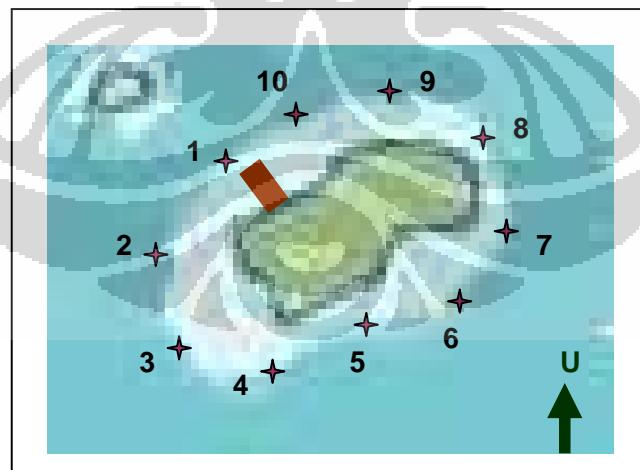






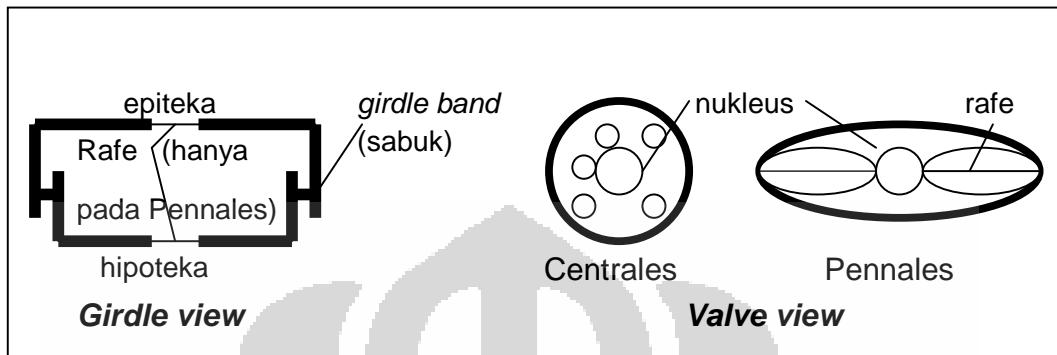
Gambar 1. Lokasi penelitian (Pulau Penjaliran Timur, Kepulauan Seribu)  
[Sumber: Modifikasi Holtorf 2005.]



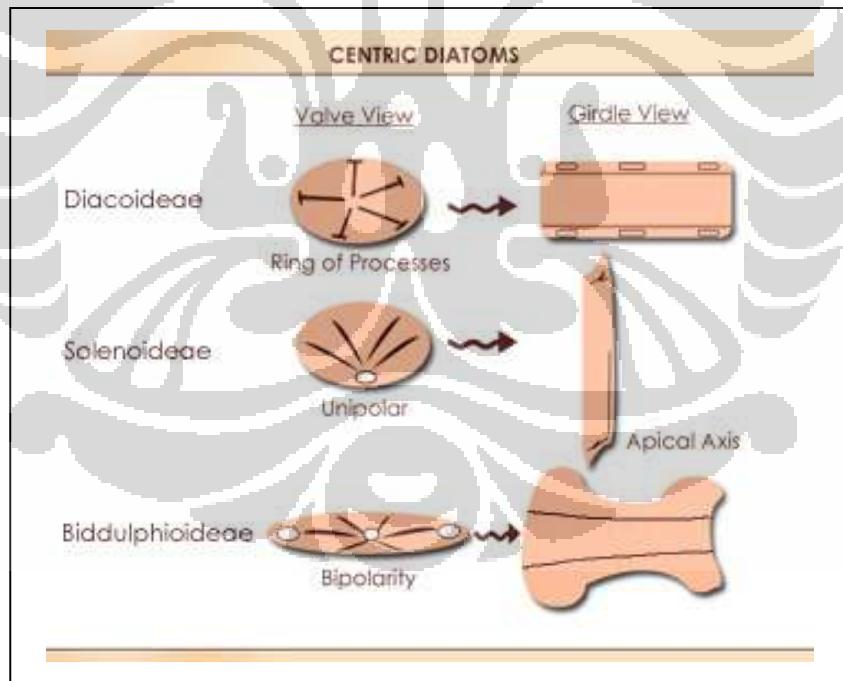
Gambar 2. Skema lokasi stasiun pengambilan sampel di Pulau Penjaliran Timur (Stasiun 1--10)



