4.074	4.372	4.230	4.573	4.985	4.930	5.067
2006/3/18	4.036	4.016	4.080	4.422	4.311	4.544	4.877	4.835	4.927
2006/3/19	4.075	4.050	4.108	4.457	4.417	4.518	4.813	4.789	4.833
2006/3/20	4.089	4.064	4.113	4.374	4.347	4.411	4.763	4.734	4.787
2006/3/21	4.017	3.891	4.105	4.428	4.326	4.513	4.707	4.682	4.732
2006/3/22	3.863	3.823	3.913	4.426	4.314	4.525	4.659	4.635	4.681
2006/3/23	3.777	3.724	3.831	4.453	4.371	4.567	4.613	4.586	4.634
2006/3/24	3.734	3.692	3.779	4.385	4.262	4.515	4.559	4.532	4.584
2006/3/25	3.751	3.668	3.883	4.411	4.237	4.477	4.506	4.479	4.530
2006/3/26	3.799	3.666	3.901	4.384	4.084	4.590	4.492	4.448	4.544
2006/3/27	3.674	3.611	3.749	4.338	4.092	4.581	4.434	4.396	4.484
2006/3/28	3.626	3.547	3.687	4.347	4.241	4.476	4.409	4.372	4.461
2006/3/29	3.695	3.553	3.777	4.371	4.332	4.426	4.410	4.381	4.450
2006/3/30	3.741	3.668	3.818	4.328	4.232	4.453	4.372	4.353	4.398
2006/3/31	3.856	3.796	3.917	4.329	4.254	4.381	4.342	4.322	4.352
<i>Monthly average</i>	4.040	3.547	4.567	4.425	4.035	4.718	4.788	4.172	5.565

Table 1-4. Water temperature data (°C) at 3 depths in Oyako Ike, April 2006

Depth Date	2.5 m			5.7 m			7.4 m		
	daily average	minimum	maximum	daily average	minimum	maximum	daily average	minimum	maximum
2006/4/1	3.722	3.534	3.841	4.337	4.235	4.385	4.300	4.280	4.320
2006/4/2	3.390	3.354	3.564	4.262	4.166	4.369	4.261	4.245	4.278
2006/4/3	3.380	3.337	3.424	4.234	4.174	4.303	4.234	4.216	4.244
2006/4/4	3.324	3.269	3.419	4.202	4.109	4.312	4.191	4.171	4.215
2006/4/5	3.350	3.288	3.379	4.250	4.195	4.290	4.145	4.122	4.170
2006/4/6	3.409	3.380	3.435	4.161	4.129	4.263	4.112	4.101	4.127
2006/4/7	3.444	3.429	3.465	4.250	4.197	4.281	4.094	4.084	4.106
2006/4/8	3.523	3.455	3.584	4.231	4.183	4.292	4.110	4.078	4.154
2006/4/9	3.576	3.523	3.617	4.228	4.164	4.292	4.119	4.096	4.154
2006/4/10	3.573	3.472	3.650	4.071	3.925	4.292	4.098	4.084	4.110
2006/4/11	3.652	3.574	3.736	4.080	3.785	4.196	4.097	4.075	4.131
2006/4/12	3.773	3.714	3.829	3.868	3.620	3.995	4.088	4.069	4.118
2006/4/13	3.806	3.735	3.886	3.907	3.795	4.001	4.091	4.068	4.119
2006/4/14	3.752	3.540	3.871	3.907	3.840	4.134	4.077	4.036	4.102
2006/4/15	3.711	3.525	3.860	3.828	3.785	3.900	4.010	3.980	4.034
2006/4/16	3.602	3.383	3.781	3.864	3.801	3.911	3.962	3.943	3.983
2006/4/17	3.564	3.486	3.667	3.855	3.800	3.878	3.924	3.899	3.947
2006/4/18	3.660	3.568	3.718	3.819	3.740	3.858	3.872	3.840	3.896
2006/4/19	3.639	3.527	3.716	3.746	3.667	3.829	3.830	3.812	3.848
2006/4/20	3.652	3.551	3.709	3.763	3.723	3.800	3.804	3.790	3.823
2006/4/21	3.601	3.482	3.653	3.728	3.600	3.779	3.778	3.759	3.793
2006/4/22	3.638	3.579	3.686	3.686	3.597	3.760	3.745	3.727	3.764
2006/4/23	3.615	3.515	3.680	3.639	3.548	3.711	3.709	3.695	3.726
2006/4/24	3.530	3.394	3.656	3.604	3.513	3.683	3.693	3.680	3.716
2006/4/25	3.600	3.447	3.654	3.595	3.524	3.683	3.681	3.670	3.695
2006/4/26	3.548	3.504	3.568	3.611	3.528	3.657	3.669	3.659	3.685
2006/4/27	3.516	3.491	3.560	3.493	3.403	3.599	3.656	3.639	3.670
2006/4/28	3.417	3.318	3.488	3.463	3.399	3.549	3.622	3.597	3.637
2006/4/29	3.416	3.346	3.462	3.416	3.310	3.524	3.569	3.541	3.596
2006/4/30	3.356	3.291	3.434	3.372	3.245	3.453	3.503	3.458	3.540
<i>Monthly average</i>	3.558	3.269	3.886	3.882	3.245	4.385	3.935	3.458	4.320

Table 1-5. Water temperature data (°C) at 3 depths in Oyako Ike, May 2006

Depth Date	2.5 m			5.7 m			7.4 m		
	daily average	minimum	maximum	daily average	minimum	maximum	daily average	minimum	maximum
2006/5/1	3.322	3.204	3.440	3.321	3.181	3.407	3.425	3.402	3.455
2006/5/2	3.390	3.327	3.482	3.308	3.190	3.395	3.367	3.337	3.401
2006/5/3	3.380	3.324	3.491	3.284	3.234	3.322	3.333	3.328	3.343
2006/5/4	3.373	3.290	3.438	3.294	3.195	3.355	3.351	3.333	3.367
2006/5/5	3.436	3.313	3.464	3.220	3.096	3.295	3.371	3.363	3.380
2006/5/6	3.292	3.220	3.336	3.168	3.112	3.244	3.349	3.341	3.371
2006/5/7	3.263	3.237	3.304	3.157	3.108	3.226	3.340	3.327	3.346
2006/5/8	3.225	3.217	3.237	3.162	3.068	3.233	3.315	3.297	3.326
2006/5/9	3.222	3.213	3.230	3.119	3.058	3.195	3.292	3.287	3.298
2006/5/10	3.198	3.137	3.241	3.092	3.053	3.127	3.278	3.266	3.287
2006/5/11	3.140	3.105	3.216	3.049	2.973	3.192	3.264	3.261	3.269
2006/5/12	3.122	3.116	3.137	3.072	2.963	3.139	3.265	3.262	3.270
2006/5/13	3.109	3.099	3.120	3.102	3.014	3.173	3.260	3.259	3.263
2006/5/14	3.092	3.085	3.100	3.023	2.961	3.149	3.262	3.260	3.263
2006/5/15	3.080	3.075	3.086	2.989	2.929	3.028	3.262	3.261	3.263
2006/5/16	3.067	3.061	3.073	3.050	2.990	3.096	3.260	3.259	3.261
2006/5/17	3.063	3.058	3.067	3.024	2.982	3.060	3.260	3.259	3.261
2006/5/18	3.045	3.035	3.060	3.028	2.990	3.061	3.260	3.258	3.262
2006/5/19	3.024	3.015	3.033	2.997	2.962	3.037	3.256	3.254	3.258
2006/5/20	3.003	2.997	3.013	3.060	3.014	3.084	3.251	3.248	3.254
2006/5/21	2.998	2.991	3.006	2.920	2.876	3.008	3.245	3.241	3.249
2006/5/22	3.014	2.997	3.026	2.993	2.936	3.068	3.239	3.237	3.242
2006/5/23	3.011	3.001	3.027	2.962	2.947	2.979	3.234	3.229	3.236
2006/5/24	2.998	2.994	3.002	2.990	2.980	2.996	3.220	3.207	3.229
2006/5/25	3.000	2.993	3.010	3.012	2.993	3.027	3.198	3.191	3.207
2006/5/26	2.994	2.990	2.999	3.032	3.027	3.035	3.183	3.176	3.190
2006/5/27	3.000	2.971	3.022	3.025	3.010	3.031	3.171	3.166	3.176
2006/5/28	3.003	2.983	3.008	3.021	3.009	3.032	3.162	3.160	3.165
2006/5/29	2.990	2.980	2.999	3.035	3.023	3.045	3.158	3.156	3.160
2006/5/30	2.967	2.954	2.980	3.023	3.020	3.035	3.154	3.153	3.156
2006/5/31	2.950	2.942	2.960	3.000	2.947	3.049	3.153	3.153	3.154
<i>Monthly average</i>	3.122	2.942	3.491	3.082	2.876	3.407	3.263	3.153	3.455

Table 1-6. Water temperature data (°C) at 3 depths in Oyako Ike, June 2006

Depth Date	2.5 m			5.7 m			7.4 m		
	daily average	minimum	maximum	daily average	minimum	maximum	daily average	minimum	maximum
2006/6/1	2.938	2.929	2.950	2.887	2.868	2.954	3.151	3.134	3.154
2006/6/2	2.927	2.923	2.932	2.864	2.851	2.878	3.106	3.079	3.131
2006/6/3	2.920	2.917	2.925	2.876	2.862	2.889	3.054	3.029	3.077
2006/6/4	2.915	2.910	2.921	2.950	2.884	2.984	2.998	2.978	3.027
2006/6/5	2.908	2.889	2.930	2.997	2.976	3.015	2.969	2.964	2.977
2006/6/6	2.886	2.880	2.895	3.000	2.990	3.004	2.975	2.966	2.983
2006/6/7	2.874	2.861	2.883	2.921	2.768	3.001	2.987	2.983	2.988
2006/6/8	2.855	2.845	2.862	2.814	2.768	2.862	2.987	2.985	2.989
2006/6/9	2.833	2.818	2.845	2.889	2.863	2.899	2.982	2.978	2.985
2006/6/10	2.801	2.787	2.818	2.877	2.752	2.923	2.975	2.973	2.978
2006/6/11	2.781	2.774	2.788	2.776	2.738	2.824	2.950	2.906	2.974
2006/6/12	2.772	2.754	2.790	2.802	2.735	2.841	2.898	2.866	2.905
2006/6/13	2.737	2.726	2.754	2.789	2.739	2.808	2.812	2.774	2.862
2006/6/14	2.720	2.716	2.730	2.783	2.774	2.797	2.763	2.760	2.772
2006/6/15	2.709	2.702	2.717	2.794	2.752	2.805	2.775	2.767	2.779
2006/6/16	2.694	2.682	2.708	2.676	2.640	2.748	2.781	2.779	2.782
2006/6/17	2.659	2.635	2.683	2.668	2.642	2.692	2.786	2.782	2.791
2006/6/18	2.594	2.573	2.631	2.688	2.585	2.715	2.794	2.792	2.796
2006/6/19	2.584	2.572	2.597	2.544	2.520	2.576	2.790	2.784	2.794
2006/6/20	2.591	2.575	2.598	2.567	2.465	2.616	2.754	2.718	2.784
2006/6/21	2.551	2.527	2.575	2.594	2.512	2.624	2.719	2.716	2.720
2006/6/22	2.509	2.495	2.526	2.489	2.477	2.510	2.708	2.699	2.719
2006/6/23	2.482	2.471	2.495	2.527	2.508	2.560	2.696	2.691	2.699
2006/6/24	2.462	2.446	2.476	2.552	2.518	2.570	2.673	2.637	2.691
2006/6/25	2.450	2.435	2.455	2.471	2.448	2.523	2.604	2.582	2.635
2006/6/26	2.410	2.378	2.434	2.403	2.335	2.464	2.582	2.577	2.591
2006/6/27	2.355	2.332	2.376	2.332	2.323	2.339	2.595	2.591	2.597
2006/6/28	2.329	2.320	2.340	2.344	2.339	2.351	2.579	2.573	2.591
2006/6/29	2.349	2.340	2.402	2.354	2.345	2.369	2.578	2.574	2.580
2006/6/30	2.344	2.338	2.350	2.362	2.355	2.372	2.576	2.574	2.579
<i>Monthly average</i>	2.665	2.320	2.950	2.686	2.323	3.015	2.820	2.573	3.154

Table 1-7. Water temperature data (°C) at 3 depths in Oyako Ike, July 2006

Depth Date	2.5 m			5.7 m			7.4 m		
	daily average	minimum	maximum	daily average	minimum	maximum	daily average	minimum	maximum
2006/7/1	2.329	2.317	2.338	2.386	2.371	2.400	2.569	2.565	2.573
2006/7/2	2.291	2.264	2.320	2.414	2.401	2.424	2.564	2.563	2.566
2006/7/3	2.232	2.202	2.261	2.424	2.416	2.427	2.568	2.566	2.569
2006/7/4	2.190	2.183	2.201	2.391	2.349	2.415	2.569	2.566	2.570
2006/7/5	2.203	2.189	2.214	2.279	2.148	2.350	2.561	2.558	2.566
2006/7/6	2.198	2.189	2.212	2.149	2.134	2.161	2.558	2.556	2.559
2006/7/7	2.161	2.128	2.192	2.238	2.163	2.274	2.545	2.532	2.556
2006/7/8	2.110	2.091	2.127	2.244	2.193	2.274	2.520	2.507	2.531
2006/7/9	2.071	2.045	2.093	2.205	2.188	2.227	2.481	2.423	2.507
2006/7/10	2.040	2.033	2.051	2.238	2.226	2.247	2.366	2.331	2.420
2006/7/11	2.049	2.038	2.056	2.214	2.191	2.246	2.327	2.324	2.334
2006/7/12	2.010	1.981	2.039	2.180	2.171	2.191	2.352	2.334	2.368
2006/7/13	1.911	1.855	1.980	2.142	2.119	2.181	2.368	2.356	2.374
2006/7/14	1.867	1.850	1.898	2.146	2.114	2.161	2.311	2.279	2.354
2006/7/15	1.917	1.902	1.999	2.146	2.119	2.154	2.272	2.269	2.279
2006/7/16	1.871	1.836	1.910	2.151	2.144	2.155	2.255	2.241	2.274
2006/7/17	1.820	1.812	1.835	2.121	2.094	2.142	2.239	2.238	2.241
2006/7/18	1.824	1.812	1.831	2.056	2.017	2.093	2.241	2.238	2.246
2006/7/19	1.819	1.807	1.829	1.997	1.990	2.016	2.258	2.246	2.272
2006/7/20	1.791	1.776	1.808	2.007	1.992	2.023	2.283	2.272	2.295
2006/7/21	1.777	1.769	1.785	2.040	2.023	2.061	2.277	2.250	2.295
2006/7/22	1.780	1.771	1.786	2.070	2.061	2.075	2.240	2.235	2.249
2006/7/23	1.779	1.770	1.809	2.065	2.051	2.074	2.247	2.242	2.251
2006/7/24	1.747	1.717	1.777	2.031	2.013	2.051	2.235	2.215	2.251
2006/7/25	1.695	1.676	1.716	1.997	1.980	2.012	2.212	2.211	2.215
2006/7/26	1.675	1.668	1.683	1.965	1.958	1.979	2.216	2.213	2.219
2006/7/27	1.688	1.682	1.692	1.953	1.948	1.958	2.218	2.217	2.220
2006/7/28	1.673	1.667	1.684	1.949	1.946	1.954	2.224	2.220	2.228
2006/7/29	1.666	1.658	1.670	1.965	1.954	1.977	2.234	2.229	2.238
2006/7/30	1.649	1.639	1.659	1.987	1.978	1.991	2.241	2.238	2.244
2006/7/31	1.635	1.631	1.639	1.958	1.929	1.986	2.246	2.244	2.248
<i>Monthly average</i>	1.918	1.631	2.338	2.133	1.929	2.427	2.348	2.211	2.573

Table 1-8. Water temperature data (°C) at 3 depths in Oyako Ike, August 2006

Depth Date	2.5 m			5.7 m			7.4 m		
	daily average	minimum	maximum	daily average	minimum	maximum	daily average	minimum	maximum
2006/8/1	1.634	1.629	1.639	1.917	1.906	1.928	2.233	2.203	2.247
2006/8/2	1.625	1.613	1.632	1.890	1.875	1.912	2.178	2.158	2.202
2006/8/3	1.611	1.608	1.617	1.861	1.843	1.879	2.150	2.147	2.157
2006/8/4	1.598	1.576	1.609	1.905	1.856	1.922	2.153	2.150	2.157
2006/8/5	1.541	1.519	1.575	1.902	1.891	1.906	2.164	2.157	2.172
2006/8/6	1.529	1.515	1.551	1.882	1.835	1.916	2.180	2.172	2.184
2006/8/7	1.555	1.544	1.562	1.837	1.833	1.843	2.176	2.153	2.185
2006/8/8	1.520	1.499	1.545	1.857	1.843	1.872	2.143	2.139	2.153
2006/8/9	1.477	1.460	1.497	1.867	1.850	1.877	2.152	2.144	2.157
2006/8/10	1.448	1.443	1.458	1.810	1.761	1.849	2.160	2.158	2.162
2006/8/11	1.432	1.419	1.443	1.796	1.754	1.816	2.166	2.162	2.172
2006/8/12	1.445	1.423	1.455	1.696	1.667	1.751	2.180	2.172	2.189
2006/8/13	1.438	1.421	1.453	1.714	1.669	1.753	2.179	2.145	2.195
2006/8/14	1.426	1.421	1.433	1.733	1.715	1.752	2.135	2.128	2.144
2006/8/15	1.441	1.429	1.468	1.767	1.730	1.798	2.138	2.126	2.165
2006/8/16	1.437	1.429	1.457	1.820	1.799	1.841	2.139	2.129	2.158
2006/8/17	1.431	1.422	1.450	1.844	1.832	1.857	2.140	2.131	2.159
2006/8/18	1.419	1.411	1.423	1.841	1.829	1.860	2.136	2.132	2.140
2006/8/19	1.406	1.400	1.411	1.878	1.861	1.890	2.125	2.116	2.132
2006/8/20	1.391	1.386	1.399	1.882	1.857	1.891	2.114	2.112	2.117
2006/8/21	1.385	1.381	1.388	1.838	1.819	1.856	2.116	2.114	2.119
2006/8/22	1.378	1.373	1.381	1.863	1.845	1.872	2.118	2.115	2.120
2006/8/23	1.403	1.371	1.461	1.885	1.872	1.921	2.155	2.119	2.206
2006/8/24	1.439	1.409	1.506	1.889	1.873	1.910	2.200	2.165	2.246
2006/8/25	1.441	1.408	1.542	1.910	1.893	1.931	2.232	2.199	2.274
2006/8/26	1.444	1.410	1.482	1.914	1.847	1.961	2.253	2.224	2.292
2006/8/27	1.457	1.441	1.481	1.895	1.838	1.984	2.254	2.240	2.274
2006/8/28	1.468	1.459	1.477	1.968	1.958	1.978	2.237	2.229	2.248
2006/8/29	1.477	1.470	1.491	1.946	1.891	1.995	2.220	2.207	2.229
2006/8/30	1.471	1.462	1.480	1.967	1.921	1.978	2.207	2.201	2.215
2006/8/31	1.455	1.440	1.465	1.966	1.935	1.978	2.197	2.189	2.205
<u>Monthly average</u>	1.472	1.371	1.639	1.863	1.667	1.995	2.172	2.112	2.292

Table 1-9. Water temperature data (°C) at 3 depths in Oyako Ike, September 2006

Depth Date	2.5 m			5.7 m			7.4 m		
	daily average	minimum	maximum	daily average	minimum	maximum	daily average	minimum	maximum
2006/9/1	1.432	1.420	1.444	1.907	1.865	1.938	2.192	2.184	2.202
2006/9/2	1.420	1.415	1.430	1.936	1.894	1.961	2.192	2.180	2.199
2006/9/3	1.422	1.418	1.428	1.839	1.817	1.891	2.179	2.174	2.185
2006/9/4	1.426	1.417	1.436	1.830	1.811	1.851	2.178	2.173	2.185
2006/9/5	1.422	1.418	1.426	1.860	1.816	1.893	2.177	2.174	2.182
2006/9/6	1.428	1.419	1.437	1.839	1.800	1.886	2.176	2.172	2.182
2006/9/7	1.435	1.429	1.442	1.916	1.869	1.942	2.179	2.174	2.186
2006/9/8	1.435	1.428	1.443	1.957	1.943	1.970	2.177	2.167	2.187
2006/9/9	1.430	1.424	1.444	1.896	1.787	1.943	2.161	2.156	2.168
2006/9/10	1.425	1.418	1.436	1.863	1.785	1.934	2.166	2.159	2.177
2006/9/11	1.415	1.401	1.429	1.949	1.926	1.969	2.177	2.167	2.191
2006/9/12	1.396	1.383	1.406	1.891	1.863	1.930	2.164	2.148	2.180
2006/9/13	1.386	1.376	1.396	1.851	1.814	1.878	2.115	2.091	2.148
2006/9/14	1.418	1.392	1.436	1.808	1.749	1.838	2.094	2.085	2.106
2006/9/15	1.436	1.425	1.451	1.859	1.801	1.885	2.106	2.094	2.121
2006/9/16	1.448	1.432	1.467	1.777	1.692	1.891	2.106	2.094	2.121
2006/9/17	1.450	1.439	1.468	1.860	1.695	1.919	2.116	2.102	2.139
2006/9/18	1.447	1.437	1.467	1.846	1.696	1.916	2.131	2.110	2.155
2006/9/19	1.441	1.430	1.462	1.917	1.870	1.940	2.130	2.107	2.141
2006/9/20	1.441	1.423	1.463	1.827	1.769	1.864	2.042	2.009	2.106
2006/9/21	1.467	1.444	1.489	1.772	1.720	1.860	2.024	2.006	2.046
2006/9/22	1.486	1.467	1.523	1.829	1.720	1.897	2.033	2.018	2.054
2006/9/23	1.553	1.482	1.648	1.834	1.742	1.914	2.107	2.025	2.208
2006/9/24	1.696	1.568	1.945	1.863	1.804	1.965	2.252	2.135	2.399
2006/9/25	1.823	1.707	1.974	1.947	1.832	2.031	2.358	2.237	2.516
2006/9/26	1.941	1.836	2.057	2.124	2.021	2.180	2.409	2.317	2.524
2006/9/27	2.082	1.917	2.316	2.254	2.167	2.382	2.502	2.390	2.647
2006/9/28	2.244	2.080	2.518	2.406	2.265	2.493	2.602	2.490	2.724
2006/9/29	2.333	2.211	2.533	2.524	2.424	2.600	2.681	2.605	2.772
2006/9/30	2.490	2.278	2.837	2.632	2.553	2.749	2.767	2.651	2.899
<u>Monthly average</u>	1.589	1.376	2.837	1.954	1.692	2.749	2.223	2.006	2.899

Table 1-10. Water temperature data (°C) at 3 depths in Oyako Ike, October 2006

Depth Date	2.5 m			5.7 m			7.4 m		
	daily average	minimum	maximum	daily average	minimum	maximum	daily average	minimum	maximum
2006/10/1	2.672	2.429	3.070	2.752	2.603	2.876	2.856	2.765	2.964
2006/10/2	2.828	2.556	3.260	2.896	2.807	2.977	2.937	2.834	3.051
2006/10/3	3.027	2.787	3.370	3.066	2.887	3.178	3.023	2.922	3.140
2006/10/4	3.161	2.993	3.365	3.197	3.117	3.254	3.080	3.001	3.165
2006/10/5	3.200	3.136	3.270	3.199	3.167	3.229	3.051	3.024	3.078
2006/10/6	3.346	3.223	3.543	3.277	3.194	3.332	3.053	3.001	3.117
2006/10/7	3.415	3.312	3.539	3.254	3.222	3.282	3.065	3.026	3.106
2006/10/8	3.500	3.409	3.672	3.291	3.235	3.346	3.082	3.038	3.144
2006/10/9	3.585	3.518	3.674	3.332	3.297	3.369	3.111	3.068	3.164
2006/10/10	3.610	3.591	3.628	3.308	3.285	3.324	3.101	3.089	3.116
2006/10/11	3.633	3.606	3.659	3.356	3.297	3.425	3.108	3.082	3.137
2006/10/12	3.664	3.623	3.723	3.361	3.302	3.454	3.118	3.099	3.136
2006/10/13	3.680	3.639	3.735	3.381	3.332	3.435	3.130	3.108	3.155
2006/10/14	3.700	3.673	3.726	3.450	3.359	3.495	3.148	3.125	3.175
2006/10/15	3.727	3.656	3.775	3.435	3.384	3.480	3.168	3.145	3.192
2006/10/16	3.739	3.690	3.775	3.406	3.384	3.421	3.176	3.163	3.190
2006/10/17	3.786	3.682	3.923	3.492	3.424	3.565	3.244	3.167	3.339
2006/10/18	3.851	3.751	3.949	3.573	3.478	3.627	3.322	3.249	3.394
2006/10/19	3.885	3.784	3.981	3.597	3.550	3.671	3.375	3.312	3.437
2006/10/20	3.983	3.833	4.174	3.688	3.638	3.789	3.473	3.355	3.598
2006/10/21	4.076	3.913	4.298	3.842	3.718	3.979	3.579	3.466	3.709
2006/10/22	4.202	4.036	4.419	3.892	3.766	4.017	3.718	3.560	3.881
2006/10/23	4.338	4.145	4.595	3.997	3.878	4.148	3.836	3.691	3.981
2006/10/24	4.476	4.286	4.702	4.100	3.963	4.236	3.945	3.792	4.097
2006/10/25	4.636	4.437	4.824	4.218	4.117	4.361	4.055	3.906	4.198
2006/10/26	4.811	4.615	4.977	4.311	4.201	4.453	4.153	4.010	4.291
2006/10/27	4.947	4.795	5.100	4.415	4.305	4.517	4.249	4.117	4.375
2006/10/28	5.054	4.910	5.209	4.540	4.419	4.668	4.346	4.205	4.489
2006/10/29	5.204	5.035	5.371	4.696	4.573	4.809	4.478	4.314	4.642
2006/10/30	5.351	5.213	5.512	4.868	4.730	5.016	4.575	4.419	4.732
2006/10/31	5.470	5.348	5.618	5.054	4.922	5.178	4.675	4.525	4.836
<i>Monthly average</i>	3.954	2.429	5.618	3.685	2.603	5.178	3.491	2.765	4.836

Table 1-11. Water temperature data (°C) at 3 depths in Oyako Ike, November 2006

Depth Date	2.5 m			5.7 m			7.4 m		
	daily average	minimum	maximum	daily average	minimum	maximum	daily average	minimum	maximum
2006/11/1	5.633	5.469	5.826	5.245	5.105	5.380	4.760	4.595	4.898
2006/11/2	5.795	5.615	6.000	5.398	5.242	5.562	4.840	4.654	5.014
2006/11/3	5.977	5.792	6.140	5.543	5.349	5.693	4.933	4.737	5.112
2006/11/4	6.134	5.975	6.298	5.741	5.575	5.892	5.072	4.855	5.268
2006/11/5	6.281	6.126	6.470	5.945	5.790	6.085	5.265	5.034	5.474
2006/11/6	6.401	6.273	6.557	6.125	6.008	6.258	5.460	5.262	5.656
2006/11/7	6.556	6.398	6.706	6.294	6.170	6.440	5.694	5.443	5.922
2006/11/8	6.650	6.564	6.763	6.435	6.339	6.580	5.886	5.695	6.080
2006/11/9	6.760	6.631	6.899	6.562	6.464	6.671	6.041	5.836	6.238
2006/11/10	6.894	6.753	7.023	6.712	6.599	6.801	6.212	5.990	6.410
2006/11/11	7.033	6.889	7.130	6.860	6.747	6.954	6.387	6.164	6.589
2006/11/12	7.156	7.030	7.252	6.986	6.909	7.057	6.551	6.358	6.729
2006/11/13	7.265	7.145	7.368	7.108	7.033	7.180	6.692	6.513	6.859
2006/11/14	7.349	7.240	7.428	7.207	7.132	7.278	6.824	6.658	6.980
2006/11/15	7.426	7.329	7.527	7.309	7.234	7.372	6.953	6.792	7.099
2006/11/16	7.484	7.395	7.575	7.384	7.326	7.445	7.048	6.913	7.164
2006/11/17	7.515	7.443	7.574	7.419	7.303	7.484	7.129	7.009	7.231
2006/11/18	7.544	7.472	7.613	7.449	7.351	7.504	7.208	7.092	7.310
2006/11/19	7.552	7.499	7.614	7.463	7.366	7.516	7.268	7.175	7.361
2006/11/20	7.524	7.487	7.562	7.446	7.378	7.481	7.284	7.229	7.343
2006/11/21	7.514	7.453	7.592	7.429	7.366	7.478	7.332	7.236	7.424
2006/11/22	7.537	7.471	7.606	7.465	7.378	7.522	7.409	7.299	7.513
2006/11/23	7.561	7.496	7.647	7.491	7.438	7.535	7.479	7.378	7.583
2006/11/24	7.578	7.513	7.662	7.505	7.451	7.547	7.540	7.436	7.641
2006/11/25	7.595	7.525	7.667	7.522	7.453	7.559	7.603	7.497	7.709
2006/11/26	7.593	7.539	7.673	7.523	7.479	7.557	7.651	7.555	7.760
2006/11/27	7.120	6.765	7.556	6.570	6.286	7.519	7.557	7.391	7.640
2006/11/28	6.492	6.167	6.888	5.909	5.645	6.421	7.214	6.886	7.381
2006/11/29	6.107	5.962	6.312	5.537	5.379	5.943	6.767	6.583	6.878
2006/11/30	5.967	5.744	6.074	5.428	5.158	5.576	6.582	6.462	6.678
<i>Monthly average</i>	6.933	5.469	7.673	6.700	5.105	7.559	6.555	4.595	7.760

Table 1-12. Water temperature data (°C) at 3 depths in Oyako Ike, December 2006

Depth Date	2.5 m			5.7 m			7.4 m					
	daily	average	minimum	maximum	daily	average	minimum	maximum	daily	average	minimum	maximum
2006/12/1	5.804	5.648	5.900	5.277	4.978	5.459	6.475	6.396	6.558			
2006/12/2	5.716	5.553	5.829	5.260	5.061	5.361	6.380	6.321	6.424			
2006/12/3	5.744	5.645	5.923	5.316	5.216	5.411	6.357	6.274	6.448			
2006/12/4	5.793	5.710	5.871	5.419	5.297	5.499	6.306	6.255	6.351			
2006/12/5	5.922	5.794	6.054	5.551	5.459	5.643	6.281	6.202	6.350			
2006/12/6	5.147	4.763	5.903	5.205	4.736	5.614	6.277	6.218	6.361			
2006/12/7	4.908	4.438	5.109	5.176	5.115	5.228	6.222	6.173	6.294			
2006/12/8	4.780	4.289	5.079	5.267	5.139	5.393	6.242	6.159	6.354			
2006/12/9	4.575	4.230	5.063	5.342	5.257	5.480	6.353	6.230	6.460			
2006/12/10	4.602	4.203	4.866	5.377	5.282	5.434	6.406	6.296	6.491			
2006/12/11	4.817	4.600	5.075	5.508	5.402	5.588	6.455	6.351	6.547			
2006/12/12	5.048	4.654	5.260	5.639	5.539	5.709	6.504	6.402	6.593			
2006/12/13	5.117	4.905	5.294	5.736	5.617	5.859	6.543	6.437	6.629			
2006/12/14	5.371	5.185	5.620	5.890	5.781	5.981	6.592	6.480	6.689			
2006/12/15	5.454	4.845	5.713	6.034	5.920	6.143	6.654	6.538	6.754			
2006/12/16	5.234	4.835	5.541	6.203	6.066	6.348	6.719	6.597	6.830			
2006/12/17	4.397	3.784	4.895	6.273	6.091	6.371	6.818	6.674	6.940			
2006/12/18	4.031	3.499	4.544	6.209	6.053	6.326	6.943	6.786	7.075			
2006/12/19	4.186	3.711	4.493	6.037	5.934	6.124	7.039	6.905	7.173			
2006/12/20	4.385	3.939	4.573	6.047	5.941	6.139	7.119	6.966	7.254			
2006/12/21	4.608	4.414	4.965	6.078	5.976	6.168	7.191	7.049	7.311			
2006/12/22	4.801	4.620	5.013	6.140	6.040	6.249	7.256	7.115	7.393			
2006/12/23	4.368	3.945	4.956	5.647	5.040	6.188	7.284	7.134	7.443			
2006/12/24	3.818	3.508	4.297	4.098	3.653	5.059	7.196	7.083	7.308			
2006/12/25	3.622	3.063	4.160	3.620	3.133	3.890	7.005	6.592	7.173			
2006/12/26	4.176	3.916	4.553	4.050	3.862	4.229	6.978	6.775	7.181			
2006/12/27	4.320	4.033	4.543	4.247	4.082	4.375	6.618	6.223	6.985			
2006/12/28	4.473	4.191	4.714	4.430	4.256	4.623	6.363	6.060	6.664			
2006/12/29	4.453	4.272	4.684	4.393	4.225	4.539	5.892	5.553	6.158			
2006/12/30	4.702	4.290	5.163	4.508	4.262	4.955	5.446	5.127	5.730			
2006/12/31	5.091	4.717	5.511	4.881	4.576	5.096	5.490	5.109	5.851			
<i>Monthly average</i>	4.821	3.063	6.054	5.318	3.133	6.371	6.561	5.109	7.443			

Table 1-13. Water temperature data (°C) at 3 depths in Oyako Ike, January 2007

Depth Date	2.5 m			5.7 m			7.4 m					
	daily	average	minimum	maximum	daily	average	minimum	maximum	daily	average	minimum	maximum
2007/1/1	5.856	5.353	6.402	5.501	4.978	6.127	5.752	5.237	6.073			
2007/1/2	6.389	5.714	7.322	5.881	5.494	6.300	5.984	5.667	6.243			
2007/1/3	6.577	5.824	7.333	6.276	5.765	6.748	6.242	5.926	6.495			
2007/1/4	7.404	6.658	8.300	6.955	6.532	7.328	6.793	6.417	7.118			
2007/1/5	8.148	7.464	8.871	7.396	7.094	7.696	7.208	6.992	7.415			
2007/1/6	8.431	8.021	8.866	7.944	7.615	8.299	7.627	7.254	7.918			
2007/1/7	8.807	8.200	9.520	8.157	7.887	8.333	7.944	7.800	8.098			
2007/1/8	9.120	8.568	9.721	8.409	8.135	8.626	8.177	7.896	8.430			
2007/1/9	9.350	8.803	9.900	8.806	8.508	9.105	8.542	8.236	8.783			
2007/1/10	9.278	8.933	9.571	9.075	8.804	9.322	8.808	8.627	8.991			
2007/1/11	9.063	8.652	9.442	8.712	8.300	9.221	8.583	8.301	8.917			
2007/1/12	8.806	8.372	9.213	8.514	8.133	8.837	8.398	8.176	8.539			
<i>Monthly average</i>	8.103	5.353	9.900	7.635	4.978	9.322	7.505	5.237	8.991			

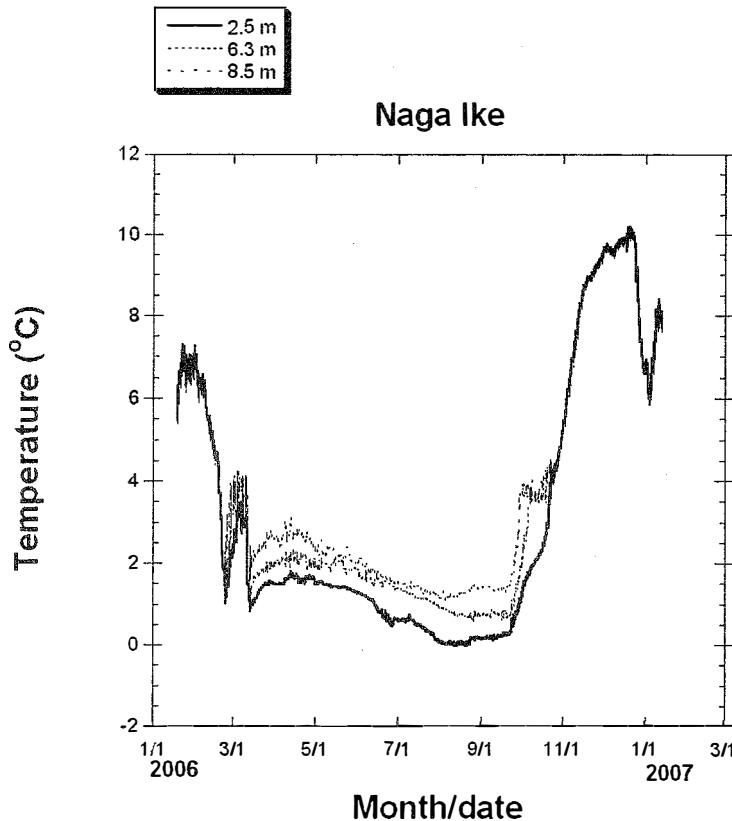


Fig. 4. Seasonal changes of water temperature at three depths in Naga Ike (2006-2007). 30-minute interval data.

Table 2-1. Water temperature data (°C) at 3 depths in Naga Ike, January 2006

Depth Date	2.5 m			6.3 m			8.5 m		
	daily average	minimum	maximum	daily average	minimum	maximum	daily average	minimum	maximum
2006/1/19	5.841	5.469	6.302	5.681	5.362	5.956	5.702	5.396	5.949
2006/1/20	6.257	5.990	6.639	6.119	5.792	6.384	6.148	5.823	6.424
2006/1/21	6.520	6.352	6.846	6.416	6.252	6.667	6.446	6.234	6.676
2006/1/22	6.779	6.532	7.130	6.676	6.475	6.937	6.704	6.522	6.940
2006/1/23	6.964	6.737	7.271	6.859	6.629	7.075	6.888	6.661	7.115
2006/1/24	6.925	6.638	7.239	6.809	6.518	7.061	6.816	6.569	7.081
2006/1/25	6.585	6.307	6.977	6.508	6.168	6.923	6.540	6.135	6.949
2006/1/26	6.688	6.430	7.029	6.573	6.356	6.842	6.592	6.387	6.864
2006/1/27	6.715	6.458	6.946	6.641	6.392	6.855	6.679	6.426	6.866
2006/1/28	6.733	6.505	7.026	6.627	6.426	6.911	6.652	6.460	6.915
2006/1/29	6.698	6.374	7.013	6.573	6.296	6.821	6.595	6.325	6.828
2006/1/30	6.761	6.604	6.996	6.680	6.493	6.843	6.696	6.499	6.883
2006/1/31	6.782	6.552	7.055	6.648	6.456	6.830	6.663	6.453	6.793
<i>Monthly average</i>	6.634	5.469	7.271	6.524	5.362	7.075	6.548	5.396	7.115

Table 2-2. Water temperature data (°C) at 3 depths in Naga Ike, February 2006

Depth Date	2.5 m			6.3 m			8.5 m		
	daily average	minimum	maximum	daily average	minimum	maximum	daily average	minimum	maximum
2006/2/1	6.963	6.794	7.269	6.867	6.698	7.049	6.892	6.696	7.097
2006/2/2	6.761	6.626	7.046	6.700	6.579	6.984	6.722	6.582	7.012
2006/2/3	6.381	6.292	6.634	6.314	6.221	6.560	6.345	6.245	6.588
2006/2/4	6.299	6.015	6.577	6.129	5.941	6.314	6.134	5.903	6.286
2006/2/5	6.337	6.213	6.460	6.233	6.102	6.362	6.242	6.124	6.390
2006/2/6	6.290	6.143	6.430	6.217	6.082	6.356	6.224	6.020	6.381
2006/2/7	6.336	6.111	6.562	6.252	5.995	6.487	6.269	6.013	6.499
2006/2/8	6.231	6.032	6.423	6.134	5.928	6.350	6.160	5.948	6.309
2006/2/9	5.941	5.770	6.178	5.860	5.699	6.102	5.837	5.697	6.101
2006/2/10	5.642	5.540	5.762	5.578	5.493	5.687	5.584	5.430	5.683
2006/2/11	5.460	5.349	5.558	5.390	5.279	5.496	5.410	5.274	5.511
2006/2/12	5.337	5.144	5.568	5.228	5.007	5.444	5.244	4.917	5.424
2006/2/13	5.231	5.102	5.368	5.141	5.005	5.272	5.169	5.010	5.297
2006/2/14	4.952	4.802	5.175	4.887	4.743	5.128	4.924	4.796	5.182
2006/2/15	4.745	4.628	4.964	4.680	4.585	4.879	4.681	4.574	4.839
2006/2/16	4.662	4.544	4.851	4.576	4.389	4.731	4.594	4.350	4.782
2006/2/17	4.561	4.496	4.695	4.495	4.372	4.636	4.534	4.367	4.675
2006/2/18	4.501	4.396	4.660	4.448	4.339	4.579	4.494	4.396	4.626
2006/2/19	4.088	3.726	4.455	4.044	3.670	4.408	4.100	3.708	4.455
2006/2/20	3.253	3.062	3.708	3.230	3.002	3.657	3.318	3.054	3.718
2006/2/21	2.579	2.197	3.130	2.550	2.203	3.159	2.596	2.251	3.269
2006/2/22	1.973	1.851	2.210	1.953	1.798	2.192	2.074	1.859	2.307
2006/2/23	1.642	1.466	1.915	1.753	1.483	2.020	2.042	1.790	2.274
2006/2/24	1.230	1.019	1.514	1.529	1.176	1.787	2.105	1.562	2.668
2006/2/25	1.377	1.180	1.480	1.865	1.562	2.103	2.783	2.343	3.238
2006/2/26	1.608	1.417	1.843	2.308	2.045	2.562	3.096	2.792	3.506
2006/2/27	1.839	1.649	2.105	2.636	2.385	2.898	3.593	3.239	3.948
2006/2/28	2.058	1.899	2.290	3.012	2.620	3.356	3.647	3.339	4.012
<i>Monthly average</i>	4.438	1.019	7.269	4.500	1.176	7.049	4.672	1.562	7.097

Table 2-3. Water temperature data (°C) at 3 depths in Naga Ike, March 2006

Depth Date	2.5 m			6.3 m			8.5 m		
	daily average	minimum	maximum	daily average	minimum	maximum	daily average	minimum	maximum
2006/3/1	2.243	2.129	2.436	3.710	3.158	4.020	3.623	3.327	3.950
2006/3/2	2.476	2.259	2.804	3.698	3.346	4.028	3.710	3.438	4.114
2006/3/3	2.543	2.467	2.812	3.764	3.381	3.920	3.659	3.215	4.037
2006/3/4	2.746	2.485	3.251	3.767	3.448	4.113	3.893	3.469	4.256
2006/3/5	3.321	3.038	3.463	3.851	3.559	4.005	4.181	4.040	4.290
2006/3/6	3.355	3.119	3.466	3.887	3.739	3.991	4.001	3.780	4.089
2006/3/7	3.366	2.798	3.473	4.018	3.870	4.096	3.817	3.717	3.921
2006/3/8	2.900	2.721	3.174	3.606	2.793	4.065	3.893	3.317	4.149
2006/3/9	2.986	2.872	3.116	3.326	3.062	3.669	3.764	3.366	4.085
2006/3/10	2.954	2.856	3.085	3.578	3.030	4.068	3.841	3.512	4.180
2006/3/11	3.009	2.861	3.170	3.695	3.398	3.975	3.864	3.541	4.154
2006/3/12	2.223	1.513	3.024	2.238	1.576	3.409	2.384	1.612	3.758
2006/3/13	1.190	1.055	1.474	1.262	1.107	1.547	1.632	1.315	1.939
2006/3/14	0.913	0.825	1.127	1.261	1.142	1.377	1.917	1.549	2.545
2006/3/15	0.952	0.900	1.013	1.406	1.230	1.515	2.010	1.803	2.166
2006/3/16	1.026	0.974	1.087	1.609	1.522	1.690	2.177	2.054	2.295
2006/3/17	1.052	1.033	1.064	1.627	1.590	1.694	2.187	2.150	2.216
2006/3/18	1.119	1.052	1.149	1.653	1.621	1.685	2.180	2.150	2.267
2006/3/19	1.171	1.149	1.201	1.718	1.691	1.769	2.272	2.235	2.322
2006/3/20	1.235	1.201	1.275	1.778	1.692	1.808	2.319	2.241	2.371
2006/3/21	1.304	1.270	1.346	1.726	1.687	1.773	2.365	2.306	2.437
2006/3/22	1.365	1.343	1.388	1.818	1.782	1.843	2.391	2.318	2.463
2006/3/23	1.396	1.377	1.414	1.815	1.776	1.860	2.428	2.385	2.475
2006/3/24	1.430	1.402	1.463	1.814	1.769	1.861	2.453	2.427	2.486
2006/3/25	1.481	1.459	1.509	1.862	1.807	1.925	2.462	2.381	2.542
2006/3/26	1.489	1.461	1.518	1.942	1.855	2.036	2.641	2.500	2.853
2006/3/27	1.490	1.469	1.507	1.889	1.787	2.046	2.629	2.597	2.683
2006/3/28	1.504	1.467	1.569	1.949	1.866	2.022	2.713	2.603	2.850
2006/3/29	1.521	1.501	1.564	1.991	1.879	2.048	2.780	2.740	2.817
2006/3/30	1.518	1.504	1.528	1.974	1.894	2.052	2.693	2.640	2.818
2006/3/31	1.499	1.484	1.511	1.960	1.915	2.021	2.631	2.601	2.669
<i>Monthly average</i>	1.896	0.825	3.473	2.458	1.107	4.113	2.887	1.315	4.290

Table 2-4. Water temperature data (°C) at 3 depths in Naga Ike, April 2006

Depth Date	2.5 m			6.3 m			8.5 m		
	daily average	minimum	maximum	daily average	minimum	maximum	daily average	minimum	maximum
2006/4/1	1.488	1.479	1.501	1.970	1.908	2.052	2.605	2.580	2.649
2006/4/2	1.483	1.477	1.491	2.061	1.998	2.102	2.629	2.567	2.671
2006/4/3	1.483	1.477	1.488	2.061	2.041	2.078	2.553	2.510	2.615
2006/4/4	1.487	1.483	1.492	2.041	1.939	2.076	2.505	2.386	2.553
2006/4/5	1.494	1.491	1.498	2.002	1.943	2.028	2.417	2.362	2.477
2006/4/6	1.498	1.488	1.506	2.089	2.017	2.148	2.493	2.424	2.617
2006/4/7	1.502	1.487	1.514	2.117	2.076	2.147	2.636	2.587	2.696
2006/4/8	1.523	1.483	1.597	2.026	1.902	2.105	2.809	2.671	3.080
2006/4/9	1.569	1.527	1.625	2.160	1.914	2.314	2.867	2.821	2.934
2006/4/10	1.601	1.576	1.625	2.093	1.995	2.200	2.705	2.493	2.895
2006/4/11	1.633	1.608	1.672	2.067	2.013	2.181	2.720	2.626	2.800
2006/4/12	1.681	1.658	1.709	2.028	1.847	2.202	2.849	2.772	2.966
2006/4/13	1.698	1.661	1.818	2.186	2.086	2.298	2.971	2.783	3.113
2006/4/14	1.672	1.652	1.747	2.246	2.193	2.316	2.658	2.513	2.811
2006/4/15	1.664	1.642	1.695	2.133	2.050	2.234	2.698	2.643	2.744
2006/4/16	1.640	1.612	1.673	2.167	2.052	2.264	2.693	2.657	2.734
2006/4/17	1.673	1.646	1.738	2.175	1.960	2.295	2.758	2.703	2.852
2006/4/18	1.661	1.640	1.684	1.998	1.965	2.045	2.737	2.703	2.796
2006/4/19	1.565	1.516	1.655	2.053	1.978	2.107	2.762	2.707	2.829
2006/4/20	1.556	1.521	1.600	2.151	2.096	2.241	2.711	2.640	2.797
2006/4/21	1.563	1.516	1.604	2.132	2.088	2.172	2.736	2.664	2.800
2006/4/22	1.571	1.546	1.607	2.180	2.160	2.213	2.678	2.502	2.734
2006/4/23	1.535	1.476	1.604	2.216	2.165	2.259	2.528	2.467	2.581
2006/4/24	1.630	1.567	1.693	2.109	1.968	2.219	2.614	2.546	2.727
2006/4/25	1.634	1.609	1.688	1.918	1.865	1.959	2.686	2.608	2.783
2006/4/26	1.630	1.615	1.682	1.997	1.935	2.068	2.644	2.566	2.711
2006/4/27	1.645	1.612	1.698	2.057	1.912	2.124	2.563	2.496	2.644
2006/4/28	1.642	1.620	1.668	1.946	1.895	2.007	2.470	2.425	2.582
2006/4/29	1.642	1.620	1.682	2.009	1.950	2.069	2.439	2.395	2.501
2006/4/30	1.630	1.608	1.655	1.985	1.889	2.113	2.388	2.360	2.441
<i>Monthly average</i>	1.590	1.476	1.818	2.079	1.847	2.316	2.651	2.360	3.113