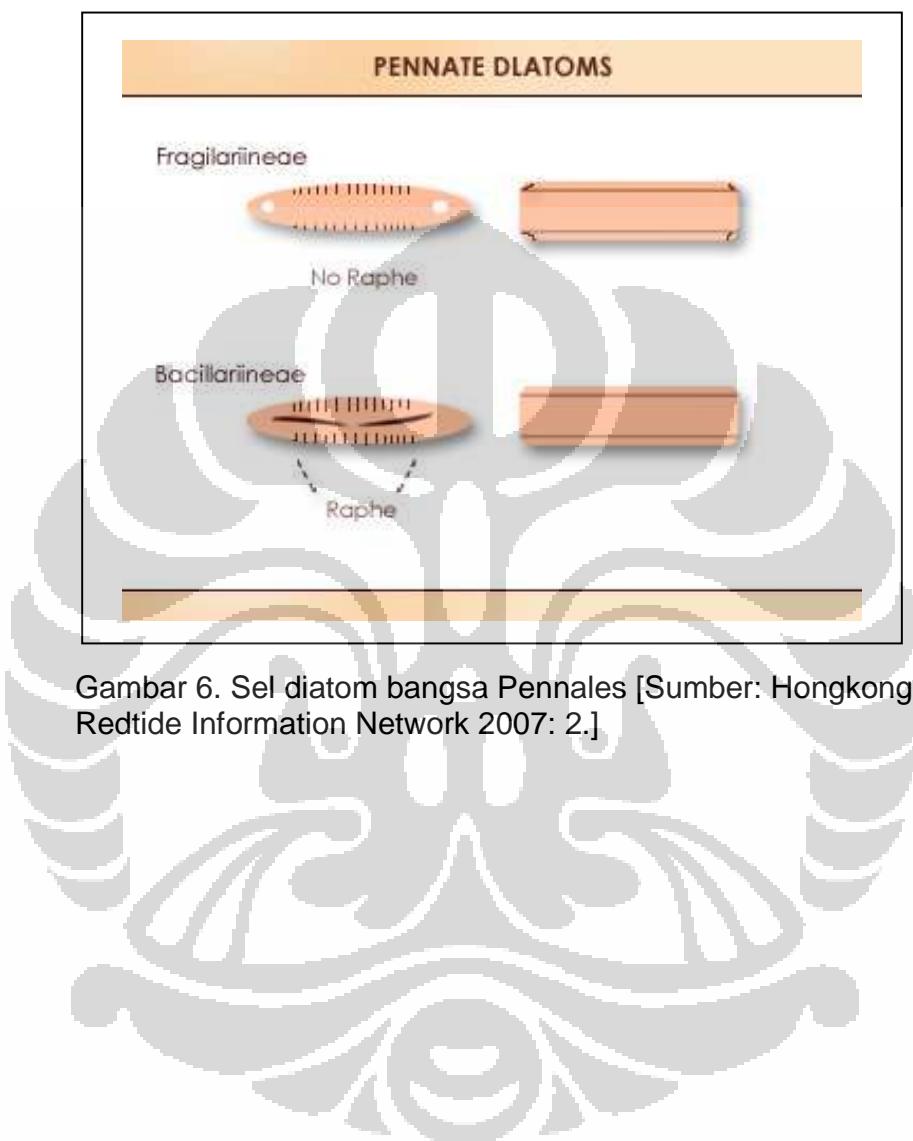
Gambar 3. Lokasi penelitian (Teluk Jakarta)