Table 2-5. Water temperature data (°C) at 3 depths in Naga Ike, May 2006

Depth Date	2.5 m			6.3 m			8.5 m		
	daily average	minimum	maximum	daily average	minimum	maximum	daily average	minimum	maximum
2006/5/1	1.545	1.485	1.609	2.031	1.901	2.109	2.337	2.234	2.400
2006/5/2	1.518	1.472	1.533	1.911	1.865	1.959	2.316	2.247	2.422
2006/5/3	1.504	1.484	1.535	1.866	1.821	1.959	2.445	2.402	2.494
2006/5/4	1.533	1.495	1.559	1.930	1.837	2.219	2.520	2.486	2.565
2006/5/5	1.547	1.535	1.558	1.990	1.906	2.123	2.510	2.375	2.570
2006/5/6	1.547	1.532	1.560	2.077	2.016	2.103	2.286	2.199	2.366
2006/5/7	1.517	1.496	1.535	2.019	2.012	2.026	2.236	2.193	2.315
2006/5/8	1.477	1.469	1.496	2.024	2.013	2.032	2.223	2.195	2.243
2006/5/9	1.468	1.458	1.473	2.002	1.975	2.014	2.259	2.183	2.324
2006/5/10	1.463	1.455	1.472	1.928	1.895	1.975	2.347	2.315	2.390
2006/5/11	1.459	1.446	1.473	1.912	1.904	1.928	2.383	2.359	2.416
2006/5/12	1.468	1.447	1.482	1.859	1.818	1.910	2.380	2.364	2.390
2006/5/13	1.426	1.410	1.450	1.938	1.828	2.009	2.389	2.376	2.398
2006/5/14	1.419	1.407	1.434	2.017	2.009	2.023	2.305	2.092	2.375
2006/5/15	1.439	1.432	1.446	1.998	1.971	2.010	2.132	2.060	2.227
2006/5/16	1.437	1.429	1.445	1.973	1.961	1.992	2.191	2.109	2.258
2006/5/17	1.411	1.400	1.428	2.006	1.993	2.013	2.144	2.109	2.183
2006/5/18	1.414	1.407	1.420	2.045	2.013	2.057	2.193	2.176	2.214
2006/5/19	1.409	1.397	1.426	2.062	2.042	2.088	2.175	2.152	2.203
2006/5/20	1.399	1.391	1.410	2.042	2.025	2.064	2.203	2.190	2.219
2006/5/21	1.410	1.398	1.420	2.057	2.027	2.087	2.169	2.137	2.202
2006/5/22	1.431	1.409	1.446	1.973	1.887	2.063	2.138	2.128	2.149
2006/5/23	1.418	1.407	1.429	1.849	1.787	1.897	2.150	2.140	2.162
2006/5/24	1.410	1.402	1.416	1.749	1.737	1.786	2.277	2.162	2.398
2006/5/25	1.387	1.372	1.405	1.778	1.754	1.829	2.372	2.333	2.398
2006/5/26	1.372	1.364	1.385	1.862	1.833	1.874	2.247	2.206	2.332
2006/5/27	1.380	1.368	1.389	1.857	1.840	1.871	2.118	2.069	2.225
2006/5/28	1.354	1.341	1.372	1.868	1.841	1.889	2.055	2.042	2.071
2006/5/29	1.337	1.323	1.346	1.898	1.890	1.901	2.083	2.042	2.106
2006/5/30	1.311	1.298	1.324	1.893	1.888	1.899	2.050	2.039	2.058
2006/5/31	1.311	1.295	1.323	1.891	1.886	1.896	2.048	2.004	2.077
<i>Monthly average</i>	1.436	1.295	1.609	1.945	1.737	2.219	2.248	2.004	2.570

Table 2-6. Water temperature data (°C) at 3 depths in Naga Ike, June 2006

Depth Date	2.5 m			6.3 m			8.5 m		
	daily average	minimum	maximum	daily average	minimum	maximum	daily average	minimum	maximum
2006/6/1	1.287	1.260	1.306	1.888	1.854	1.905	2.009	1.963	2.032
2006/6/2	1.275	1.268	1.281	1.744	1.660	1.849	2.095	1.977	2.180
2006/6/3	1.263	1.249	1.275	1.739	1.652	1.809	2.176	2.132	2.200
2006/6/4	1.252	1.242	1.259	1.659	1.638	1.698	2.051	1.993	2.129
2006/6/5	1.242	1.223	1.260	1.654	1.636	1.679	1.969	1.953	1.990
2006/6/6	1.213	1.206	1.224	1.658	1.605	1.682	1.965	1.919	1.991
2006/6/7	1.205	1.196	1.211	1.652	1.575	1.833	1.975	1.929	2.045
2006/6/8	1.191	1.166	1.201	1.666	1.552	1.842	1.977	1.806	2.047
2006/6/9	1.132	1.106	1.167	1.849	1.809	1.861	1.818	1.793	1.852
2006/6/10	1.128	1.113	1.142	1.839	1.802	1.862	1.803	1.763	1.836
2006/6/11	1.112	1.089	1.134	1.645	1.529	1.797	1.831	1.809	1.860
2006/6/12	1.087	1.061	1.117	1.524	1.506	1.553	1.857	1.838	1.877
2006/6/13	1.072	1.043	1.104	1.482	1.454	1.518	1.850	1.821	1.868
2006/6/14	0.994	0.963	1.053	1.578	1.481	1.658	1.732	1.665	1.838
2006/6/15	0.926	0.882	0.968	1.644	1.628	1.656	1.751	1.664	1.790
2006/6/16	0.872	0.841	0.911	1.620	1.600	1.634	1.801	1.787	1.819
2006/6/17	0.820	0.796	0.865	1.557	1.522	1.621	1.758	1.721	1.792
2006/6/18	0.791	0.766	0.826	1.529	1.515	1.540	1.729	1.707	1.750
2006/6/19	0.826	0.783	0.865	1.505	1.435	1.546	1.687	1.658	1.716
2006/6/20	0.752	0.681	0.859	1.470	1.433	1.505	1.672	1.661	1.682
2006/6/21	0.673	0.657	0.745	1.550	1.506	1.578	1.660	1.646	1.674
2006/6/22	0.810	0.747	0.852	1.532	1.509	1.564	1.662	1.625	1.677
2006/6/23	0.690	0.588	0.761	1.513	1.511	1.515	1.618	1.602	1.648
2006/6/24	0.630	0.560	0.736	1.514	1.509	1.517	1.642	1.636	1.653
2006/6/25	0.558	0.525	0.620	1.501	1.493	1.512	1.626	1.559	1.655
2006/6/26	0.582	0.504	0.644	1.485	1.477	1.492	1.549	1.508	1.589
2006/6/27	0.506	0.459	0.571	1.446	1.431	1.477	1.601	1.584	1.619
2006/6/28	0.575	0.507	0.632	1.386	1.350	1.432	1.560	1.543	1.598
2006/6/29	0.656	0.626	0.673	1.372	1.352	1.395	1.574	1.520	1.606
2006/6/30	0.637	0.625	0.652	1.399	1.395	1.402	1.583	1.523	1.603
<i>Monthly average</i>	0.925	0.459	1.306	1.587	1.350	1.905	1.786	1.508	2.200

Table 2-7. Water temperature data (°C) at 3 depths in Naga Ike, July 2006

Depth Date	2.5 m			6.3 m			8.5 m		
	daily average	minimum	maximum	daily average	minimum	maximum	daily average	minimum	maximum
2006/7/1	0.625	0.600	0.646	1.392	1.377	1.401	1.525	1.503	1.555
2006/7/2	0.594	0.565	0.632	1.369	1.359	1.375	1.550	1.533	1.565
2006/7/3	0.620	0.607	0.632	1.373	1.366	1.376	1.517	1.504	1.537
2006/7/4	0.617	0.607	0.626	1.351	1.339	1.366	1.548	1.534	1.564
2006/7/5	0.615	0.597	0.640	1.338	1.335	1.343	1.527	1.510	1.542
2006/7/6	0.619	0.567	0.655	1.333	1.318	1.341	1.525	1.513	1.542
2006/7/7	0.587	0.545	0.640	1.298	1.281	1.318	1.497	1.402	1.543
2006/7/8	0.618	0.594	0.654	1.298	1.283	1.310	1.427	1.407	1.453
2006/7/9	0.657	0.603	0.712	1.278	1.267	1.293	1.502	1.456	1.535
2006/7/10	0.692	0.646	0.735	1.276	1.267	1.282	1.403	1.378	1.495
2006/7/11	0.653	0.618	0.689	1.266	1.258	1.279	1.500	1.392	1.580
2006/7/12	0.610	0.595	0.621	1.250	1.240	1.259	1.567	1.554	1.584
2006/7/13	0.590	0.570	0.616	1.241	1.213	1.258	1.502	1.430	1.562
2006/7/14	0.530	0.490	0.568	1.182	1.163	1.211	1.455	1.430	1.485
2006/7/15	0.505	0.469	0.529	1.172	1.164	1.179	1.459	1.412	1.495
2006/7/16	0.496	0.478	0.516	1.162	1.157	1.164	1.453	1.440	1.467
2006/7/17	0.481	0.470	0.492	1.164	1.160	1.167	1.406	1.375	1.437
2006/7/18	0.468	0.450	0.488	1.151	1.146	1.159	1.386	1.365	1.404
2006/7/19	0.450	0.427	0.458	1.143	1.140	1.145	1.367	1.307	1.397
2006/7/20	0.429	0.403	0.447	1.147	1.141	1.153	1.287	1.271	1.304
2006/7/21	0.404	0.376	0.425	1.153	1.148	1.173	1.316	1.276	1.387
2006/7/22	0.364	0.321	0.397	1.147	1.130	1.161	1.373	1.351	1.388
2006/7/23	0.347	0.326	0.376	1.128	1.122	1.135	1.362	1.321	1.405
2006/7/24	0.335	0.314	0.350	1.103	1.072	1.123	1.357	1.331	1.396
2006/7/25	0.317	0.296	0.333	1.080	1.071	1.087	1.280	1.252	1.337
2006/7/26	0.291	0.256	0.315	1.050	1.032	1.084	1.275	1.259	1.301
2006/7/27	0.261	0.243	0.289	1.026	1.018	1.033	1.285	1.260	1.303
2006/7/28	0.239	0.201	0.267	1.035	1.000	1.052	1.204	1.183	1.280
2006/7/29	0.161	0.132	0.212	1.010	0.982	1.031	1.250	1.230	1.268
2006/7/30	0.128	0.094	0.145	0.973	0.960	0.983	1.209	1.174	1.264
2006/7/31	0.105	0.079	0.155	0.982	0.953	0.991	1.201	1.175	1.232
<i>Monthly average</i>	0.465	0.079	0.735	1.189	0.953	1.401	1.404	1.174	1.584

Table 2-8. Water temperature data (°C) at 3 depths in Naga Ike, August 2006

Depth Date	2.5 m			6.3 m			8.5 m		
	daily average	minimum	maximum	daily average	minimum	maximum	daily average	minimum	maximum
2006/8/1	0.083	0.051	0.116	0.932	0.925	0.951	1.251	1.169	1.285
2006/8/2	0.076	0.057	0.107	0.915	0.902	0.930	1.162	1.128	1.187
2006/8/3	0.054	0.028	0.077	0.915	0.898	0.923	1.168	1.157	1.187
2006/8/4	0.048	0.027	0.077	0.901	0.892	0.911	1.257	1.119	1.342
2006/8/5	0.035	0.022	0.053	0.898	0.878	0.914	1.146	1.115	1.168
2006/8/6	0.030	0.011	0.045	0.861	0.843	0.878	1.166	1.152	1.181
2006/8/7	0.021	-0.002	0.060	0.841	0.834	0.849	1.232	1.169	1.273
2006/8/8	0.036	0.016	0.068	0.832	0.813	0.846	1.170	1.151	1.210
2006/8/9	0.033	0.007	0.091	0.816	0.804	0.828	1.167	1.126	1.267
2006/8/10	0.031	0.002	0.082	0.814	0.800	0.822	1.192	1.138	1.221
2006/8/11	0.018	-0.002	0.058	0.810	0.803	0.821	1.186	1.148	1.213
2006/8/12	0.024	-0.015	0.087	0.770	0.755	0.812	1.183	1.145	1.208
2006/8/13	-0.003	-0.026	0.020	0.750	0.737	0.776	1.203	1.196	1.216
2006/8/14	0.005	-0.015	0.058	0.746	0.727	0.775	1.210	1.191	1.221
2006/8/15	0.028	-0.005	0.068	0.751	0.733	0.769	1.220	1.189	1.243
2006/8/16	0.046	0.001	0.074	0.765	0.753	0.775	1.268	1.243	1.297
2006/8/17	0.048	0.000	0.097	0.759	0.745	0.775	1.291	1.274	1.302
2006/8/18	0.040	-0.001	0.082	0.760	0.733	0.772	1.277	1.253	1.305
2006/8/19	0.043	-0.003	0.080	0.730	0.725	0.742	1.273	1.265	1.278
2006/8/20	-0.013	-0.027	0.055	0.737	0.728	0.745	1.320	1.278	1.337
2006/8/21	0.031	-0.020	0.077	0.720	0.705	0.733	1.318	1.306	1.326
2006/8/22	0.021	-0.033	0.083	0.698	0.695	0.704	1.306	1.299	1.312
2006/8/23	0.051	0.000	0.099	0.718	0.694	0.758	1.330	1.306	1.386
2006/8/24	0.089	0.014	0.166	0.747	0.703	0.806	1.363	1.308	1.445
2006/8/25	0.155	0.127	0.200	0.667	0.621	0.738	1.409	1.387	1.441
2006/8/26	0.166	0.151	0.186	0.650	0.590	0.781	1.434	1.413	1.469
2006/8/27	0.169	0.132	0.193	0.725	0.661	0.830	1.473	1.454	1.489
2006/8/28	0.148	0.105	0.205	0.795	0.701	0.837	1.469	1.449	1.477
2006/8/29	0.185	0.165	0.209	0.746	0.691	0.776	1.425	1.378	1.453
2006/8/30	0.179	0.163	0.194	0.744	0.693	0.800	1.384	1.377	1.391
2006/8/31	0.186	0.157	0.202	0.771	0.721	0.798	1.389	1.380	1.401
<i>Monthly average</i>	0.067	-0.033	0.209	0.783	0.590	0.951	1.279	1.115	1.489

Table 2-9. Water temperature data (°C) at 3 depths in Naga Ike, September 2006

Depth Date	2.5 m			6.3 m			8.5 m		
	daily average	minimum	maximum	daily average	minimum	maximum	daily average	minimum	maximum
2006/9/1	0.149	0.137	0.168	0.703	0.691	0.718	1.392	1.384	1.404
2006/9/2	0.166	0.158	0.177	0.734	0.714	0.758	1.419	1.405	1.435
2006/9/3	0.174	0.162	0.183	0.773	0.757	0.790	1.432	1.417	1.442
2006/9/4	0.167	0.143	0.186	0.780	0.753	0.792	1.406	1.399	1.419
2006/9/5	0.175	0.145	0.190	0.733	0.716	0.752	1.413	1.404	1.425
2006/9/6	0.197	0.172	0.222	0.744	0.718	0.768	1.408	1.394	1.431
2006/9/7	0.158	0.144	0.178	0.727	0.713	0.738	1.413	1.382	1.436
2006/9/8	0.195	0.175	0.223	0.728	0.655	0.830	1.390	1.379	1.396
2006/9/9	0.200	0.145	0.222	0.847	0.829	0.863	1.384	1.370	1.396
2006/9/10	0.156	0.111	0.219	0.832	0.808	0.849	1.358	1.332	1.390
2006/9/11	0.235	0.210	0.255	0.773	0.752	0.806	1.332	1.319	1.342
2006/9/12	0.180	0.160	0.206	0.758	0.721	0.776	1.359	1.327	1.383
2006/9/13	0.192	0.157	0.225	0.771	0.748	0.791	1.389	1.372	1.407
2006/9/14	0.235	0.208	0.248	0.753	0.738	0.763	1.387	1.370	1.409
2006/9/15	0.206	0.190	0.217	0.733	0.638	0.759	1.376	1.353	1.393
2006/9/16	0.223	0.191	0.251	0.702	0.620	0.811	1.377	1.352	1.419
2006/9/17	0.226	0.207	0.240	0.806	0.688	0.837	1.388	1.363	1.416
2006/9/18	0.252	0.228	0.289	0.743	0.679	0.830	1.397	1.371	1.443
2006/9/19	0.256	0.231	0.295	0.827	0.799	0.850	1.404	1.299	1.465
2006/9/20	0.251	0.230	0.273	0.742	0.676	0.797	1.440	1.402	1.463
2006/9/21	0.265	0.229	0.307	0.692	0.663	0.717	1.455	1.410	1.505
2006/9/22	0.276	0.258	0.310	0.730	0.714	0.752	1.510	1.470	1.525
2006/9/23	0.303	0.265	0.354	0.765	0.719	0.844	1.538	1.498	1.587
2006/9/24	0.429	0.314	0.642	0.938	0.852	1.114	1.690	1.582	1.840
2006/9/25	0.549	0.436	0.755	1.028	0.941	1.138	1.926	1.786	2.064
2006/9/26	0.622	0.532	0.722	1.193	1.062	1.317	2.118	1.985	2.238
2006/9/27	0.725	0.630	0.828	1.354	1.239	1.506	2.319	2.217	2.463
2006/9/28	0.828	0.745	0.946	1.494	1.390	1.613	2.567	2.405	2.834
2006/9/29	0.904	0.826	0.984	1.652	1.569	1.736	2.980	2.617	3.606
2006/9/30	1.023	0.914	1.137	1.822	1.689	1.948	3.482	3.252	3.831
<i>Monthly average</i>	0.331	0.111	1.137	0.896	0.620	1.948	1.648	1.299	3.831

Table 2-10. Water temperature data (°C) at 3 depths in Naga Ike, October 2006

Depth Date	2.5 m			6.3 m			8.5 m		
	daily average	minimum	maximum	daily average	minimum	maximum	daily average	minimum	maximum
2006/10/1	1.169	1.052	1.282	2.032	1.890	2.143	3.772	3.671	3.934
2006/10/2	1.317	1.199	1.431	2.267	2.116	2.480	3.761	3.629	3.966
2006/10/3	1.444	1.335	1.566	2.514	2.346	2.698	3.772	3.627	3.953
2006/10/4	1.562	1.463	1.654	2.665	2.555	2.769	3.788	3.676	3.936
2006/10/5	1.627	1.585	1.672	2.804	2.732	2.870	3.794	3.632	3.906
2006/10/6	1.697	1.631	1.770	3.130	2.880	3.391	3.739	3.593	4.018
2006/10/7	1.760	1.702	1.821	3.572	3.410	3.732	3.731	3.611	3.933
2006/10/8	1.819	1.761	1.896	3.658	3.607	3.699	3.667	3.489	3.901
2006/10/9	1.902	1.848	1.965	3.646	3.624	3.680	3.695	3.517	4.072
2006/10/10	1.967	1.935	1.991	3.647	3.635	3.667	3.615	3.503	3.657
2006/10/11	2.014	1.978	2.053	3.706	3.641	3.776	3.599	3.495	3.717
2006/10/12	2.061	2.023	2.097	3.640	3.590	3.695	3.574	3.509	3.652
2006/10/13	2.117	2.073	2.155	3.647	3.585	3.718	3.573	3.459	3.727
2006/10/14	2.178	2.130	2.221	3.691	3.607	3.743	3.672	3.490	3.882
2006/10/15	2.244	2.190	2.288	3.615	3.559	3.658	3.793	3.534	3.990
2006/10/16	2.300	2.262	2.334	3.597	3.557	3.643	3.862	3.602	3.970
2006/10/17	2.390	2.306	2.494	3.658	3.580	3.826	3.865	3.631	4.169
2006/10/18	2.537	2.419	2.650	3.635	3.564	3.830	4.111	4.016	4.267
2006/10/19	2.663	2.564	2.742	3.824	3.474	4.173	4.122	4.015	4.261
2006/10/20	2.833	2.671	2.985	4.216	3.962	4.378	4.164	4.001	4.276
2006/10/21	3.237	2.869	3.609	4.302	4.243	4.417	4.267	4.176	4.394
2006/10/22	3.672	3.426	3.944	4.358	4.242	4.525	4.337	4.252	4.457
2006/10/23	4.005	3.586	4.453	4.160	4.024	4.267	4.062	3.907	4.216
2006/10/24	4.111	4.011	4.264	4.034	3.931	4.187	4.058	3.926	4.209
2006/10/25	4.170	4.018	4.351	4.080	3.967	4.208	4.097	3.979	4.260
2006/10/26	4.275	4.157	4.416	4.198	4.072	4.332	4.217	4.103	4.340
2006/10/27	4.383	4.275	4.493	4.326	4.221	4.456	4.362	4.239	4.488
2006/10/28	4.534	4.424	4.658	4.476	4.367	4.599	4.502	4.395	4.629
2006/10/29	4.710	4.578	4.820	4.650	4.518	4.780	4.675	4.533	4.792
2006/10/30	4.910	4.792	5.027	4.840	4.705	4.975	4.849	4.712	4.986
2006/10/31	5.090	4.981	5.220	5.024	4.895	5.169	5.042	4.910	5.159
<i>Monthly average</i>	2.797	1.052	5.220	3.729	1.890	5.169	4.004	3.459	5.159

Table 2-11. Water temperature data (°C) at 3 depths in Naga Ike, November 2006

Depth Date	2.5 m			6.3 m			8.5 m		
	daily average	minimum	maximum	daily average	minimum	maximum	daily average	minimum	maximum
2006/11/1	5.303	5.164	5.457	5.232	5.087	5.349	5.248	5.105	5.381
2006/11/2	5.571	5.402	5.705	5.481	5.325	5.623	5.482	5.327	5.627
2006/11/3	5.822	5.675	5.962	5.720	5.558	5.861	5.721	5.549	5.889
2006/11/4	6.072	5.935	6.218	5.971	5.816	6.107	5.968	5.785	6.102
2006/11/5	6.324	6.186	6.480	6.226	6.052	6.348	6.218	6.036	6.364
2006/11/6	6.558	6.437	6.695	6.456	6.307	6.582	6.465	6.296	6.591
2006/11/7	6.797	6.649	6.960	6.706	6.543	6.827	6.709	6.533	6.861
2006/11/8	7.005	6.916	7.111	6.914	6.777	7.026	6.931	6.791	7.034
2006/11/9	7.196	7.062	7.352	7.109	6.993	7.234	7.126	6.984	7.244
2006/11/10	7.454	7.245	7.622	7.364	7.203	7.510	7.369	7.184	7.514
2006/11/11	7.737	7.580	7.903	7.636	7.463	7.782	7.641	7.442	7.800
2006/11/12	7.990	7.849	8.120	7.892	7.724	8.012	7.902	7.730	8.043
2006/11/13	8.186	8.065	8.303	8.103	7.978	8.217	8.114	7.963	8.234
2006/11/14	8.363	8.250	8.465	8.282	8.171	8.395	8.298	8.141	8.414
2006/11/15	8.524	8.423	8.622	8.447	8.346	8.555	8.465	8.333	8.569
2006/11/16	8.659	8.571	8.729	8.584	8.505	8.660	8.608	8.484	8.692
2006/11/17	8.751	8.678	8.825	8.687	8.622	8.758	8.711	8.607	8.789
2006/11/18	8.843	8.780	8.912	8.782	8.714	8.841	8.808	8.728	8.875
2006/11/19	8.913	8.861	8.971	8.855	8.802	8.916	8.881	8.822	8.936
2006/11/20	8.936	8.914	8.970	8.878	8.858	8.910	8.904	8.881	8.939
2006/11/21	8.941	8.890	8.998	8.877	8.831	8.941	8.906	8.865	8.956
2006/11/22	9.004	8.936	9.066	8.943	8.885	8.999	8.967	8.871	9.035
2006/11/23	9.075	9.016	9.137	9.013	8.960	9.074	9.038	8.950	9.099
2006/11/24	9.142	9.083	9.205	9.086	9.027	9.150	9.107	9.017	9.171
2006/11/25	9.208	9.151	9.270	9.151	9.096	9.211	9.173	9.093	9.240
2006/11/26	9.257	9.207	9.311	9.196	9.145	9.255	9.216	9.134	9.284
2006/11/27	9.301	9.232	9.368	9.237	9.181	9.304	9.262	9.170	9.325
2006/11/28	9.361	9.294	9.418	9.301	9.242	9.366	9.325	9.238	9.393
2006/11/29	9.431	9.350	9.498	9.370	9.292	9.440	9.390	9.273	9.462
2006/11/30	9.515	9.435	9.586	9.450	9.369	9.529	9.475	9.371	9.544
<i>Monthly average</i>	8.041	5.164	9.586	7.965	5.087	9.529	7.981	5.105	9.544

Table 2-12. Water temperature data (°C) at 3 depths in Naga Ike, December 2006

Depth Date	2.5 m			6.3 m			8.5 m		
	daily average	minimum	maximum	daily average	minimum	maximum	daily average	minimum	maximum
2006/12/1	9.599	9.517	9.676	9.533	9.458	9.610	9.562	9.453	9.641
2006/12/2	9.661	9.601	9.711	9.595	9.544	9.646	9.623	9.538	9.671
2006/12/3	9.699	9.630	9.769	9.630	9.567	9.707	9.650	9.549	9.728
2006/12/4	9.683	9.646	9.725	9.620	9.586	9.663	9.644	9.571	9.693
2006/12/5	9.621	9.573	9.668	9.558	9.517	9.594	9.581	9.505	9.635
2006/12/6	9.609	9.549	9.678	9.546	9.491	9.597	9.571	9.480	9.620
2006/12/7	9.567	9.531	9.621	9.500	9.470	9.536	9.524	9.493	9.563
2006/12/8	9.549	9.489	9.615	9.486	9.435	9.564	9.502	9.417	9.562
2006/12/9	9.615	9.533	9.697	9.554	9.472	9.643	9.579	9.467	9.660
2006/12/10	9.702	9.639	9.759	9.641	9.577	9.714	9.672	9.610	9.741
2006/12/11	9.752	9.686	9.807	9.691	9.633	9.760	9.724	9.660	9.781
2006/12/12	9.794	9.730	9.848	9.733	9.664	9.794	9.765	9.702	9.820
2006/12/13	9.819	9.761	9.873	9.756	9.701	9.820	9.790	9.729	9.855
2006/12/14	9.833	9.779	9.888	9.777	9.721	9.835	9.803	9.748	9.855
2006/12/15	9.843	9.776	9.889	9.780	9.708	9.846	9.813	9.737	9.859
2006/12/16	9.855	9.787	9.915	9.796	9.730	9.866	9.828	9.759	9.883
2006/12/17	9.867	9.794	9.932	9.795	9.712	9.860	9.811	9.696	9.882
2006/12/18	9.857	9.587	10.026	9.760	9.618	9.861	9.791	9.659	9.890
2006/12/19	10.006	9.790	10.162	9.900	9.700	10.040	9.926	9.737	10.050
2006/12/20	10.077	9.931	10.203	10.018	9.844	10.143	10.042	9.871	10.164
2006/12/21	10.086	9.991	10.176	10.027	9.913	10.111	10.052	9.942	10.135
2006/12/22	10.036	9.963	10.119	9.976	9.900	10.063	10.009	9.944	10.087
2006/12/23	9.970	9.885	10.044	9.897	9.815	9.980	9.934	9.857	10.017
2006/12/24	9.807	9.669	9.951	9.748	9.621	9.914	9.774	9.661	9.936
2006/12/25	9.437	8.846	9.780	9.480	9.167	9.716	9.511	9.160	9.730
2006/12/26	8.675	8.336	9.172	8.630	8.281	9.064	8.669	8.319	9.054
2006/12/27	8.052	7.784	8.404	8.002	7.792	8.373	8.040	7.853	8.413
2006/12/28	7.586	7.366	7.929	7.519	7.353	7.852	7.554	7.382	7.906
2006/12/29	7.217	7.013	7.400	7.137	6.910	7.348	7.184	6.952	7.376
2006/12/30	6.879	6.753	7.005	6.809	6.735	6.945	6.843	6.767	6.990
2006/12/31	6.744	6.623	6.856	6.684	6.569	6.770	6.725	6.619	6.803
<i>Monthly average</i>	9.339	6.623	10.203	9.277	6.569	10.143	9.306	6.619	10.164

Table 2-13. Water temperature data (°C) at 3 depths in Naga Ike, January 2007

Depth Date	2.5 m			6.3 m			8.5 m		
	daily average	minimum	maximum	daily average	minimum	maximum	daily average	minimum	maximum
2007/1/1	6.759	6.594	6.920	6.712	6.531	6.815	6.746	6.591	6.856
2007/1/2	6.785	6.637	6.950	6.678	6.535	6.822	6.706	6.497	6.829
2007/1/3	6.391	6.157	6.802	6.279	6.038	6.757	6.326	5.981	6.770
2007/1/4	6.184	5.843	6.406	6.085	5.879	6.285	6.112	5.892	6.342
2007/1/5	6.284	6.041	6.598	6.192	5.937	6.530	6.214	5.991	6.529
2007/1/6	6.548	6.291	6.954	6.440	6.206	6.712	6.472	6.158	6.716
2007/1/7	6.947	6.638	7.320	6.823	6.559	7.156	6.856	6.587	7.195
2007/1/8	7.296	7.001	7.600	7.179	6.931	7.445	7.204	6.954	7.461
2007/1/9	7.704	7.396	8.138	7.578	7.327	7.941	7.593	7.340	7.892
2007/1/10	7.950	7.723	8.229	7.852	7.640	8.112	7.883	7.687	8.111
2007/1/11	8.061	7.816	8.397	7.949	7.726	8.177	7.970	7.692	8.224
2007/1/12	8.059	7.848	8.279	7.979	7.801	8.138	8.021	7.833	8.174
2007/1/13	7.833	7.705	8.090	7.767	7.569	8.063	7.812	7.624	8.090
<i>Monthly average</i>	7.138	5.843	8.397	7.039	5.879	8.177	7.070	5.892	8.224

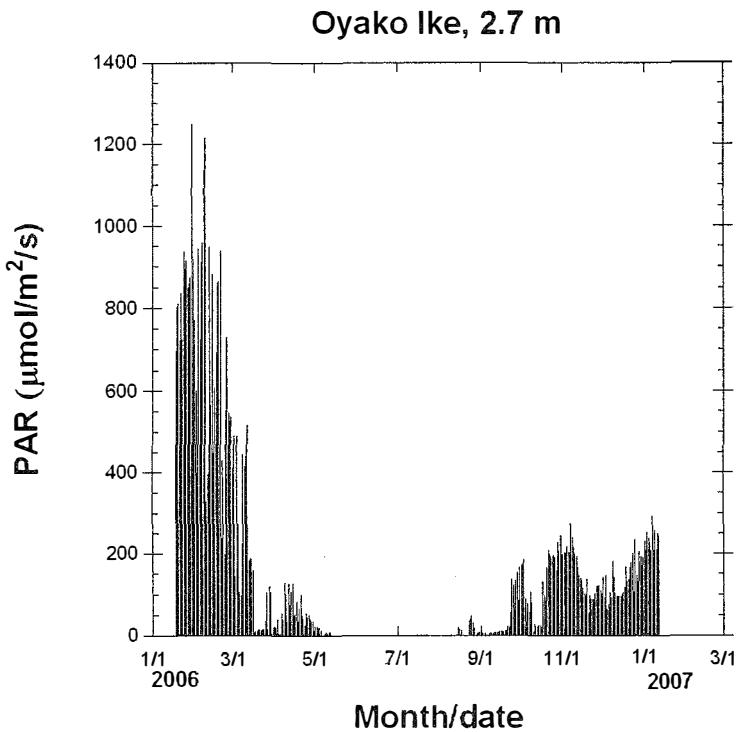


Fig. 5. Seasonal changes of photosynthetically active radiation (PAR) at 2.7 m depth in Oyako Ike (2006-2007). 10-minute interval data.

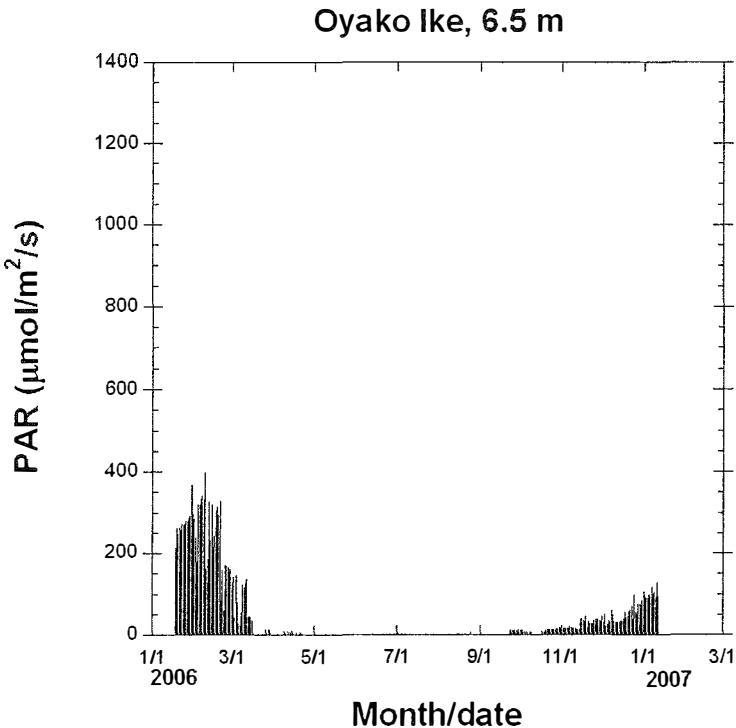


Fig. 6. Seasonal changes of photosynthetically active radiation (PAR) at 6.5 m depth in Oyako Ike (2006-2007). 10-minute interval data.

Table 3-1. Photosynthetic active radiation data ($\mu\text{mol}/\text{m}^2/\text{s}$) at 2 depths in Oyako Ike, January 2006

Depth Date	2.7 m			6.5 m		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/1/18	231	2	696	68	0	213
2006/1/19	309	4	802	94	1	262
2006/1/20	281	3	811	90	0	248
2006/1/21	247	2	720	82	0	263
2006/1/22	324	2	835	105	0	258
2006/1/23	314	3	723	106	0	273
2006/1/24	314	3	936	107	0	269
2006/1/25	330	1	895	108	0	272
2006/1/26	310	1	914	105	0	278
2006/1/27	323	0	850	110	0	279
2006/1/28	329	1	859	112	0	287
2006/1/29	318	0	874	111	0	291
2006/1/30	246	0	1250	86	0	367
2006/1/31	315	0	919	113	0	297
<i>Monthly average</i>	299	0	1250	100	0	367

Table 3-2. Photosynthetic active radiation data ($\mu\text{mol}/\text{m}^2/\text{s}$) at 2 depths in Oyako Ike, February 2006

Depth Date	2.7 m			6.5 m		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/2/1	233	0	771	90	0	283
2006/2/2	151	0	599	65	0	240
2006/2/3	140	0	401	62	0	177
2006/2/4	321	0	942	121	0	319
2006/2/5	183	0	724	81	0	318
2006/2/6	232	0	910	98	0	334
2006/2/7	336	0	957	134	0	340
2006/2/8	317	0	1137	122	0	332
2006/2/9	147	0	1214	66	0	398
2006/2/10	121	0	330	57	0	160
2006/2/11	138	0	395	65	0	187
2006/2/12	276	0	948	109	0	325
2006/2/13	162	0	565	74	0	231
2006/2/14	278	0	880	111	0	318
2006/2/15	106	0	447	51	0	216
2006/2/16	181	0	608	78	0	241
2006/2/17	203	0	695	92	0	304
2006/2/18	261	0	862	101	0	315
2006/2/19	259	0	864	100	0	295
2006/2/20	181	0	939	72	0	327
2006/2/21	76	0	237	25	0	84
2006/2/22	151	0	429	53	0	157
2006/2/23	78	0	199	22	0	59
2006/2/24	188	0	552	56	0	171
2006/2/25	136	0	729	40	0	167
2006/2/26	183	0	546	54	0	165
2006/2/27	141	0	525	40	0	160
2006/2/28	173	0	536	50	0	160
<i>Monthly average</i>	191	0	1214	75	0	398

Table 3-3. Photosynthetic active radiation data ($\mu\text{mol}/\text{m}^2/\text{s}$) at 2 depths in Oyako Ike, March 2006

Depth Date	2.7 m			6.5 m		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/3/1	121	0	410	35	0	128
2006/3/2	128	0	489	37	0	142
2006/3/3	36	0	143	10	0	42
2006/3/4	151	0	488	44	0	147
2006/3/5	73	0	275	20	0	80
2006/3/6	30	0	104	7	0	27
2006/3/7	16	0	96	4	0	23
2006/3/8	46	0	224	11	0	55
2006/3/9	129	0	445	34	0	123
2006/3/10	121	0	415	32	0	115
2006/3/11	112	0	439	30	0	126
2006/3/12	121	0	515	30	0	136
2006/3/13	40	0	182	9	0	43
2006/3/14	51	0	189	11	0	44
2006/3/15	42	0	185	9	0	42
2006/3/16	31	0	159	6	0	36
2006/3/17	2	0	8	0	0	2
2006/3/18	2	0	11	0	0	2
2006/3/19	3	0	10	0	0	2
2006/3/20	4	0	14	0	0	2
2006/3/21	4	0	16	0	0	3
2006/3/22	3	0	13	0	0	2
2006/3/23	4	0	16	0	0	2
2006/3/24	4	0	16	0	0	2
2006/3/25	7	0	35	1	0	4
2006/3/26	26	0	104	3	0	13
2006/3/27	5	0	16	0	0	2
2006/3/28	27	0	119	2	0	12
2006/3/29	20	0	105	2	0	9
2006/3/30	1	0	6	0	0	0
2006/3/31	4	0	21	0	0	2
<i>Monthly average</i>	44	0	515	11	0	147

Table 3-4. Photosynthetic active radiation data ($\mu\text{mol}/\text{m}^2/\text{s}$) at 2 depths in Oyako Ike, April 2006

Depth Date	2.7 m			6.5 m		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/4/1	4	0	22	0	0	2
2006/4/2	4	0	21	0	0	2
2006/4/3	4	0	39	0	0	3
2006/4/4	1	0	5	0	0	0
2006/4/5	1	0	6	0	0	0
2006/4/6	11	0	54	0	0	3
2006/4/7	9	0	39	0	0	2
2006/4/8	23	0	129	1	0	8
2006/4/9	18	0	101	1	0	6
2006/4/10	7	0	35	0	0	2
2006/4/11	15	0	125	1	0	9
2006/4/12	13	0	76	0	0	4
2006/4/13	17	0	106	1	0	6
2006/4/14	15	0	125	1	0	7
2006/4/15	9	0	50	0	0	3
2006/4/16	10	0	52	0	0	3
2006/4/17	14	0	81	1	0	5
2006/4/18	6	0	34	0	0	2
2006/4/19	10	0	68	0	0	4
2006/4/20	9	0	100	0	0	6
2006/4/21	7	0	50	0	0	2
2006/4/22	7	0	41	0	0	2
2006/4/23	4	0	25	0	0	1
2006/4/24	8	0	54	0	0	3
2006/4/25	6	0	44	0	0	2
2006/4/26	6	0	51	0	0	2
2006/4/27	6	0	39	0	0	2
2006/4/28	5	0	34	0	0	1
2006/4/29	5	0	34	0	0	2
2006/4/30	2	0	13	0	0	0
<i>Monthly average</i>	9	0	129	0	0	9

Table 3-5. Photosynthetic active radiation data ($\mu\text{mol}/ \text{m}^2/\text{s}$) at 2 depths in Oyako Ike, May 2006

Depth Date	2.7 m			6.5 m		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/5/1	2	0	14	0	0	0
2006/5/2	2	0	22	0	0	1
2006/5/3	2	0	18	0	0	0
2006/5/4	3	0	20	0	0	0
2006/5/5	1	0	13	0	0	0
2006/5/6	0	0	0	0	0	0
2006/5/7	0	0	0	0	0	0
2006/5/8	1	0	6	0	0	0
2006/5/9	1	0	9	0	0	0
2006/5/10	0	0	6	0	0	0
2006/5/11	1	0	9	0	0	0
2006/5/12	1	0	9	0	0	0
2006/5/13	0	0	0	0	0	0
2006/5/14	0	0	0	0	0	0
2006/5/15	0	0	0	0	0	0
2006/5/16	0	0	0	0	0	0
2006/5/17	0	0	0	0	0	0
2006/5/18	0	0	2	0	0	0
2006/5/19	0	0	3	0	0	0
2006/5/20	0	0	0	0	0	0
2006/5/21	0	0	0	0	0	0
2006/5/22	0	0	2	0	0	0
2006/5/23	0	0	1	0	0	0
2006/5/24	0	0	2	0	0	0
2006/5/25	0	0	2	0	0	0
2006/5/26	0	0	0	0	0	0
2006/5/27	0	0	0	0	0	0
2006/5/28	0	0	0	0	0	0
2006/5/29	0	0	0	0	0	0
2006/5/30	0	0	0	0	0	0
2006/5/31	0	0	0	0	0	0
<i>Monthly average</i>	0	0	22	0	0	1

Table 3-6. Photosynthetic active radiation data ($\mu\text{mol}/ \text{m}^2/\text{s}$) at 2 depths in Oyako Ike, June 2006

Depth Date	2.7 m			6.5 m		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/6/1	0	0	0	0	0	0
2006/6/2	0	0	0	0	0	0
2006/6/3	0	0	0	0	0	0
2006/6/4	0	0	0	0	0	0
2006/6/5	0	0	0	0	0	0
2006/6/6	0	0	0	0	0	0
2006/6/7	0	0	0	0	0	0
2006/6/8	0	0	0	0	0	0
2006/6/9	0	0	0	0	0	0
2006/6/10	0	0	0	0	0	0
2006/6/11	0	0	0	0	0	0
2006/6/12	0	0	0	0	0	0
2006/6/13	0	0	0	0	0	0
2006/6/14	0	0	0	0	0	0
2006/6/15	0	0	0	0	0	0
2006/6/16	0	0	0	0	0	0
2006/6/17	0	0	0	0	0	0
2006/6/18	0	0	0	0	0	0
2006/6/19	0	0	0	0	0	0
2006/6/20	0	0	0	0	0	0
2006/6/21	0	0	0	0	0	0
2006/6/22	0	0	0	0	0	0
2006/6/23	0	0	0	0	0	0
2006/6/24	0	0	0	0	0	0
2006/6/25	0	0	0	0	0	0
2006/6/26	0	0	0	0	0	0
2006/6/27	0	0	0	0	0	0
2006/6/28	0	0	0	0	0	0
2006/6/29	0	0	0	0	0	0
2006/6/30	0	0	0	0	0	0
<i>Monthly average</i>	0	0	0	0	0	0

Table 3-7. Photosynthetic active radiation data ($\mu\text{mol}/\text{m}^2/\text{s}$) at 2 depths in Oyako Ike, July 2006

Depth Date	2.7 m			6.5 m		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/7/1	0	0	0	0	0	0
2006/7/2	0	0	0	0	0	0
2006/7/3	0	0	0	0	0	0
2006/7/4	0	0	0	0	0	0
2006/7/5	0	0	0	0	0	0
2006/7/6	0	0	0	0	0	0
2006/7/7	0	0	0	0	0	0
2006/7/8	0	0	0	0	0	0
2006/7/9	0	0	0	0	0	0
2006/7/10	0	0	0	0	0	0
2006/7/11	0	0	0	0	0	0
2006/7/12	0	0	0	0	0	0
2006/7/13	0	0	1	0	0	0
2006/7/14	0	0	1	0	0	0
2006/7/15	0	0	1	0	0	0
2006/7/16	0	0	2	0	0	0
2006/7/17	0	0	2	0	0	0
2006/7/18	0	0	1	0	0	0
2006/7/19	0	0	0	0	0	0
2006/7/20	0	0	0	0	0	0
2006/7/21	0	0	1	0	0	0
2006/7/22	0	0	0	0	0	0
2006/7/23	0	0	0	0	0	0
2006/7/24	0	0	1	0	0	0
2006/7/25	0	0	0	0	0	0
2006/7/26	0	0	1	0	0	0
2006/7/27	0	0	0	0	0	0
2006/7/28	0	0	0	0	0	0
2006/7/29	0	0	0	0	0	0
2006/7/30	0	0	0	0	0	0
2006/7/31	0	0	0	0	0	0
<i>Monthly average</i>	0	0	2	0	0	0

Table 3-8. Photosynthetic active radiation data ($\mu\text{mol}/\text{m}^2/\text{s}$) at 2 depths in Oyako Ike, August 2006

Depth Date	2.7 m			6.5 m		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/8/1	0	0	0	0	0	0
2006/8/2	0	0	2	0	0	0
2006/8/3	0	0	2	0	0	0
2006/8/4	0	0	1	0	0	0
2006/8/5	0	0	2	0	0	0
2006/8/6	0	0	2	0	0	0
2006/8/7	0	0	2	0	0	0
2006/8/8	0	0	2	0	0	0
2006/8/9	0	0	0	0	0	0
2006/8/10	0	0	0	0	0	0
2006/8/11	0	0	0	0	0	0
2006/8/12	0	0	0	0	0	0
2006/8/13	0	0	0	0	0	0
2006/8/14	0	0	0	0	0	0
2006/8/15	3	0	19	0	0	2
2006/8/16	2	0	15	0	0	0
2006/8/17	2	0	12	0	0	0
2006/8/18	0	0	3	0	0	0
2006/8/19	0	0	1	0	0	0
2006/8/20	0	0	2	0	0	0
2006/8/21	0	0	2	0	0	0
2006/8/22	0	0	1	0	0	0
2006/8/23	7	0	35	0	0	3
2006/8/24	7	0	39	0	0	4
2006/8/25	7	0	47	0	0	5
2006/8/26	5	0	31	0	0	2
2006/8/27	3	0	18	0	0	1
2006/8/28	0	0	3	0	0	0
2006/8/29	1	0	6	0	0	0
2006/8/30	1	0	6	0	0	0
2006/8/31	1	0	7	0	0	0
<i>Monthly average</i>	1	0	47	0	0	5

Table 3-9. Photosynthetic active radiation data ($\mu\text{mol}/\text{m}^2/\text{s}$) at 2 depths in Oyako Ike, September 2006

Depth Date	2.7 m			6.5 m		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/9/1	1	0	8	0	0	0
2006/9/2	1	0	5	0	0	0
2006/9/3	1	0	3	0	0	0
2006/9/4	1	0	5	0	0	0
2006/9/5	0	0	2	0	0	0
2006/9/6	0	0	4	0	0	0
2006/9/7	1	0	5	0	0	0
2006/9/8	1	0	5	0	0	0
2006/9/9	1	0	6	0	0	0
2006/9/10	1	0	6	0	0	0
2006/9/11	1	0	7	0	0	0
2006/9/12	1	0	8	0	0	0
2006/9/13	1	0	7	0	0	0
2006/9/14	1	0	8	0	0	0
2006/9/15	2	0	10	0	0	0
2006/9/16	3	0	10	0	0	0
2006/9/17	3	0	11	0	0	0
2006/9/18	3	0	11	0	0	0
2006/9/19	3	0	13	0	0	1
2006/9/20	3	0	13	0	0	1
2006/9/21	3	0	22	0	0	1
2006/9/22	3	0	20	0	0	2
2006/9/23	16	0	54	1	0	5
2006/9/24	30	0	137	2	0	11
2006/9/25	27	0	121	2	0	9
2006/9/26	22	0	78	2	0	7
2006/9/27	34	0	133	2	0	9
2006/9/28	32	0	153	2	0	9
2006/9/29	24	0	84	2	0	7
2006/9/30	42	0	166	3	0	12
<i>Monthly average</i>	9	0	166	1	0	12

Table 3-10. Photosynthetic active radiation data ($\mu\text{mol}/\text{m}^2/\text{s}$) at 2 depths in Oyako Ike, October 2006

Depth Date	2.7 m			6.5 m		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/10/1	45	0	171	2	0	9
2006/10/2	46	0	174	2	0	9
2006/10/3	45	0	187	2	0	11
2006/10/4	32	0	88	2	0	6
2006/10/5	10	0	33	0	0	2
2006/10/6	22	0	78	1	0	5
2006/10/7	18	0	57	1	0	3
2006/10/8	20	0	107	1	0	6
2006/10/9	18	0	80	1	0	5
2006/10/10	3	0	11	0	0	0
2006/10/11	8	0	27	0	0	2
2006/10/12	6	0	23	0	0	2
2006/10/13	7	0	23	0	0	2
2006/10/14	8	0	24	0	0	2
2006/10/15	8	0	25	0	0	2
2006/10/16	5	0	20	0	0	1
2006/10/17	32	0	132	1	0	7
2006/10/18	30	0	96	1	0	6
2006/10/19	26	0	84	1	0	5
2006/10/20	45	0	166	2	0	9
2006/10/21	43	0	208	2	0	12
2006/10/22	66	0	199	4	0	13
2006/10/23	66	0	194	4	0	12
2006/10/24	67	0	194	4	0	12
2006/10/25	68	0	196	4	0	13
2006/10/26	67	0	191	4	0	12
2006/10/27	55	0	159	4	0	11
2006/10/28	56	0	228	3	0	16
2006/10/29	70	0	205	4	0	13
2006/10/30	66	0	246	4	0	17
2006/10/31	63	0	199	4	0	14
<i>Monthly average</i>	36	0	246	2	0	17

Table 3-11. Photosynthetic active radiation data ($\mu\text{mol}/\text{m}^2/\text{s}$) at 2 depths in Oyako Ike, November 2006

Depth Date	2.7 m			6.5 m		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/11/1	76	0	197	5	0	14
2006/11/2	77	0	203	5	0	15
2006/11/3	77	0	199	5	0	14
2006/11/4	77	0	217	5	0	16
2006/11/5	80	0	202	5	0	14
2006/11/6	72	0	203	5	0	15
2006/11/7	84	0	273	6	0	20
2006/11/8	62	0	239	4	0	17
2006/11/9	72	0	216	5	0	15
2006/11/10	82	0	198	5	0	14
2006/11/11	79	0	192	6	0	14
2006/11/12	67	0	166	5	0	13
2006/11/13	60	0	146	4	0	12
2006/11/14	56	0	139	4	0	12
2006/11/15	54	0	133	8	0	38
2006/11/16	46	0	113	15	0	39
2006/11/17	42	0	101	14	0	34
2006/11/18	41	0	98	13	0	32
2006/11/19	33	0	135	11	0	45
2006/11/20	22	0	55	7	0	18
2006/11/21	34	0	96	10	0	32
2006/11/22	38	0	90	12	0	28
2006/11/23	37	0	88	12	0	28
2006/11/24	38	0	88	12	0	28
2006/11/25	39	0	101	12	0	36
2006/11/26	38	0	118	11	0	38
2006/11/27	44	0	118	13	0	36
2006/11/28	42	0	121	13	0	38
2006/11/29	45	0	110	14	0	35
2006/11/30	44	0	101	14	0	33
<i>Monthly average</i>	55	0	273	9	0	45

Table 3-12. Photosynthetic active radiation data ($\mu\text{mol}/\text{m}^2/\text{s}$) at 2 depths in Oyako Ike, December 2006

Depth Date	2.7 m			6.5 m		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/12/1	46	0	142	15	0	45
2006/12/2	33	0	92	10	0	30
2006/12/3	44	0	146	14	0	49
2006/12/4	24	0	64	7	0	21
2006/12/5	32	0	75	10	0	25
2006/12/6	32	0	105	10	0	35
2006/12/7	27	0	91	8	0	29
2006/12/8	37	1	181	12	0	59
2006/12/9	51	1	142	16	0	47
2006/12/10	42	1	103	13	0	33
2006/12/11	41	1	93	13	0	30
2006/12/12	41	1	95	13	0	30
2006/12/13	40	1	93	12	0	29
2006/12/14	40	0	95	12	0	30
2006/12/15	42	0	99	13	0	32
2006/12/16	43	0	105	13	0	33
2006/12/17	50	1	117	15	0	37
2006/12/18	56	1	167	18	0	55
2006/12/19	58	1	131	18	0	43
2006/12/20	59	1	135	19	0	44
2006/12/21	57	2	165	18	0	56
2006/12/22	65	0	178	21	0	60
2006/12/23	59	0	201	20	0	69
2006/12/24	42	2	107	15	0	38
2006/12/25	71	2	236	26	0	96
2006/12/26	56	2	147	20	0	55
2006/12/27	53	2	131	20	0	50
2006/12/28	57	1	204	21	0	74
2006/12/29	45	1	193	17	0	75
2006/12/30	56	2	170	22	0	72
2006/12/31	86	3	190	33	0	84
<i>Monthly average</i>	48	0	236	16	0	96

Table 3-13. Photosynthetic active radiation data ($\mu\text{mol}/\text{m}^2/\text{s}$) at 2 depths in Oyako Ike, January 2007

Depth Date	2.7 m			6.5 m		
	daily average	minimum	maximum	daily average	minimum	maximum
2007/1/1	91	3	229	35	1	104
2007/1/2	96	2	207	39	1	93
2007/1/3	104	2	252	39	1	89
2007/1/4	101	2	238	39	1	89
2007/1/5	89	3	227	37	1	96
2007/1/6	74	2	207	32	0	93
2007/1/7	92	2	291	38	0	116
2007/1/8	87	2	207	36	0	96
2007/1/9	84	1	258	36	0	104
2007/1/10	71	2	211	30	1	91
2007/1/11	73	2	249	32	0	127
2007/1/12	73	2	242	32	0	94
<i>Monthly average</i>	86	1	291	36	0	127

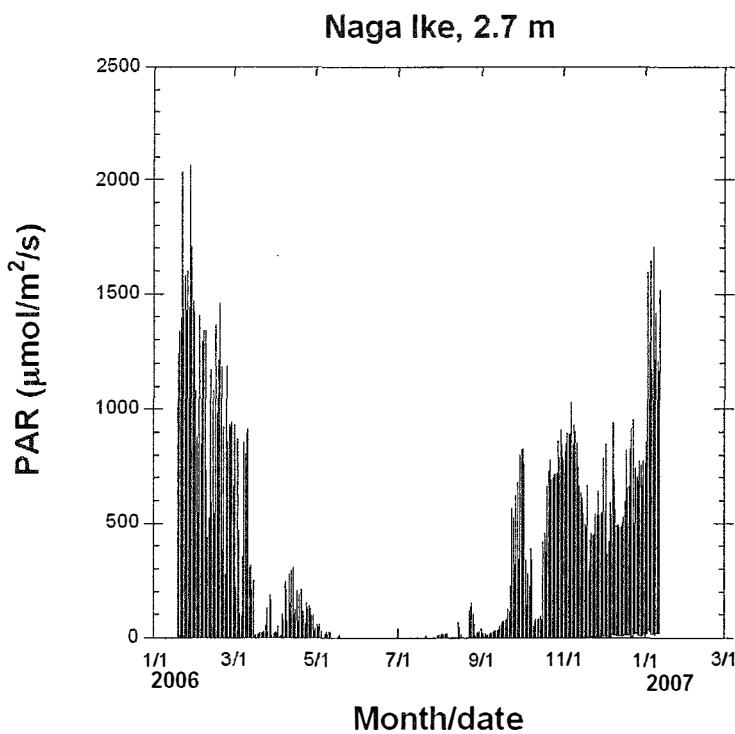


Fig. 7. Seasonal changes of photosynthetically active radiation (PAR) at 2.7 m depth in Naga Ike (2006-2007). 10-minute interval data.

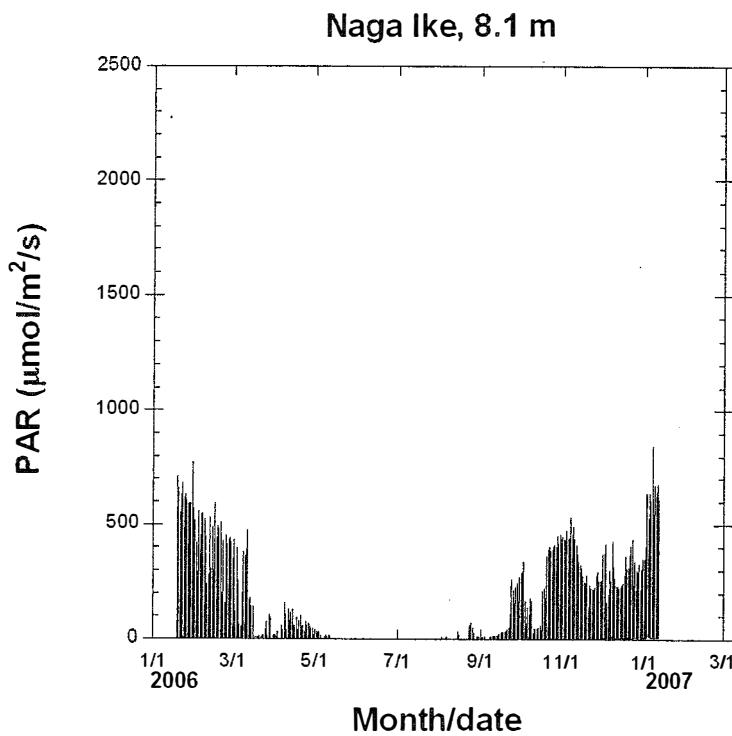


Fig. 8. Seasonal changes of photosynthetically active radiation (PAR) at 8.1 m depth in Naga Ike (2006-2007). 10-minute interval data.

Table 4-1. Photosynthetic active radiation data ($\mu\text{mol}/\text{m}^2/\text{s}$) at 2 depths in Naga Ike, January 2006

Depth Date	2.7 m			8.1 m		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/1/19	494	10	1237	266	4	709
2006/1/20	438	7	1334	236	3	656
2006/1/21	391	6	1392	203	2	552
2006/1/22	508	4	2034	259	2	630
2006/1/23	494	7	1428	250	4	680
2006/1/24	507	6	1581	250	2	619
2006/1/25	510	3	1424	246	1	631
2006/1/26	486	2	1603	229	0	606
2006/1/27	499	1	1443	238	0	585
2006/1/28	504	2	2061	235	0	591
2006/1/29	492	2	1706	228	0	591
2006/1/30	341	1	1467	160	0	770
2006/1/31	464	0	1418	217	0	567
<i>Monthly average</i>	471	0	2061	232	0	770

Table 4-2. Photosynthetic active radiation data ($\mu\text{mol}/\text{m}^2/\text{s}$) at 2 depths in Naga Ike, February 2006

Depth Date	2.7 m			8.1 m		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/2/1	348	0	1079	173	0	515
2006/2/2	212	0	876	114	0	418
2006/2/3	192	0	545	104	0	293
2006/2/4	453	0	1406	206	0	557
2006/2/5	246	0	849	129	0	449
2006/2/6	328	0	1294	162	0	545
2006/2/7	468	0	1339	215	0	547
2006/2/8	441	0	1339	195	0	523
2006/2/9	174	0	731	93	0	444
2006/2/10	162	0	436	87	0	239
2006/2/11	181	0	518	98	0	279
2006/2/12	380	0	1172	176	0	528
2006/2/13	219	0	590	114	0	306
2006/2/14	392	0	1079	177	0	486
2006/2/15	148	0	540	82	0	302
2006/2/16	265	0	1364	128	0	593
2006/2/17	273	0	985	142	0	441
2006/2/18	378	0	1213	167	0	489
2006/2/19	374	0	1458	166	0	476
2006/2/20	252	0	1180	122	0	506
2006/2/21	121	0	380	65	0	200
2006/2/22	290	0	924	141	0	428
2006/2/23	108	0	276	61	0	156
2006/2/24	322	0	1186	149	0	450
2006/2/25	196	0	854	102	0	413
2006/2/26	306	0	932	145	0	434
2006/2/27	239	0	921	116	0	441
2006/2/28	297	0	944	141	0	424
<i>Monthly average</i>	277	0	1458	135	0	593

Table 4-3. Photosynthetic active radiation data ($\mu\text{mol}/\text{m}^2/\text{s}$) at 2 depths in Naga Ike, March 2006

Depth Date	2.7 m			8.1 m		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/3/1	189	0	661	99	0	350
2006/3/2	211	0	931	107	0	434
2006/3/3	52	0	215	30	0	120
2006/3/4	268	0	868	126	0	398
2006/3/5	111	0	470	63	0	251
2006/3/6	36	0	105	21	0	63
2006/3/7	17	0	95	9	0	55
2006/3/8	70	0	352	40	0	199
2006/3/9	238	0	858	114	0	378
2006/3/10	225	0	801	108	0	362
2006/3/11	203	0	896	102	0	388
2006/3/12	212	0	912	108	0	473
2006/3/13	64	0	306	37	0	169
2006/3/14	84	0	313	48	0	179
2006/3/15	50	0	204	29	0	140
2006/3/16	50	0	249	29	0	142
2006/3/17	3	0	11	1	0	7
2006/3/18	3	0	16	2	0	9
2006/3/19	4	0	15	2	0	8
2006/3/20	5	0	20	3	0	11
2006/3/21	6	0	24	4	0	14
2006/3/22	5	0	24	3	0	11
2006/3/23	6	0	25	4	0	14
2006/3/24	6	0	28	3	0	20
2006/3/25	12	0	60	8	0	39
2006/3/26	33	0	127	19	0	74
2006/3/27	8	0	27	4	0	15
2006/3/28	43	0	186	24	0	104
2006/3/29	30	0	164	17	0	93
2006/3/30	2	0	9	1	0	5
2006/3/31	5	0	20	3	0	15
<i>Monthly average</i>	73	0	931	38	0	473

Table 4-4. Photosynthetic active radiation data ($\mu\text{mol m}^2/\text{s}$) at 2 depths in Naga Ike, April 2006

Depth	2.7 m			8.1 m		
Date	daily average	minimum	maximum	daily average	minimum	maximum
2006/4/1	6	0	25	4	0	17
2006/4/2	6	0	25	4	0	16
2006/4/3	6	0	47	4	0	31
2006/4/4	1	0	7	1	0	4
2006/4/5	1	0	9	1	0	5
2006/4/6	21	0	100	12	0	57
2006/4/7	17	0	75	9	0	42
2006/4/8	47	0	244	26	0	155
2006/4/9	36	0	210	20	0	106
2006/4/10	14	0	70	8	0	40
2006/4/11	27	0	274	14	0	127
2006/4/12	28	0	147	15	0	81
2006/4/13	47	0	289	23	0	113
2006/4/14	43	0	307	21	0	126
2006/4/15	18	0	104	10	0	57
2006/4/16	21	0	119	11	0	59
2006/4/17	40	0	202	19	0	92
2006/4/18	12	0	71	7	0	41
2006/4/19	33	0	184	15	0	82
2006/4/20	28	0	206	14	0	103
2006/4/21	16	0	114	9	0	55
2006/4/22	19	0	113	10	0	57
2006/4/23	10	0	58	6	0	31
2006/4/24	19	0	149	10	0	75
2006/4/25	18	0	128	9	0	58
2006/4/26	18	0	138	9	0	67
2006/4/27	17	0	123	8	0	56
2006/4/28	14	0	98	7	0	47
2006/4/29	14	0	96	7	0	47
2006/4/30	6	0	34	3	0	18
<i>Monthly average</i>	20	0	307	11	0	155

Table 4-5. Photosynthetic active radiation data ($\mu\text{mol m}^2/\text{s}$) at 2 depths in Naga Ike, May 2006

Depth	2.7 m			8.1 m		
Date	daily average	minimum	maximum	daily average	minimum	maximum
2006/5/1	5	0	38	3	0	21
2006/5/2	7	0	58	4	0	32
2006/5/3	7	0	47	4	0	25
2006/5/4	9	0	59	5	0	31
2006/5/5	3	0	29	2	0	15
2006/5/6	0	0	2	0	0	1
2006/5/7	0	0	2	0	0	1
2006/5/8	2	0	17	1	0	8
2006/5/9	3	0	27	2	0	15
2006/5/10	2	0	16	1	0	8
2006/5/11	3	0	25	1	0	14
2006/5/12	3	0	24	1	0	13
2006/5/13	0	0	0	0	0	0
2006/5/14	0	0	0	0	0	0
2006/5/15	0	0	1	0	0	0
2006/5/16	0	0	0	0	0	0
2006/5/17	0	0	2	0	0	1
2006/5/18	1	0	8	0	0	5
2006/5/19	1	0	13	1	0	7
2006/5/20	0	0	6	0	0	3
2006/5/21	0	0	5	0	0	3
2006/5/22	0	0	7	0	0	4
2006/5/23	0	0	4	0	0	2
2006/5/24	1	0	7	0	0	4
2006/5/25	0	0	5	0	0	2
2006/5/26	0	0	4	0	0	2
2006/5/27	0	0	5	0	0	2
2006/5/28	0	0	5	0	0	3
2006/5/29	0	0	5	0	0	2
2006/5/30	0	0	2	0	0	1
2006/5/31	0	0	1	0	0	0
<i>Monthly average</i>	2	0	59	1	0	32

Table 4-6. Photosynthetic active radiation data ($\mu\text{mol}/\text{m}^2/\text{s}$) at 2 depths in Naga Ike, June 2006

Depth Date	2.7 m			8.1 m		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/6/1	0	0	0	0	0	0
2006/6/2	0	0	3	0	0	2
2006/6/3	0	0	1	0	0	0
2006/6/4	0	0	3	0	0	1
2006/6/5	0	0	0	0	0	0
2006/6/6	0	0	2	0	0	0
2006/6/7	0	0	3	0	0	2
2006/6/8	0	0	2	0	0	1
2006/6/9	0	0	2	0	0	0
2006/6/10	0	0	2	0	0	0
2006/6/11	0	0	1	0	0	0
2006/6/12	0	0	2	0	0	1
2006/6/13	0	0	2	0	0	0
2006/6/14	0	0	2	0	0	0
2006/6/15	0	0	2	0	0	1
2006/6/16	0	0	2	0	0	0
2006/6/17	0	0	1	0	0	0
2006/6/18	0	0	0	0	0	0
2006/6/19	0	0	0	0	0	0
2006/6/20	0	0	0	0	0	0
2006/6/21	0	0	0	0	0	0
2006/6/22	0	0	1	0	0	0
2006/6/23	0	0	0	0	0	0
2006/6/24	0	0	1	0	0	0
2006/6/25	0	0	0	0	0	0
2006/6/26	0	0	0	0	0	0
2006/6/27	0	0	0	0	0	0
2006/6/28	0	0	0	0	0	0
2006/6/29	0	0	0	0	0	0
2006/6/30	0	0	1	0	0	0
<i>Monthly average</i>	0	0	3	0	0	2

Table 4-7. Photosynthetic active radiation data ($\mu\text{mol}/\text{m}^2/\text{s}$) at 2 depths in Naga Ike, July 2006

Depth Date	2.7 m			8.1 m		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/7/1	0	0	0	0	0	0
2006/7/2	0	0	1	0	0	0
2006/7/3	0	0	2	0	0	0
2006/7/4	0	0	2	0	0	1
2006/7/5	0	0	2	0	0	1
2006/7/6	0	0	2	0	0	1
2006/7/7	0	0	2	0	0	0
2006/7/8	0	0	2	0	0	2
2006/7/9	0	0	2	0	0	1
2006/7/10	0	0	2	0	0	0
2006/7/11	0	0	0	0	0	0
2006/7/12	0	0	2	0	0	1
2006/7/13	0	0	5	0	0	2
2006/7/14	0	0	6	0	0	2
2006/7/15	0	0	6	0	0	2
2006/7/16	0	0	7	0	0	3
2006/7/17	0	0	7	0	0	3
2006/7/18	0	0	5	0	0	2
2006/7/19	0	0	0	0	0	0
2006/7/20	0	0	0	0	0	0
2006/7/21	0	0	2	0	0	0
2006/7/22	1	0	10	0	0	5
2006/7/23	0	0	5	0	0	3
2006/7/24	0	0	6	0	0	2
2006/7/25	0	0	4	0	0	2
2006/7/26	1	0	7	0	0	4
2006/7/27	0	0	2	0	0	0
2006/7/28	0	0	3	0	0	2
2006/7/29	0	0	4	0	0	2
2006/7/30	1	0	10	0	0	4
2006/7/31	1	0	11	0	0	5
<i>Monthly average</i>	0	0	11	0	0	5

Table 4-8. Photosynthetic active radiation data ($\mu\text{mol}/\text{m}^2/\text{s}$) at 2 depths in Naga Ike, August 2006

Depth Date	2.7 m			8.1 m		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/8/1	2	0	12	1	0	5
2006/8/2	2	0	15	1	0	6
2006/8/3	2	0	17	1	0	8
2006/8/4	2	0	16	1	0	7
2006/8/5	2	0	16	1	0	7
2006/8/6	3	0	17	1	0	8
2006/8/7	3	0	20	1	0	8
2006/8/8	1	0	7	0	0	2
2006/8/9	0	0	1	0	0	0
2006/8/10	0	0	2	0	0	0
2006/8/11	0	0	2	0	0	1
2006/8/12	0	0	4	0	0	2
2006/8/13	0	0	4	0	0	2
2006/8/14	0	0	4	0	0	2
2006/8/15	9	0	65	4	0	30
2006/8/16	6	0	44	2	0	18
2006/8/17	3	0	15	1	0	6
2006/8/18	1	0	7	0	0	3
2006/8/19	0	0	4	0	0	2
2006/8/20	1	0	6	0	0	2
2006/8/21	1	0	6	0	0	2
2006/8/22	1	0	7	0	0	2
2006/8/23	23	0	114	11	0	55
2006/8/24	25	0	131	12	0	61
2006/8/25	28	0	150	13	0	73
2006/8/26	18	0	104	9	0	51
2006/8/27	11	0	60	4	0	26
2006/8/28	2	0	11	1	0	5
2006/8/29	4	0	21	1	0	8
2006/8/30	5	0	24	2	0	10
2006/8/31	6	0	27	2	0	11
<i>Monthly average</i>		5	0	150	2	0
					73	

Table 4-9. Photosynthetic active radiation data ($\mu\text{mol}/\text{m}^2/\text{s}$) at 2 depths in Naga Ike, September 2006

Depth Date	2.7 m			8.1 m		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/9/1	6	0	28	2	0	12
2006/9/2	4	0	21	2	0	9
2006/9/3	3	0	17	1	0	8
2006/9/4	4	0	17	1	0	8
2006/9/5	2	0	10	1	0	5
2006/9/6	3	0	15	1	0	7
2006/9/7	3	0	16	1	0	7
2006/9/8	4	0	21	2	0	10
2006/9/9	5	0	23	2	0	10
2006/9/10	7	0	29	3	0	13
2006/9/11	8	0	33	3	0	15
2006/9/12	8	0	34	4	0	15
2006/9/13	8	0	33	3	0	15
2006/9/14	8	0	38	4	0	17
2006/9/15	12	0	48	5	0	23
2006/9/16	17	0	61	7	0	28
2006/9/17	19	0	70	8	0	32
2006/9/18	19	0	70	9	0	32
2006/9/19	20	0	74	9	0	34
2006/9/20	20	0	81	9	0	38
2006/9/21	22	0	124	10	0	43
2006/9/22	21	0	110	9	0	49
2006/9/23	68	0	224	33	0	110
2006/9/24	123	0	563	56	0	259
2006/9/25	110	0	527	52	0	213
2006/9/26	92	0	318	45	0	156
2006/9/27	140	0	624	64	0	224
2006/9/28	131	0	680	61	0	244
2006/9/29	96	0	341	46	0	164
2006/9/30	158	0	800	72	0	270
<i>Monthly average</i>		38	0	800	17	0
					270	

Table 4-10. Photosynthetic active radiation data ($\mu\text{mol}/\text{m}^2/\text{s}$) at 2 depths in Naga Ike, October 2006

Depth Date	2.7 m			8.1 m		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/10/1	173	0	821	78	0	286
2006/10/2	178	0	824	81	0	291
2006/10/3	175	0	757	79	0	334
2006/10/4	127	0	339	61	0	165
2006/10/5	42	0	137	20	0	65
2006/10/6	81	0	279	40	0	136
2006/10/7	69	0	223	33	0	107
2006/10/8	79	0	390	38	0	178
2006/10/9	78	0	341	37	0	164
2006/10/10	16	0	47	9	0	27
2006/10/11	23	0	70	14	0	44
2006/10/12	21	0	79	13	0	47
2006/10/13	24	0	74	15	0	45
2006/10/14	27	0	81	16	0	49
2006/10/15	30	0	95	18	0	59
2006/10/16	21	0	77	12	0	41
2006/10/17	97	0	419	50	0	206
2006/10/18	135	0	454	65	0	220
2006/10/19	110	0	376	53	0	179
2006/10/20	188	0	663	92	0	363
2006/10/21	164	0	726	78	0	387
2006/10/22	249	0	777	124	0	403
2006/10/23	256	0	687	128	0	384
2006/10/24	263	0	699	132	0	391
2006/10/25	270	0	711	136	0	402
2006/10/26	277	0	716	140	0	411
2006/10/27	244	0	720	120	0	400
2006/10/28	243	0	861	120	0	450
2006/10/29	290	0	783	144	0	421
2006/10/30	273	0	910	136	0	457
2006/10/31	262	0	842	129	0	435
<i>Monthly average</i>	145	0	910	71	0	457

Table 4-11. Photosynthetic active radiation data ($\mu\text{mol}/\text{m}^2/\text{s}$) at 2 depths in Naga Ike, November 2006

Depth Date	2.7 m			8.1 m		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/11/1	315	0	776	158	0	447
2006/11/2	325	0	812	163	0	439
2006/11/3	326	0	848	163	0	434
2006/11/4	332	0	894	166	0	473
2006/11/5	339	0	887	168	0	437
2006/11/6	313	0	891	151	0	441
2006/11/7	357	0	1029	175	0	528
2006/11/8	261	0	841	129	0	454
2006/11/9	320	0	932	157	0	490
2006/11/10	372	0	898	182	0	437
2006/11/11	357	0	852	176	0	411
2006/11/12	306	0	746	155	0	372
2006/11/13	277	0	660	142	0	334
2006/11/14	258	0	631	133	0	320
2006/11/15	250	1	610	127	0	308
2006/11/16	226	1	540	114	0	273
2006/11/17	210	1	496	105	0	248
2006/11/18	207	2	486	103	0	242
2006/11/19	175	2	665	89	0	277
2006/11/20	121	2	289	60	0	143
2006/11/21	173	2	424	86	0	233
2006/11/22	197	3	455	97	1	223
2006/11/23	195	3	446	95	1	218
2006/11/24	198	3	451	96	2	218
2006/11/25	195	3	539	94	1	224
2006/11/26	178	2	535	87	1	275
2006/11/27	201	4	639	94	1	290
2006/11/28	199	6	533	94	2	251
2006/11/29	231	7	545	109	2	254
2006/11/30	244	8	547	114	3	256
<i>Monthly average</i>	255	0	1029	126	0	528

Table 4-12. Photosynthetic active radiation data ($\mu\text{mol}/\text{m}^2/\text{s}$) at 2 depths in Naga Ike, December 2006

Depth Date	2.7 m			8.1 m		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/12/1	255	9	786	122	4	370
2006/12/2	203	9	554	97	3	375
2006/12/3	253	8	846	119	3	414
2006/12/4	141	5	362	65	2	161
2006/12/5	190	7	419	88	2	194
2006/12/6	197	7	591	94	2	301
2006/12/7	162	4	538	76	2	251
2006/12/8	218	12	940	104	5	427
2006/12/9	279	15	692	131	6	315
2006/12/10	234	13	561	110	5	264
2006/12/11	227	11	491	106	5	229
2006/12/12	221	12	490	103	5	228
2006/12/13	212	11	479	99	5	223
2006/12/14	210	11	481	98	5	224
2006/12/15	217	11	500	102	4	233
2006/12/16	226	11	526	106	5	245
2006/12/17	258	14	595	121	5	278
2006/12/18	289	15	823	131	6	360
2006/12/19	288	16	653	135	7	306
2006/12/20	295	16	664	139	7	310
2006/12/21	295	17	823	136	7	367
2006/12/22	299	6	913	140	4	408
2006/12/23	262	3	951	119	2	437
2006/12/24	200	20	498	93	8	234
2006/12/25	322	20	741	146	8	336
2006/12/26	242	19	700	109	8	298
2006/12/27	260	16	682	116	6	291
2006/12/28	236	8	772	108	2	327
2006/12/29	159	8	752	70	2	218
2006/12/30	208	11	668	91	3	305
2006/12/31	320	15	773	143	5	349
<i>Monthly average</i>	238	3	951	110	2	437

Table 4-13. Photosynthetic active radiation data ($\mu\text{mol}/\text{m}^2/\text{s}$) at 2 depths in Naga Ike, January 2007

Depth Date	2.7 m			8.1 m		
	daily average	minimum	maximum	daily average	minimum	maximum
2007/1/1	6	5	6	146	8	347
2007/1/2	6	5	6	168	7	401
2007/1/3	6	6	7	238	10	635
2007/1/4	7	7	7	237	15	523
2007/1/5	7	7	8	222	15	636
2007/1/6	8	8	8	203	9	605
2007/1/7	8	8	8	231	10	844
2007/1/8	8	8	9	230	10	547
2007/1/9	9	9	9	236	6	672
2007/1/10	9	9	9	191	11	641
2007/1/11	9	8	9	187	10	675
2007/1/12	9	8	9	201	10	610
<i>Monthly average</i>	8	5	9	207	6	844

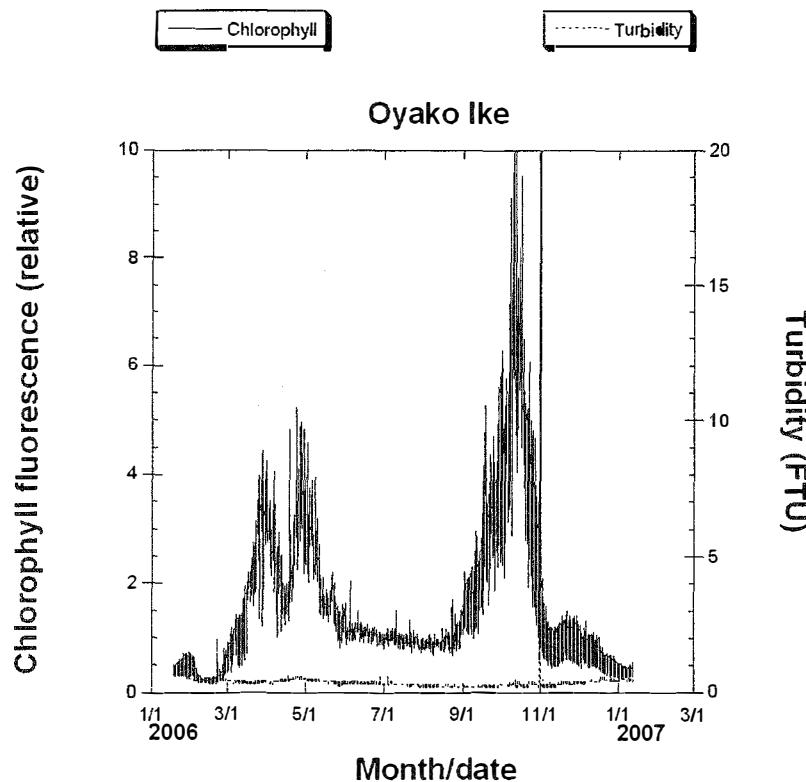


Fig. 9. Seasonal changes of chlorophyll fluorescence and turbidity at 3.5 m depth in Oyako Ike (2006-2007). 60-minute interval data.

Table 5-1. Chlorophyll a fluorescence and turbidity data at 3.5 m depth in Oyako Ike, January 2006

Date	Chlorophyll (relative)			Turbidity (FTU)		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/1/19	0.39	0.29	0.49	0.90	0.90	1.00
2006/1/20	0.40	0.29	0.51	0.90	0.90	0.90
2006/1/21	0.43	0.31	0.55	0.82	0.80	0.90
2006/1/22	0.42	0.29	0.56	0.80	0.80	0.80
2006/1/23	0.44	0.29	0.61	0.78	0.70	0.80
2006/1/24	0.45	0.29	0.61	0.70	0.70	0.70
2006/1/25	0.47	0.31	0.63	0.70	0.70	0.70
2006/1/26	0.49	0.31	0.71	0.66	0.60	0.70
2006/1/27	0.49	0.30	0.70	0.60	0.60	0.60
2006/1/28	0.49	0.29	0.72	0.60	0.60	0.60
2006/1/29	0.48	0.28	0.67	0.58	0.50	0.60
2006/1/30	0.51	0.29	0.73	0.52	0.50	0.60
2006/1/31	0.47	0.28	0.71	0.50	0.50	0.50
<i>Monthly average</i>	0.46	0.28	0.73	0.70	0.50	1.00

Table 5-2. Chlorophyll a fluorescence and turbidity data at 3.5 m depth in Oyako Ike, February 2006

Date	Chlorophyll (relative)			Turbidity (FTU)		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/2/1	0.48	0.29	0.67	0.50	0.50	0.50
2006/2/2	0.49	0.31	0.66	0.50	0.50	0.50
2006/2/3	0.45	0.30	0.65	0.50	0.40	0.50
2006/2/4	0.34	0.23	0.56	0.41	0.40	0.50
2006/2/5	0.32	0.23	0.44	0.40	0.40	0.40
2006/2/6	0.27	0.20	0.35	0.40	0.40	0.40
2006/2/7	0.23	0.18	0.32	0.40	0.40	0.40
2006/2/8	0.22	0.17	0.29	0.40	0.40	0.40
2006/2/9	0.22	0.19	0.26	0.40	0.40	0.40
2006/2/10	0.22	0.19	0.25	0.40	0.40	0.40
2006/2/11	0.22	0.19	0.26	0.40	0.40	0.40
2006/2/12	0.21	0.17	0.26	0.40	0.40	0.40
2006/2/13	0.21	0.18	0.26	0.40	0.40	0.40
2006/2/14	0.21	0.17	0.26	0.37	0.30	0.40
2006/2/15	0.22	0.19	0.26	0.34	0.30	0.40
2006/2/16	0.21	0.17	0.26	0.32	0.30	0.40
2006/2/17	0.21	0.17	0.26	0.30	0.30	0.30
2006/2/18	0.22	0.16	0.27	0.30	0.30	0.30
2006/2/19	0.22	0.17	0.27	0.30	0.30	0.30
2006/2/20	0.22	0.16	0.28	0.30	0.30	0.40
2006/2/21	0.34	0.22	0.71	0.71	0.30	2.00
2006/2/22	0.31	0.19	0.53	0.63	0.50	1.10
2006/2/23	0.29	0.23	0.41	0.52	0.50	0.70
2006/2/24	0.28	0.20	0.38	0.48	0.40	0.50
2006/2/25	0.32	0.22	0.50	0.46	0.40	0.50
2006/2/26	0.43	0.26	0.80	0.42	0.40	0.50
2006/2/27	0.49	0.31	0.67	0.40	0.40	0.40
2006/2/28	0.56	0.35	0.77	0.40	0.40	0.50
<i>Monthly average</i>	0.30	0.16	0.80	0.42	0.30	2.00

Table 5-3. Chlorophyll a fluorescence and turbidity data at 3.5 m depth in Oyako Ike, March 2006

Date	Chlorophyll (relative)			Turbidity (FTU)		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/3/1	0.66	0.37	0.92	0.40	0.40	0.40
2006/3/2	0.67	0.40	0.89	0.40	0.40	0.40
2006/3/3	0.81	0.58	1.07	0.40	0.40	0.40
2006/3/4	0.75	0.37	1.20	0.40	0.40	0.40
2006/3/5	0.80	0.50	1.05	0.40	0.40	0.40
2006/3/6	0.96	0.69	1.15	0.40	0.30	0.40
2006/3/7	1.14	0.95	1.33	0.40	0.30	0.40
2006/3/8	1.16	0.69	1.43	0.40	0.30	0.40
2006/3/9	0.97	0.50	1.35	0.39	0.30	0.40
2006/3/10	0.95	0.46	1.40	0.39	0.30	0.40
2006/3/11	1.02	0.48	1.41	0.40	0.30	0.40
2006/3/12	1.06	0.48	1.39	0.39	0.30	0.40
2006/3/13	1.30	0.71	1.70	0.38	0.30	0.40
2006/3/14	1.29	0.67	1.72	0.37	0.30	0.40
2006/3/15	1.43	0.60	1.95	0.35	0.30	0.40
2006/3/16	1.56	0.71	2.02	0.33	0.30	0.40
2006/3/17	1.97	1.70	2.20	0.33	0.30	0.40
2006/3/18	2.09	1.93	2.20	0.32	0.30	0.40
2006/3/19	2.03	1.65	2.32	0.30	0.30	0.40
2006/3/20	2.02	1.77	2.46	0.31	0.30	0.40
2006/3/21	2.35	1.58	2.74	0.30	0.30	0.40
2006/3/22	2.35	1.80	2.75	0.30	0.30	0.40
2006/3/23	2.60	1.83	3.13	0.33	0.30	0.40
2006/3/24	3.18	2.90	3.53	0.33	0.30	0.40
2006/3/25	3.46	2.42	3.99	0.38	0.30	0.40
2006/3/26	2.88	1.35	3.95	0.36	0.30	0.40
2006/3/27	3.63	2.96	4.37	0.39	0.30	0.40
2006/3/28	2.96	1.22	4.44	0.38	0.30	0.40
2006/3/29	3.06	1.51	3.87	0.40	0.30	0.40
2006/3/30	3.50	2.71	4.06	0.39	0.30	0.40
2006/3/31	3.46	2.95	4.24	0.39	0.30	0.40
<i>Monthly average</i>	1.87	0.37	4.44	0.37	0.30	0.40

Table 5-4. Chlorophyll a fluorescence and turbidity data at 3.5 m depth in Oyako Ike, April 2006

Date	Chlorophyll (relative)			Turbidity (FTU)		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/4/1	3.21	2.77	3.92	0.40	0.40	0.40
2006/4/2	3.04	2.82	3.38	0.40	0.40	0.40
2006/4/3	2.76	2.29	3.53	0.39	0.30	0.40
2006/4/4	2.68	2.14	2.99	0.39	0.30	0.40
2006/4/5	2.90	2.43	3.34	0.40	0.30	0.40
2006/4/6	2.82	1.85	4.05	0.40	0.40	0.40
2006/4/7	2.61	2.21	3.46	0.40	0.40	0.40
2006/4/8	2.09	1.44	2.58	0.40	0.40	0.40
2006/4/9	1.81	1.02	2.67	0.40	0.40	0.50
2006/4/10	2.42	1.82	2.95	0.40	0.40	0.40
2006/4/11	2.12	1.95	2.51	0.41	0.40	0.50
2006/4/12	1.75	1.12	2.52	0.42	0.40	0.50
2006/4/13	1.65	1.44	2.01	0.44	0.40	0.50
2006/4/14	1.54	1.35	1.96	0.43	0.40	0.50
2006/4/15	1.50	1.24	1.81	0.41	0.40	0.50
2006/4/16	1.62	1.45	1.99	0.45	0.40	0.50
2006/4/17	1.67	1.43	2.02	0.49	0.40	0.60
2006/4/18	2.12	1.32	4.83	0.47	0.40	0.50
2006/4/19	2.14	1.65	2.91	0.49	0.40	0.50
2006/4/20	1.93	1.68	2.35	0.49	0.40	0.50
2006/4/21	2.40	1.91	3.14	0.50	0.50	0.60
2006/4/22	2.69	2.35	3.26	0.50	0.50	0.50
2006/4/23	3.54	2.86	5.21	0.50	0.50	0.60
2006/4/24	2.70	2.26	3.51	0.50	0.50	0.50
2006/4/25	3.21	2.50	4.10	0.50	0.50	0.60
2006/4/26	3.38	2.79	4.86	0.50	0.50	0.60
2006/4/27	3.64	3.10	4.95	0.51	0.50	0.60
2006/4/28	3.58	3.02	4.39	0.50	0.50	0.60
2006/4/29	3.42	2.19	4.83	0.50	0.50	0.50
2006/4/30	2.91	2.37	3.72	0.50	0.50	0.60
<i>Monthly average</i>	2.53	1.02	5.21	0.45	0.30	0.60

Table 5-5. Chlorophyll a fluorescence and turbidity data at 3.5 m depth in Oyako Ike, May 2006

Date	Chlorophyll (relative)			Turbidity (FTU)		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/5/1	2.96	2.34	3.93	0.50	0.50	0.60
2006/5/2	3.38	2.19	4.59	0.47	0.40	0.50
2006/5/3	2.72	2.02	3.24	0.49	0.40	0.50
2006/5/4	3.10	2.67	3.75	0.49	0.40	0.50
2006/5/5	3.18	2.80	3.61	0.49	0.40	0.50
2006/5/6	3.13	2.69	3.90	0.49	0.40	0.50
2006/5/7	2.44	2.08	2.89	0.43	0.40	0.50
2006/5/8	2.64	2.17	3.95	0.47	0.40	0.50
2006/5/9	2.59	2.34	2.96	0.46	0.40	0.50
2006/5/10	2.53	2.05	3.19	0.41	0.40	0.50
2006/5/11	2.29	1.91	2.71	0.42	0.40	0.50
2006/5/12	1.80	1.46	2.14	0.40	0.40	0.40
2006/5/13	1.73	1.43	2.07	0.40	0.40	0.40
2006/5/14	1.79	1.56	2.12	0.40	0.40	0.40
2006/5/15	1.59	1.35	1.79	0.40	0.40	0.40
2006/5/16	1.61	1.43	1.76	0.40	0.40	0.40
2006/5/17	1.64	1.40	1.89	0.40	0.40	0.40
2006/5/18	1.59	1.42	1.78	0.40	0.40	0.40
2006/5/19	1.52	1.31	1.72	0.39	0.30	0.40
2006/5/20	1.65	1.42	1.87	0.40	0.40	0.40
2006/5/21	1.89	1.68	2.15	0.40	0.40	0.40
2006/5/22	1.96	1.68	2.20	0.40	0.40	0.40
2006/5/23	1.64	1.26	2.01	0.38	0.30	0.40
2006/5/24	1.50	1.23	1.76	0.33	0.30	0.40
2006/5/25	1.44	1.13	1.65	0.33	0.30	0.40
2006/5/26	1.13	0.95	1.59	0.30	0.20	0.40
2006/5/27	1.19	0.98	1.48	0.30	0.20	0.40
2006/5/28	1.00	0.83	1.47	0.27	0.20	0.40
2006/5/29	1.16	0.91	1.39	0.30	0.20	0.40
2006/5/30	1.30	1.13	1.62	0.35	0.30	0.40
2006/5/31	1.36	1.10	1.55	0.35	0.30	0.40
<i>Monthly average</i>	1.98	0.83	4.59	0.40	0.20	0.60

Table 5-6. Chlorophyll a fluorescence and turbidity data at 3.5 m depth in Oyako Ike, June 2006

Date	Chlorophyll (relative)			Turbidity (FTU)		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/6/1	1.26	1.01	1.64	0.33	0.30	0.40
2006/6/2	0.99	0.87	1.13	0.29	0.20	0.30
2006/6/3	1.06	0.98	1.17	0.34	0.30	0.40
2006/6/4	1.06	0.94	1.28	0.33	0.30	0.40
2006/6/5	1.42	1.05	2.04	0.33	0.30	0.40
2006/6/6	1.14	0.95	1.27	0.35	0.30	0.40
2006/6/7	1.06	0.96	1.16	0.31	0.30	0.40
2006/6/8	1.09	1.01	1.19	0.35	0.30	0.40
2006/6/9	1.17	0.97	1.29	0.38	0.30	0.40
2006/6/10	1.18	1.10	1.26	0.34	0.30	0.40
2006/6/11	1.26	1.11	1.50	0.36	0.30	0.40
2006/6/12	1.08	0.93	1.24	0.33	0.30	0.40
2006/6/13	1.13	1.01	1.29	0.32	0.30	0.40
2006/6/14	1.07	0.99	1.23	0.31	0.30	0.40
2006/6/15	1.05	0.91	1.18	0.32	0.30	0.40
2006/6/16	1.11	1.03	1.19	0.33	0.30	0.40
2006/6/17	1.11	1.04	1.20	0.30	0.30	0.30
2006/6/18	1.11	1.04	1.25	0.31	0.30	0.40
2006/6/19	1.02	0.91	1.10	0.30	0.30	0.40
2006/6/20	1.07	1.02	1.16	0.30	0.30	0.30
2006/6/21	1.02	0.90	1.13	0.30	0.30	0.40
2006/6/22	1.04	0.93	1.17	0.33	0.30	0.40
2006/6/23	1.07	0.94	1.16	0.31	0.30	0.40
2006/6/24	1.11	1.03	1.20	0.34	0.30	0.40
2006/6/25	1.09	1.03	1.16	0.32	0.30	0.40
2006/6/26	0.99	0.86	1.08	0.30	0.30	0.30
2006/6/27	1.02	0.87	1.11	0.30	0.30	0.40
2006/6/28	1.03	0.94	1.11	0.32	0.30	0.60
2006/6/29	1.00	0.90	1.08	0.30	0.30	0.30
2006/6/30	0.98	0.88	1.07	0.30	0.30	0.30
<i>Monthly average</i>	1.09	0.86	2.04	0.32	0.20	0.60

Table 5-7. Chlorophyll a fluorescence and turbidity data at 3.5 m depth in Oyako Ike, July 2006

Date	Chlorophyll (relative)			Turbidity (FTU)		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/7/1	0.90	0.80	1.01	0.29	0.20	0.30
2006/7/2	1.00	0.92	1.08	0.30	0.30	0.30
2006/7/3	1.02	0.96	1.10	0.30	0.30	0.30
2006/7/4	0.98	0.89	1.17	0.31	0.30	0.60
2006/7/5	0.97	0.86	1.08	0.30	0.20	0.30
2006/7/6	1.02	0.95	1.13	0.30	0.30	0.40
2006/7/7	1.04	0.96	1.15	0.30	0.30	0.40
2006/7/8	1.04	0.96	1.17	0.30	0.30	0.30
2006/7/9	1.01	0.89	1.15	0.30	0.30	0.30
2006/7/10	1.02	0.87	1.17	0.30	0.30	0.30
2006/7/11	1.17	0.92	1.52	0.30	0.30	0.30
2006/7/12	0.95	0.83	1.06	0.30	0.30	0.30
2006/7/13	1.00	0.89	1.11	0.30	0.30	0.30
2006/7/14	0.98	0.81	1.08	0.30	0.30	0.30
2006/7/15	0.99	0.92	1.07	0.30	0.30	0.30
2006/7/16	0.91	0.81	1.00	0.30	0.30	0.30
2006/7/17	0.93	0.81	1.05	0.30	0.30	0.30
2006/7/18	0.97	0.91	1.08	0.30	0.30	0.30
2006/7/19	0.99	0.86	1.08	0.30	0.30	0.30
2006/7/20	0.97	0.87	1.05	0.29	0.20	0.30
2006/7/21	1.01	0.85	1.34	0.29	0.20	0.30
2006/7/22	0.99	0.86	1.11	0.30	0.20	0.30
2006/7/23	0.92	0.74	1.09	0.30	0.20	0.30
2006/7/24	0.95	0.90	1.14	0.30	0.30	0.30
2006/7/25	0.94	0.82	1.02	0.30	0.30	0.30
2006/7/26	0.97	0.90	1.04	0.30	0.30	0.30
2006/7/27	0.97	0.90	1.07	0.30	0.30	0.30
2006/7/28	0.91	0.84	0.99	0.29	0.20	0.30
2006/7/29	0.84	0.79	0.88	0.22	0.20	0.30
2006/7/30	0.86	0.74	0.96	0.25	0.20	0.30
2006/7/31	0.90	0.81	0.98	0.30	0.30	0.30
<i>Monthly average</i>	0.97	0.74	1.52	0.29	0.20	0.60

Table 5-8. Chlorophyll a fluorescence and turbidity data at 3.5 m depth in Oyako Ike, August 2006

Date	Chlorophyll (relative)			Turbidity (FTU)		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/8/1	0.90	0.80	1.01	0.25	0.20	0.30
2006/8/2	0.88	0.79	0.95	0.25	0.20	0.30
2006/8/3	0.91	0.83	0.97	0.29	0.20	0.30
2006/8/4	0.91	0.83	0.98	0.27	0.20	0.30
2006/8/5	0.93	0.82	1.06	0.25	0.20	0.30
2006/8/6	0.95	0.81	1.08	0.20	0.20	0.30
2006/8/7	0.90	0.76	1.00	0.29	0.20	0.30
2006/8/8	0.85	0.71	0.93	0.23	0.20	0.30
2006/8/9	0.81	0.69	0.92	0.20	0.20	0.30
2006/8/10	0.91	0.85	1.08	0.24	0.20	0.30
2006/8/11	0.91	0.86	0.98	0.23	0.20	0.30
2006/8/12	0.92	0.87	0.99	0.24	0.20	0.30
2006/8/13	0.91	0.84	0.98	0.22	0.20	0.30
2006/8/14	0.88	0.79	0.93	0.20	0.20	0.20
2006/8/15	0.88	0.78	0.94	0.20	0.20	0.20
2006/8/16	0.97	0.80	1.17	0.20	0.20	0.20
2006/8/17	0.91	0.76	1.02	0.20	0.20	0.20
2006/8/18	0.94	0.80	1.05	0.20	0.20	0.20
2006/8/19	1.00	0.86	1.16	0.20	0.20	0.30
2006/8/20	1.02	0.90	1.10	0.21	0.20	0.30
2006/8/21	0.95	0.79	1.11	0.20	0.20	0.20
2006/8/22	0.91	0.74	1.04	0.20	0.20	0.20
2006/8/23	0.96	0.74	1.57	0.20	0.20	0.30
2006/8/24	0.95	0.68	1.71	0.21	0.20	0.30
2006/8/25	0.98	0.81	1.11	0.21	0.20	0.30
2006/8/26	1.14	0.94	1.45	0.20	0.20	0.20
2006/8/27	1.03	0.78	1.25	0.20	0.20	0.20
2006/8/28	1.11	0.87	1.28	0.20	0.20	0.20
2006/8/29	1.09	0.80	1.32	0.20	0.20	0.20
2006/8/30	1.06	0.83	1.31	0.20	0.20	0.20
2006/8/31	1.29	1.08	1.52	0.20	0.20	0.20
<i>Monthly average</i>	0.96	0.68	1.71	0.22	0.20	0.30

Table 5-9. Chlorophyll a fluorescence and turbidity data at 3.5 m depth in Oyako Ike, September 2006

Date	Chlorophyll (relative)			Turbidity (FTU)		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/9/1	1.35	1.08	1.59	0.20	0.20	0.20
2006/9/2	1.58	1.17	2.21	0.20	0.20	0.30
2006/9/3	1.61	1.21	2.01	0.20	0.20	0.20
2006/9/4	1.57	1.12	2.07	0.21	0.20	0.30
2006/9/5	1.56	1.09	2.11	0.20	0.20	0.30
2006/9/6	1.60	1.07	2.10	0.20	0.20	0.20
2006/9/7	1.71	1.18	2.24	0.20	0.20	0.20
2006/9/8	1.55	1.07	2.31	0.20	0.20	0.20
2006/9/9	1.59	1.01	2.21	0.20	0.20	0.20
2006/9/10	1.82	1.13	2.53	0.20	0.20	0.20
2006/9/11	2.04	1.18	2.96	0.20	0.20	0.20
2006/9/12	2.05	1.20	2.87	0.20	0.20	0.20
2006/9/13	1.87	1.09	2.42	0.20	0.20	0.30
2006/9/14	2.01	1.52	2.59	0.20	0.20	0.20
2006/9/15	2.17	1.56	2.74	0.20	0.20	0.20
2006/9/16	2.37	1.59	3.28	0.21	0.20	0.30
2006/9/17	2.65	1.44	4.11	0.20	0.20	0.20
2006/9/18	3.44	2.33	5.27	0.24	0.20	0.30
2006/9/19	2.80	2.08	3.95	0.23	0.20	0.30
2006/9/20	2.76	2.05	3.49	0.21	0.20	0.30
2006/9/21	2.64	1.62	3.53	0.20	0.20	0.30
2006/9/22	3.13	2.29	4.38	0.23	0.20	0.30
2006/9/23	3.54	2.92	4.13	0.28	0.20	0.30
2006/9/24	3.62	2.48	4.70	0.28	0.20	0.30
2006/9/25	3.25	2.53	4.23	0.28	0.20	0.30
2006/9/26	3.02	1.89	3.86	0.26	0.20	0.30
2006/9/27	3.46	2.61	4.11	0.30	0.30	0.30
2006/9/28	3.96	2.31	4.94	0.29	0.20	0.30
2006/9/29	4.29	2.71	5.61	0.26	0.20	0.30
2006/9/30	4.35	2.41	5.81	0.30	0.30	0.30
<i>Monthly average</i>	2.51	1.01	5.81	0.23	0.20	0.30

Table 5-10. Chlorophyll a fluorescence and turbidity data at 3.5 m depth in Oyako Ike, October 2006

Date	Chlorophyll (relative)			Turbidity (FTU)		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/10/1	4.39	2.55	6.27	0.30	0.30	0.30
2006/10/2	4.19	2.34	5.78	0.30	0.30	0.30
2006/10/3	3.74	2.11	4.92	0.30	0.30	0.30
2006/10/4	4.01	2.76	5.28	0.30	0.30	0.30
2006/10/5	4.91	4.22	5.77	0.30	0.30	0.30
2006/10/6	4.53	3.14	5.47	0.30	0.20	0.30
2006/10/7	4.85	3.37	7.15	0.27	0.20	0.30
2006/10/8	6.15	3.43	9.12	0.30	0.30	0.40
2006/10/9	5.38	2.89	7.36	0.28	0.20	0.30
2006/10/10	7.65	5.95	9.59	0.34	0.30	0.40
2006/10/11	8.59	5.77	10.18	0.38	0.30	0.40
2006/10/12	6.43	4.73	10.54	0.33	0.20	0.50
2006/10/13	5.16	4.05	6.92	0.29	0.20	0.30
2006/10/14	6.05	4.83	7.62	0.30	0.20	0.40
2006/10/15	6.51	5.56	8.18	0.30	0.30	0.40
2006/10/16	6.44	5.73	7.18	0.30	0.30	0.30
2006/10/17	5.88	4.50	9.52	0.30	0.20	0.30
2006/10/18	5.04	4.20	6.48	0.29	0.20	0.30
2006/10/19	4.66	3.78	5.53	0.28	0.20	0.30
2006/10/20	4.30	2.80	5.30	0.28	0.20	0.30
2006/10/21	3.85	2.73	5.18	0.26	0.20	0.30
2006/10/22	3.53	1.93	5.20	0.28	0.20	0.30
2006/10/23	3.94	2.47	6.06	0.31	0.30	0.40
2006/10/24	3.58	2.14	4.98	0.30	0.30	0.30
2006/10/25	3.30	1.89	4.72	0.30	0.30	0.40
2006/10/26	3.03	1.58	4.82	0.31	0.30	0.40
2006/10/27	2.99	1.58	4.67	0.30	0.30	0.40
2006/10/28	2.51	1.42	3.81	0.30	0.30	0.40
2006/10/29	2.27	1.25	3.59	0.30	0.30	0.30
2006/10/30	2.08	1.02	3.49	0.30	0.20	0.30
2006/10/31	100.33	0.92	388.40	181.38	0.30	1168.80
<i>Monthly average</i>	7.75	0.92	388.40	6.14	0.20	1168.80

Table 5-11. Chlorophyll a fluorescence and turbidity data at 3.5 m depth in Oyako Ike, November 2006

Date	Chlorophyll (relative)			Turbidity (FTU)		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/11/1	1.56	0.83	2.50	0.30	0.20	0.40
2006/11/2	1.34	0.76	2.10	0.29	0.20	0.30
2006/11/3	1.22	0.65	1.76	0.29	0.20	0.50
2006/11/4	1.10	0.63	1.63	0.25	0.20	0.30
2006/11/5	1.00	0.62	1.58	0.25	0.20	0.40
2006/11/6	0.93	0.59	1.30	0.25	0.20	0.30
2006/11/7	0.89	0.50	1.31	0.25	0.20	0.30
2006/11/8	0.87	0.57	1.21	0.27	0.20	0.40
2006/11/9	0.85	0.50	1.19	0.26	0.20	0.30
2006/11/10	0.79	0.46	1.19	0.25	0.20	0.30
2006/11/11	0.79	0.51	1.15	0.27	0.20	0.30
2006/11/12	0.82	0.49	1.21	0.28	0.20	0.30
2006/11/13	0.81	0.49	1.20	0.29	0.20	0.30
2006/11/14	0.85	0.48	1.22	0.30	0.30	0.30
2006/11/15	0.84	0.48	1.25	0.30	0.30	0.40
2006/11/16	0.91	0.55	1.29	0.30	0.30	0.30
2006/11/17	0.92	0.59	1.28	0.30	0.30	0.40
2006/11/18	0.95	0.55	1.40	0.30	0.30	0.30
2006/11/19	0.98	0.60	1.32	0.31	0.30	0.40
2006/11/20	1.09	0.74	1.34	0.31	0.30	0.40
2006/11/21	0.98	0.62	1.38	0.31	0.30	0.40
2006/11/22	1.00	0.62	1.49	0.30	0.30	0.40
2006/11/23	0.96	0.62	1.32	0.30	0.30	0.40
2006/11/24	0.96	0.62	1.41	0.30	0.30	0.40
2006/11/25	0.92	0.60	1.33	0.30	0.30	0.30
2006/11/26	0.93	0.55	1.35	0.30	0.30	0.30
2006/11/27	0.96	0.59	1.38	0.30	0.30	0.40
2006/11/28	0.94	0.56	1.40	0.31	0.30	0.40
2006/11/29	0.90	0.52	1.40	0.31	0.30	0.40
2006/11/30	0.87	0.53	1.32	0.31	0.30	0.40
<i>Monthly average</i>	0.96	0.46	2.50	0.29	0.20	0.50

Table 5-12. Chlorophyll a fluorescence and turbidity data at 3.5 m depth in Oyako Ike, December 2006

Date	Chlorophyll (relative)			Turbidity (FTU)		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/12/1	0.85	0.49	1.25	0.31	0.30	0.40
2006/12/2	0.85	0.56	1.23	0.33	0.30	0.40
2006/12/3	0.76	0.46	1.09	0.33	0.30	0.40
2006/12/4	0.83	0.61	1.04	0.34	0.30	0.40
2006/12/5	0.76	0.52	1.20	0.33	0.30	0.40
2006/12/6	0.87	0.56	1.13	0.40	0.30	0.40
2006/12/7	0.84	0.55	1.32	0.40	0.40	0.40
2006/12/8	0.79	0.47	1.05	0.40	0.40	0.40
2006/12/9	0.73	0.46	1.07	0.40	0.40	0.40
2006/12/10	0.72	0.47	1.05	0.40	0.40	0.40
2006/12/11	0.73	0.48	1.07	0.41	0.40	0.50
2006/12/12	0.74	0.49	1.05	0.40	0.40	0.40
2006/12/13	0.72	0.48	1.10	0.40	0.40	0.40
2006/12/14	0.70	0.46	0.97	0.40	0.40	0.40
2006/12/15	0.73	0.47	1.05	0.40	0.40	0.40
2006/12/16	0.68	0.47	0.99	0.40	0.40	0.50
2006/12/17	0.66	0.44	1.02	0.49	0.40	0.50
2006/12/18	0.59	0.40	0.85	0.50	0.50	0.60
2006/12/19	0.55	0.37	0.83	0.50	0.50	0.60
2006/12/20	0.52	0.37	0.74	0.50	0.50	0.50
2006/12/21	0.49	0.34	0.69	0.50	0.50	0.60
2006/12/22	0.48	0.34	0.68	0.50	0.50	0.50
2006/12/23	0.49	0.31	0.71	0.50	0.50	0.50
2006/12/24	0.50	0.37	0.67	0.50	0.50	0.50
2006/12/25	0.46	0.29	0.69	0.48	0.40	0.50
2006/12/26	0.47	0.32	0.68	0.48	0.40	0.60
2006/12/27	0.46	0.31	0.63	0.45	0.40	0.50
2006/12/28	0.46	0.30	0.66	0.41	0.40	0.50
2006/12/29	0.47	0.30	0.62	0.40	0.40	0.40
2006/12/30	0.43	0.30	0.57	0.40	0.40	0.50
2006/12/31	0.38	0.28	0.55	0.40	0.40	0.40
<i>Monthly average</i>	0.64	0.28	1.32	0.42	0.30	0.60

Table 5-13. Chlorophyll a fluorescence and turbidity data at 3.5 m depth in Oyako Ike, January 2007

Date	Chlorophyll (relative)			Turbidity (FTU)		
	daily average	minimum	maximum	daily average	minimum	maximum
2007/1/1	0.36	0.25	0.53	0.41	0.40	0.50
2007/1/2	0.36	0.25	0.52	0.43	0.40	0.50
2007/1/3	0.37	0.26	0.53	0.50	0.50	0.50
2007/1/4	0.35	0.24	0.47	0.50	0.50	0.50
2007/1/5	0.36	0.26	0.49	0.50	0.50	0.50
2007/1/6	0.36	0.27	0.48	0.50	0.50	0.50
2007/1/7	0.36	0.28	0.47	0.50	0.50	0.50
2007/1/8	0.35	0.27	0.46	0.50	0.40	0.50
2007/1/9	0.35	0.26	0.47	0.49	0.40	0.50
2007/1/10	0.37	0.29	0.50	0.47	0.40	0.50
2007/1/11	0.37	0.29	0.49	0.42	0.40	0.50
2007/1/12	0.38	0.29	0.56	0.41	0.40	0.50
<i>Monthly average</i>	0.36	0.24	0.56	0.47	0.40	0.50

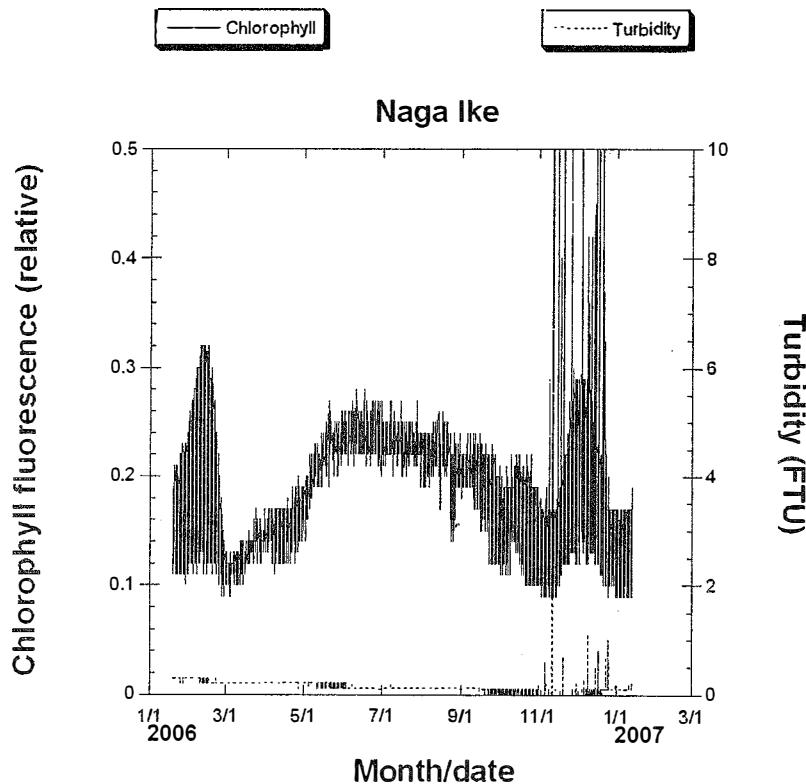


Fig. 10. Seasonal changes of chlorophyll fluorescence and turbidity at 3.1 m depth in Naga Ike (2006-2007). 60-minute interval data.

Table 6-1. Chlorophyll a fluorescence and turbidity data at 3.1 m depth in Naga Ike, January 2006

Date	Chlorophyll (relative)			Turbidity (FTU)		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/1/19	0.14	0.11	0.19	0.30	0.30	0.30
2006/1/20	0.14	0.12	0.21	0.30	0.30	0.30
2006/1/21	0.15	0.11	0.21	0.30	0.30	0.30
2006/1/22	0.15	0.11	0.21	0.30	0.30	0.30
2006/1/23	0.15	0.11	0.20	0.30	0.30	0.30
2006/1/24	0.15	0.11	0.22	0.30	0.30	0.30
2006/1/25	0.15	0.11	0.22	0.30	0.20	0.30
2006/1/26	0.15	0.11	0.23	0.30	0.30	0.30
2006/1/27	0.15	0.11	0.22	0.30	0.20	0.30
2006/1/28	0.16	0.11	0.23	0.30	0.30	0.30
2006/1/29	0.16	0.10	0.23	0.30	0.30	0.30
2006/1/30	0.16	0.11	0.24	0.30	0.30	0.30
2006/1/31	0.17	0.11	0.25	0.30	0.30	0.30
<i>Monthly average</i>	0.15	0.10	0.25	0.30	0.20	0.30

Table 6-2. Chlorophyll a fluorescence and turbidity data at 3.1 m depth in Naga Ike, February 2006

Date	Chlorophyll (relative)			Turbidity (FTU)		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/2/1	0.17	0.12	0.26	0.30	0.30	0.30
2006/2/2	0.18	0.12	0.27	0.30	0.30	0.30
2006/2/3	0.19	0.12	0.27	0.30	0.30	0.30
2006/2/4	0.17	0.11	0.28	0.30	0.30	0.30
2006/2/5	0.20	0.12	0.29	0.30	0.30	0.30
2006/2/6	0.20	0.12	0.30	0.30	0.30	0.30
2006/2/7	0.19	0.11	0.30	0.30	0.30	0.30
2006/2/8	0.19	0.12	0.31	0.30	0.30	0.30
2006/2/9	0.22	0.12	0.32	0.30	0.20	0.30
2006/2/10	0.21	0.13	0.32	0.30	0.20	0.30
2006/2/11	0.22	0.13	0.32	0.28	0.20	0.30
2006/2/12	0.20	0.11	0.32	0.23	0.20	0.30
2006/2/13	0.21	0.12	0.32	0.25	0.20	0.30
2006/2/14	0.20	0.11	0.31	0.22	0.20	0.30
2006/2/15	0.22	0.12	0.32	0.21	0.20	0.30
2006/2/16	0.20	0.12	0.32	0.21	0.20	0.30
2006/2/17	0.20	0.12	0.29	0.20	0.20	0.20
2006/2/18	0.19	0.12	0.30	0.20	0.20	0.20
2006/2/19	0.18	0.11	0.28	0.20	0.20	0.20
2006/2/20	0.18	0.12	0.27	0.20	0.20	0.20
2006/2/21	0.17	0.12	0.24	0.20	0.20	0.20
2006/2/22	0.16	0.11	0.24	0.20	0.20	0.30
2006/2/23	0.16	0.12	0.22	0.20	0.20	0.20
2006/2/24	0.14	0.10	0.20	0.20	0.20	0.20
2006/2/25	0.14	0.11	0.18	0.20	0.20	0.20
2006/2/26	0.12	0.09	0.16	0.20	0.20	0.20
2006/2/27	0.12	0.10	0.15	0.20	0.20	0.20
2006/2/28	0.11	0.09	0.14	0.20	0.20	0.20
<i>Monthly average</i>	0.18	0.09	0.32	0.24	0.20	0.30

Table 6-3. Chlorophyll a fluorescence and turbidity data at 3.1 m depth in Naga Ike, March 2006

Date	Chlorophyll (relative)			Turbidity (FTU)		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/3/1	0.11	0.10	0.13	0.20	0.20	0.20
2006/3/2	0.11	0.10	0.13	0.20	0.20	0.20
2006/3/3	0.12	0.10	0.12	0.20	0.20	0.20
2006/3/4	0.11	0.09	0.12	0.20	0.20	0.20
2006/3/5	0.11	0.09	0.13	0.20	0.20	0.20
2006/3/6	0.11	0.11	0.12	0.20	0.20	0.20
2006/3/7	0.12	0.11	0.13	0.20	0.20	0.20
2006/3/8	0.12	0.10	0.13	0.20	0.20	0.20
2006/3/9	0.11	0.10	0.13	0.20	0.20	0.20
2006/3/10	0.11	0.10	0.13	0.20	0.20	0.20
2006/3/11	0.12	0.10	0.13	0.20	0.20	0.20
2006/3/12	0.12	0.10	0.14	0.20	0.20	0.20
2006/3/13	0.12	0.11	0.14	0.20	0.20	0.20
2006/3/14	0.12	0.11	0.14	0.20	0.20	0.20
2006/3/15	0.12	0.10	0.14	0.20	0.20	0.20
2006/3/16	0.12	0.11	0.13	0.20	0.20	0.20
2006/3/17	0.13	0.12	0.14	0.20	0.20	0.20
2006/3/18	0.13	0.12	0.14	0.20	0.20	0.20
2006/3/19	0.14	0.12	0.15	0.20	0.20	0.20
2006/3/20	0.13	0.12	0.14	0.20	0.20	0.20
2006/3/21	0.14	0.13	0.14	0.20	0.20	0.20
2006/3/22	0.14	0.13	0.14	0.20	0.20	0.20
2006/3/23	0.14	0.12	0.16	0.20	0.20	0.20
2006/3/24	0.14	0.13	0.17	0.20	0.20	0.20
2006/3/25	0.15	0.14	0.16	0.20	0.20	0.20
2006/3/26	0.14	0.12	0.16	0.20	0.20	0.20
2006/3/27	0.14	0.13	0.16	0.20	0.20	0.20
2006/3/28	0.14	0.12	0.16	0.20	0.20	0.20
2006/3/29	0.14	0.12	0.15	0.20	0.20	0.20
2006/3/30	0.14	0.13	0.15	0.20	0.20	0.20
2006/3/31	0.15	0.14	0.17	0.20	0.20	0.20
<i>Monthly average</i>	0.13	0.09	0.17	0.20	0.20	0.20

Table 6-4. Chlorophyll a fluorescence and turbidity data at 3.1 m depth in Naga Ike, April 2006

Date	Chlorophyll (relative)			Turbidity (FTU)		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/4/1	0.14	0.13	0.16	0.20	0.20	0.20
2006/4/2	0.15	0.13	0.16	0.20	0.20	0.20
2006/4/3	0.15	0.13	0.17	0.20	0.20	0.20
2006/4/4	0.15	0.14	0.17	0.20	0.20	0.20
2006/4/5	0.15	0.14	0.17	0.20	0.20	0.20
2006/4/6	0.15	0.12	0.17	0.20	0.20	0.20
2006/4/7	0.15	0.12	0.16	0.20	0.20	0.20
2006/4/8	0.14	0.11	0.17	0.20	0.20	0.20
2006/4/9	0.15	0.12	0.17	0.20	0.20	0.20
2006/4/10	0.16	0.13	0.17	0.20	0.20	0.20
2006/4/11	0.16	0.12	0.17	0.20	0.20	0.20
2006/4/12	0.16	0.12	0.17	0.20	0.20	0.20
2006/4/13	0.15	0.12	0.17	0.20	0.20	0.20
2006/4/14	0.15	0.12	0.17	0.20	0.20	0.20
2006/4/15	0.16	0.12	0.17	0.20	0.20	0.20
2006/4/16	0.15	0.12	0.17	0.20	0.20	0.20
2006/4/17	0.15	0.12	0.17	0.20	0.20	0.20
2006/4/18	0.16	0.14	0.18	0.20	0.20	0.20
2006/4/19	0.15	0.12	0.17	0.20	0.20	0.20
2006/4/20	0.15	0.12	0.17	0.20	0.20	0.20
2006/4/21	0.16	0.13	0.17	0.20	0.20	0.20
2006/4/22	0.16	0.13	0.19	0.20	0.20	0.20
2006/4/23	0.17	0.14	0.18	0.20	0.20	0.20
2006/4/24	0.16	0.12	0.19	0.20	0.20	0.20
2006/4/25	0.17	0.13	0.19	0.20	0.20	0.20
2006/4/26	0.17	0.13	0.20	0.20	0.20	0.20
2006/4/27	0.17	0.14	0.19	0.20	0.10	0.20
2006/4/28	0.17	0.14	0.18	0.20	0.20	0.20
2006/4/29	0.17	0.14	0.19	0.20	0.20	0.20
2006/4/30	0.18	0.16	0.19	0.20	0.20	0.20
<i>Monthly average</i>	0.16	0.11	0.20	0.20	0.10	0.20

Table 6-5. Chlorophyll a fluorescence and turbidity data at 3.1 m depth in Naga Ike, May 2006

Date	Chlorophyll (relative)			Turbidity (FTU)		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/5/1	0.17	0.15	0.19	0.20	0.20	0.20
2006/5/2	0.19	0.14	0.20	0.20	0.20	0.20
2006/5/3	0.19	0.16	0.20	0.20	0.20	0.20
2006/5/4	0.18	0.16	0.20	0.20	0.20	0.20
2006/5/5	0.19	0.17	0.22	0.20	0.10	0.20
2006/5/6	0.19	0.18	0.21	0.20	0.20	0.20
2006/5/7	0.20	0.18	0.22	0.20	0.20	0.20
2006/5/8	0.21	0.19	0.22	0.20	0.20	0.20
2006/5/9	0.21	0.19	0.23	0.20	0.20	0.20
2006/5/10	0.22	0.20	0.23	0.20	0.20	0.20
2006/5/11	0.21	0.19	0.23	0.19	0.10	0.20
2006/5/12	0.21	0.19	0.22	0.19	0.10	0.20
2006/5/13	0.21	0.19	0.22	0.18	0.10	0.20
2006/5/14	0.22	0.19	0.24	0.18	0.10	0.20
2006/5/15	0.22	0.19	0.23	0.18	0.10	0.20
2006/5/16	0.22	0.21	0.24	0.18	0.10	0.20
2006/5/17	0.22	0.21	0.24	0.19	0.10	0.20
2006/5/18	0.22	0.20	0.25	0.18	0.10	0.20
2006/5/19	0.22	0.20	0.24	0.20	0.20	0.20
2006/5/20	0.23	0.19	0.27	0.20	0.10	0.20
2006/5/21	0.24	0.22	0.26	0.17	0.10	0.20
2006/5/22	0.24	0.23	0.25	0.15	0.10	0.20
2006/5/23	0.23	0.22	0.24	0.14	0.10	0.20
2006/5/24	0.22	0.20	0.24	0.12	0.10	0.20
2006/5/25	0.23	0.22	0.25	0.13	0.10	0.20
2006/5/26	0.23	0.22	0.25	0.12	0.10	0.20
2006/5/27	0.23	0.20	0.24	0.12	0.10	0.20
2006/5/28	0.23	0.21	0.25	0.13	0.10	0.20
2006/5/29	0.23	0.22	0.24	0.13	0.10	0.20
2006/5/30	0.23	0.21	0.26	0.11	0.10	0.20
2006/5/31	0.24	0.22	0.26	0.12	0.10	0.20
<i>Monthly average</i>	0.22	0.14	0.27	0.17	0.10	0.20

Table 6-6. Chlorophyll a fluorescence and turbidity data at 3.1 m depth in Naga Ike, June 2006

Date	Chlorophyll (relative)			Turbidity (FTU)		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/6/1	0.24	0.22	0.26	0.10	0.10	0.20
2006/6/2	0.23	0.22	0.26	0.11	0.10	0.20
2006/6/3	0.23	0.22	0.25	0.10	0.10	0.10
2006/6/4	0.23	0.21	0.26	0.10	0.10	0.10
2006/6/5	0.24	0.23	0.26	0.10	0.10	0.10
2006/6/6	0.24	0.22	0.26	0.10	0.10	0.10
2006/6/7	0.24	0.23	0.27	0.10	0.10	0.10
2006/6/8	0.24	0.22	0.26	0.10	0.10	0.20
2006/6/9	0.24	0.21	0.26	0.10	0.10	0.10
2006/6/10	0.24	0.22	0.28	0.10	0.10	0.10
2006/6/11	0.25	0.23	0.27	0.10	0.10	0.10
2006/6/12	0.24	0.22	0.26	0.10	0.10	0.10
2006/6/13	0.24	0.22	0.25	0.10	0.10	0.10
2006/6/14	0.24	0.22	0.26	0.10	0.10	0.10
2006/6/15	0.24	0.22	0.26	0.10	0.10	0.10
2006/6/16	0.24	0.22	0.27	0.10	0.10	0.10
2006/6/17	0.24	0.22	0.28	0.10	0.10	0.10
2006/6/18	0.23	0.21	0.27	0.10	0.10	0.10
2006/6/19	0.23	0.22	0.26	0.10	0.10	0.10
2006/6/20	0.23	0.22	0.25	0.10	0.10	0.10
2006/6/21	0.23	0.21	0.26	0.10	0.10	0.10
2006/6/22	0.23	0.22	0.26	0.10	0.10	0.10
2006/6/23	0.24	0.22	0.27	0.10	0.10	0.10
2006/6/24	0.24	0.22	0.27	0.10	0.10	0.10
2006/6/25	0.23	0.22	0.27	0.10	0.10	0.10
2006/6/26	0.23	0.22	0.25	0.10	0.10	0.10
2006/6/27	0.24	0.21	0.27	0.10	0.10	0.10
2006/6/28	0.23	0.21	0.26	0.10	0.10	0.10
2006/6/29	0.23	0.22	0.27	0.10	0.10	0.10
2006/6/30	0.23	0.20	0.27	0.10	0.10	0.10
<i>Monthly average</i>	0.24	0.20	0.28	0.10	0.10	0.20

Table 6-7. Chlorophyll a fluorescence and turbidity data at 3.1 m depth in Naga Ike, July 2006

Date	Chlorophyll (relative)			Turbidity (FTU)		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/7/1	0.23	0.22	0.25	0.10	0.10	0.10
2006/7/2	0.23	0.21	0.25	0.10	0.10	0.10
2006/7/3	0.23	0.21	0.25	0.10	0.10	0.10
2006/7/4	0.23	0.22	0.25	0.10	0.10	0.10
2006/7/5	0.23	0.22	0.25	0.10	0.10	0.10
2006/7/6	0.23	0.22	0.25	0.10	0.10	0.10
2006/7/7	0.23	0.22	0.27	0.10	0.10	0.10
2006/7/8	0.24	0.22	0.27	0.10	0.10	0.20
2006/7/9	0.23	0.20	0.25	0.10	0.10	0.10
2006/7/10	0.24	0.22	0.26	0.10	0.10	0.10
2006/7/11	0.24	0.22	0.25	0.10	0.10	0.10
2006/7/12	0.23	0.21	0.24	0.10	0.10	0.10
2006/7/13	0.23	0.21	0.25	0.10	0.10	0.10
2006/7/14	0.23	0.22	0.25	0.10	0.10	0.10
2006/7/15	0.23	0.22	0.27	0.10	0.10	0.10
2006/7/16	0.23	0.20	0.25	0.10	0.10	0.10
2006/7/17	0.23	0.20	0.25	0.10	0.10	0.10
2006/7/18	0.23	0.21	0.25	0.10	0.10	0.10
2006/7/19	0.23	0.22	0.24	0.10	0.10	0.10
2006/7/20	0.23	0.20	0.25	0.10	0.10	0.10
2006/7/21	0.23	0.21	0.25	0.10	0.10	0.10
2006/7/22	0.23	0.21	0.25	0.10	0.10	0.10
2006/7/23	0.23	0.22	0.25	0.10	0.10	0.10
2006/7/24	0.23	0.22	0.25	0.10	0.10	0.10
2006/7/25	0.23	0.22	0.24	0.10	0.10	0.10
2006/7/26	0.23	0.21	0.24	0.10	0.10	0.10
2006/7/27	0.23	0.21	0.25	0.10	0.10	0.10
2006/7/28	0.23	0.21	0.27	0.10	0.10	0.10
2006/7/29	0.23	0.22	0.24	0.10	0.10	0.10
2006/7/30	0.23	0.22	0.24	0.10	0.10	0.10
2006/7/31	0.22	0.19	0.24	0.10	0.10	0.10
<i>Monthly average</i>	0.23	0.19	0.27	0.10	0.10	0.20

Table 6-8. Chlorophyll a fluorescence and turbidity data at 3.1 m depth in Naga Ike, August 2006

Date	Chlorophyll (relative)			Turbidity (FTU)		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/8/1	0.23	0.22	0.24	0.10	0.10	0.10
2006/8/2	0.22	0.19	0.24	0.10	0.10	0.10
2006/8/3	0.23	0.19	0.24	0.10	0.10	0.10
2006/8/4	0.22	0.19	0.24	0.10	0.10	0.10
2006/8/5	0.22	0.20	0.24	0.10	0.10	0.10
2006/8/6	0.22	0.20	0.24	0.10	0.10	0.10
2006/8/7	0.22	0.19	0.24	0.10	0.10	0.10
2006/8/8	0.22	0.20	0.24	0.10	0.10	0.10
2006/8/9	0.23	0.21	0.24	0.10	0.10	0.10
2006/8/10	0.23	0.20	0.25	0.10	0.10	0.10
2006/8/11	0.23	0.21	0.25	0.10	0.10	0.10
2006/8/12	0.23	0.21	0.24	0.10	0.10	0.10
2006/8/13	0.23	0.21	0.25	0.10	0.10	0.10
2006/8/14	0.23	0.20	0.26	0.10	0.10	0.10
2006/8/15	0.22	0.17	0.24	0.10	0.10	0.10
2006/8/16	0.21	0.17	0.23	0.10	0.10	0.10
2006/8/17	0.23	0.21	0.26	0.10	0.10	0.10
2006/8/18	0.23	0.21	0.25	0.10	0.10	0.10
2006/8/19	0.23	0.20	0.25	0.10	0.10	0.10
2006/8/20	0.22	0.20	0.25	0.10	0.10	0.10
2006/8/21	0.23	0.21	0.25	0.10	0.10	0.10
2006/8/22	0.23	0.22	0.24	0.10	0.10	0.10
2006/8/23	0.21	0.16	0.24	0.10	0.10	0.10
2006/8/24	0.20	0.14	0.22	0.10	0.10	0.10
2006/8/25	0.19	0.14	0.22	0.10	0.10	0.10
2006/8/26	0.21	0.15	0.24	0.10	0.10	0.10
2006/8/27	0.20	0.16	0.23	0.10	0.10	0.10
2006/8/28	0.21	0.19	0.23	0.10	0.10	0.10
2006/8/29	0.21	0.19	0.23	0.10	0.10	0.10
2006/8/30	0.21	0.19	0.22	0.10	0.10	0.10
2006/8/31	0.21	0.19	0.24	0.10	0.10	0.10
<i>Monthly average</i>	0.22	0.14	0.26	0.10	0.10	0.10

Table 6-9. Chlorophyll a fluorescence and turbidity data at 3.1 m depth in Naga Ike, September 2006

Date	Chlorophyll (relative)			Turbidity (FTU)		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/9/1	0.20	0.18	0.22	0.10	0.10	0.10
2006/9/2	0.21	0.19	0.22	0.10	0.10	0.10
2006/9/3	0.20	0.19	0.22	0.10	0.10	0.10
2006/9/4	0.20	0.19	0.22	0.10	0.10	0.10
2006/9/5	0.22	0.19	0.23	0.10	0.10	0.10
2006/9/6	0.22	0.19	0.24	0.10	0.10	0.10
2006/9/7	0.21	0.19	0.22	0.10	0.10	0.10
2006/9/8	0.21	0.19	0.24	0.10	0.10	0.10
2006/9/9	0.21	0.19	0.22	0.10	0.10	0.10
2006/9/10	0.21	0.18	0.24	0.10	0.10	0.10
2006/9/11	0.21	0.17	0.23	0.10	0.10	0.10
2006/9/12	0.21	0.17	0.24	0.10	0.10	0.10
2006/9/13	0.21	0.17	0.23	0.10	0.10	0.10
2006/9/14	0.21	0.17	0.23	0.10	0.10	0.10
2006/9/15	0.21	0.17	0.24	0.10	0.00	0.10
2006/9/16	0.20	0.15	0.23	0.10	0.10	0.10
2006/9/17	0.20	0.15	0.23	0.10	0.10	0.10
2006/9/18	0.20	0.16	0.22	0.10	0.10	0.10
2006/9/19	0.20	0.16	0.22	0.10	0.10	0.10
2006/9/20	0.20	0.15	0.23	0.09	0.00	0.10
2006/9/21	0.20	0.15	0.22	0.10	0.10	0.10
2006/9/22	0.20	0.16	0.22	0.10	0.10	0.10
2006/9/23	0.18	0.12	0.22	0.09	0.00	0.10
2006/9/24	0.16	0.12	0.22	0.08	0.00	0.10
2006/9/25	0.16	0.12	0.23	0.08	0.00	0.10
2006/9/26	0.17	0.12	0.22	0.08	0.00	0.10
2006/9/27	0.16	0.12	0.22	0.08	0.00	0.10
2006/9/28	0.16	0.12	0.20	0.08	0.00	0.10
2006/9/29	0.16	0.12	0.20	0.07	0.00	0.10
2006/9/30	0.15	0.12	0.20	0.10	0.00	0.10
<i>Monthly average</i>	0.19	0.12	0.24	0.10	0.00	0.10

Table 6-10. Chlorophyll a fluorescence and turbidity data at 3.1 m depth in Naga Ike, October 2006

Date	Chlorophyll (relative)			Turbidity (FTU)		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/10/1	0.15	0.12	0.21	0.06	0.00	0.10
2006/10/2	0.15	0.11	0.19	0.08	0.00	0.10
2006/10/3	0.15	0.11	0.20	0.06	0.00	0.10
2006/10/4	0.15	0.12	0.19	0.06	0.00	0.10
2006/10/5	0.16	0.12	0.19	0.05	0.00	0.10
2006/10/6	0.15	0.11	0.21	0.02	0.00	0.10
2006/10/7	0.16	0.12	0.20	0.05	0.00	0.10
2006/10/8	0.16	0.11	0.19	0.05	0.00	0.10
2006/10/9	0.16	0.11	0.19	0.02	0.00	0.10
2006/10/10	0.18	0.15	0.22	0.03	0.00	0.10
2006/10/11	0.17	0.14	0.20	0.02	0.00	0.10
2006/10/12	0.18	0.14	0.21	0.01	0.00	0.10
2006/10/13	0.18	0.14	0.21	0.00	0.00	0.10
2006/10/14	0.18	0.13	0.22	0.03	0.00	0.10
2006/10/15	0.17	0.13	0.21	0.03	0.00	0.10
2006/10/16	0.18	0.14	0.22	0.00	0.00	0.10
2006/10/17	0.17	0.12	0.22	0.03	0.00	0.10
2006/10/18	0.15	0.11	0.20	0.00	0.00	0.10
2006/10/19	0.16	0.12	0.21	0.02	0.00	0.10
2006/10/20	0.15	0.11	0.21	0.01	0.00	0.10
2006/10/21	0.15	0.10	0.20	0.01	0.00	0.10
2006/10/22	0.15	0.10	0.22	0.01	0.00	0.10
2006/10/23	0.15	0.10	0.21	0.03	0.00	0.10
2006/10/24	0.14	0.10	0.20	0.03	0.00	0.10
2006/10/25	0.14	0.10	0.20	0.01	0.00	0.10
2006/10/26	0.14	0.10	0.22	0.02	0.00	0.10
2006/10/27	0.14	0.10	0.19	0.01	0.00	0.10
2006/10/28	0.14	0.10	0.19	0.00	0.00	0.10
2006/10/29	0.13	0.10	0.19	0.00	0.00	0.00
2006/10/30	0.13	0.10	0.19	0.01	0.00	0.10
2006/10/31	0.13	0.10	0.19	0.01	0.00	0.10
<i>Monthly average</i>	0.15	0.10	0.22	0.02	0.00	0.10

Table 6-11. Chlorophyll a fluorescence and turbidity data at 3.1 m depth in Naga Ike, November 2006

Date	Chlorophyll (relative)			Turbidity (FTU)		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/11/1	0.13	0.10	0.17	0.00	0.00	0.00
2006/11/2	0.13	0.10	0.18	0.00	0.00	0.00
2006/11/3	0.13	0.09	0.17	0.00	0.00	0.10
2006/11/4	0.12	0.10	0.17	0.00	0.00	0.00
2006/11/5	0.12	0.09	0.16	0.00	0.00	0.00
2006/11/6	0.12	0.09	0.17	0.06	0.00	0.60
2006/11/7	0.12	0.09	0.19	0.01	0.00	0.20
2006/11/8	0.13	0.10	0.17	0.00	0.00	0.00
2006/11/9	0.13	0.09	0.29	0.01	0.00	0.10
2006/11/10	0.12	0.09	0.17	0.00	0.00	0.00
2006/11/11	0.16	0.09	1.01	0.40	0.00	3.60
2006/11/12	0.14	0.09	0.69	0.33	0.00	8.00
2006/11/13	0.12	0.09	0.17	0.00	0.00	0.00
2006/11/14	0.13	0.09	0.17	0.00	0.00	0.10
2006/11/15	0.13	0.09	0.18	0.00	0.00	0.00
2006/11/16	0.15	0.10	0.53	0.00	0.00	0.00
2006/11/17	0.14	0.10	0.19	0.00	0.00	0.00
2006/11/18	0.16	0.11	0.40	0.00	0.00	0.10
2006/11/19	0.15	0.11	0.21	0.00	0.00	0.00
2006/11/20	0.20	0.12	1.04	0.04	0.00	0.70
2006/11/21	0.16	0.12	0.22	0.00	0.00	0.00
2006/11/22	0.16	0.12	0.22	0.00	0.00	0.00
2006/11/23	0.17	0.12	0.24	0.00	0.00	0.00
2006/11/24	0.17	0.12	0.24	0.00	0.00	0.00
2006/11/25	0.18	0.12	0.27	0.00	0.00	0.00
2006/11/26	0.21	0.13	0.62	0.00	0.00	0.00
2006/11/27	0.19	0.13	0.27	0.00	0.00	0.00
2006/11/28	0.20	0.13	0.30	0.01	0.00	0.10
2006/11/29	0.19	0.13	0.29	0.00	0.00	0.00
2006/11/30	0.19	0.12	0.29	0.00	0.00	0.10
<i>Monthly average</i>	0.15	0.09	1.04	0.03	0.00	8.00

Table 6-12. Chlorophyll a fluorescence and turbidity data at 3.1 m depth in Naga Ike, December 2006

Date	Chlorophyll (relative)			Turbidity (FTU)		
	daily average	minimum	maximum	daily average	minimum	maximum
2006/12/1	0.19	0.12	0.29	0.02	0.00	0.20
2006/12/2	0.20	0.14	0.29	0.00	0.00	0.10
2006/12/3	0.19	0.12	0.28	0.00	0.00	0.00
2006/12/4	0.24	0.15	0.65	0.00	0.00	0.00
2006/12/5	0.21	0.14	0.29	0.00	0.00	0.10
2006/12/6	0.20	0.13	0.29	0.00	0.00	0.00
2006/12/7	0.21	0.14	0.29	0.02	0.00	0.30
2006/12/8	0.20	0.12	0.29	0.01	0.00	0.10
2006/12/9	0.19	0.12	0.42	0.01	0.00	0.10
2006/12/10	0.20	0.12	0.36	0.05	0.00	1.10
2006/12/11	0.19	0.13	0.28	0.01	0.00	0.10
2006/12/12	0.20	0.13	0.42	0.00	0.00	0.10
2006/12/13	0.18	0.13	0.25	0.01	0.00	0.10
2006/12/14	0.19	0.13	0.44	0.01	0.00	0.10
2006/12/15	0.19	0.12	0.45	0.02	0.00	0.10
2006/12/16	0.19	0.12	0.55	0.05	0.00	0.50
2006/12/17	0.16	0.12	0.23	0.03	0.00	0.10
2006/12/18	0.18	0.12	0.55	0.15	0.00	0.80
2006/12/19	0.15	0.11	0.22	0.08	0.00	0.10
2006/12/20	0.15	0.11	0.22	0.09	0.00	0.10
2006/12/21	0.19	0.11	0.70	0.10	0.00	0.10
2006/12/22	0.15	0.10	0.37	0.10	0.10	0.10
2006/12/23	0.14	0.10	0.19	0.10	0.10	0.10
2006/12/24	0.15	0.10	0.22	0.13	0.10	0.70
2006/12/25	0.13	0.09	0.20	0.16	0.10	1.00
2006/12/26	0.13	0.10	0.17	0.12	0.10	0.60
2006/12/27	0.13	0.10	0.17	0.10	0.10	0.10
2006/12/28	0.13	0.10	0.17	0.10	0.10	0.10
2006/12/29	0.14	0.11	0.17	0.10	0.10	0.10
2006/12/30	0.13	0.10	0.17	0.10	0.10	0.10
2006/12/31	0.13	0.09	0.17	0.10	0.10	0.20
<i>Monthly average</i>	0.17	0.09	0.70	0.06	0.00	1.10

Table 6-13. Chlorophyll a fluorescence and turbidity data at 3.1 m depth in Naga Ike, January 2007

Date	Chlorophyll (relative)			Turbidity (FTU)		
	daily average	minimum	maximum	daily average	minimum	maximum
2007/1/1	0.13	0.09	0.17	0.10	0.10	0.10
2007/1/2	0.12	0.09	0.17	0.10	0.10	0.10
2007/1/3	0.12	0.09	0.16	0.10	0.10	0.10
2007/1/4	0.12	0.09	0.17	0.10	0.10	0.10
2007/1/5	0.12	0.09	0.17	0.10	0.10	0.10
2007/1/6	0.12	0.09	0.17	0.10	0.10	0.10
2007/1/7	0.12	0.09	0.17	0.10	0.10	0.10
2007/1/8	0.12	0.10	0.17	0.10	0.10	0.10
2007/1/9	0.12	0.09	0.17	0.10	0.10	0.10
2007/1/10	0.12	0.09	0.17	0.10	0.10	0.10
2007/1/11	0.13	0.09	0.17	0.11	0.10	0.20
2007/1/12	0.13	0.09	0.17	0.10	0.10	0.10
<i>Monthly average</i>	0.12	0.09	0.17	0.10	0.10	0.20