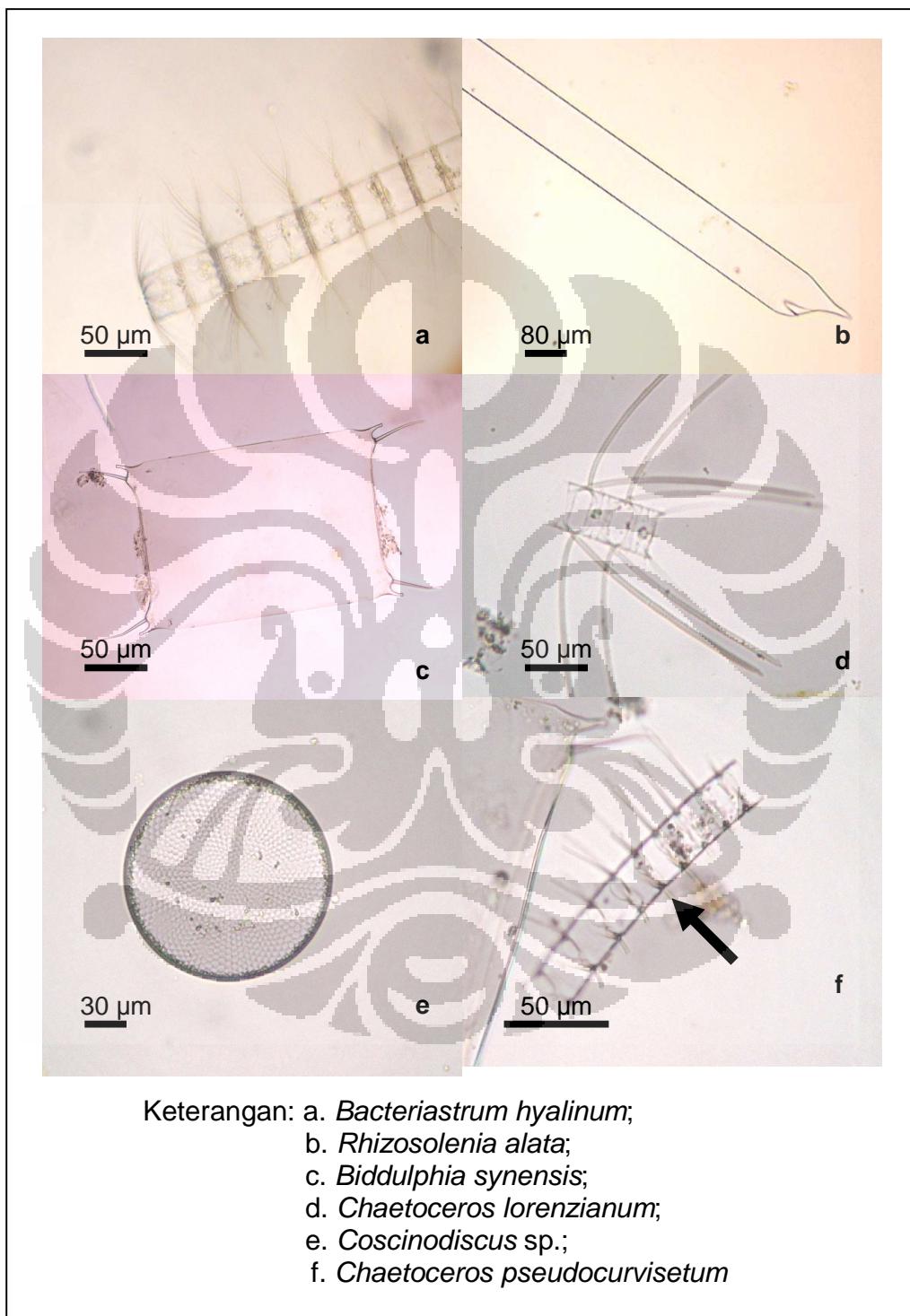
Gambar 4. Struktur sel diatom



Gambar 5. Sel diatom bangsa Centrales [Sumber: Hongkong Redtide Information Network 2007: 2.]

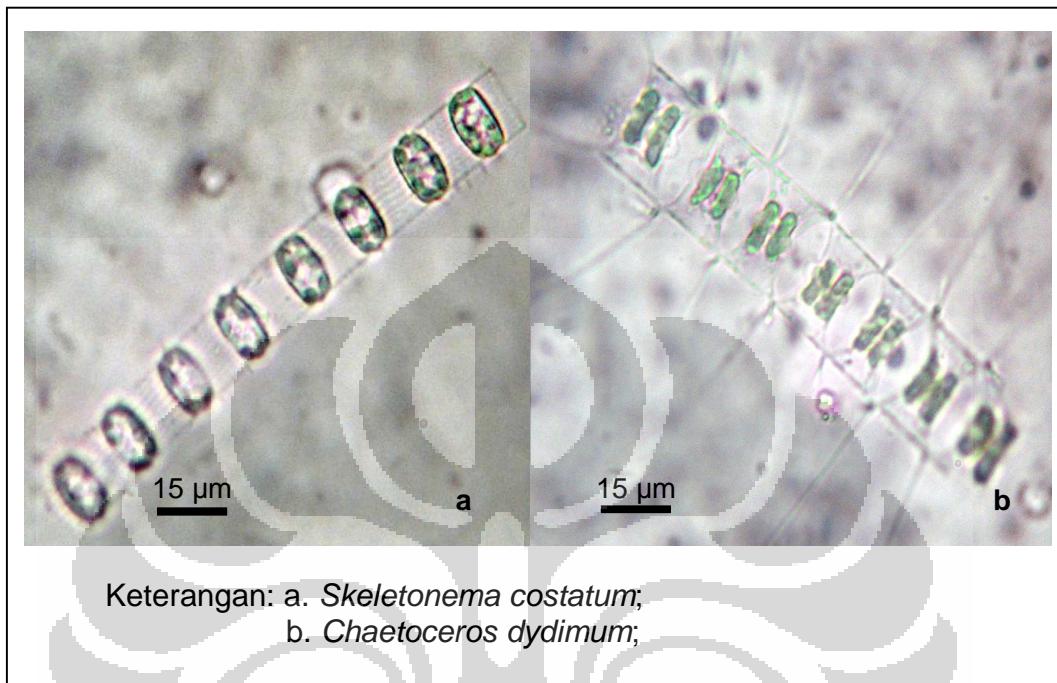


Gambar 6. Sel diatom bangsa Pennales [Sumber: Hongkong Redtide Information Network 2007: 2.]

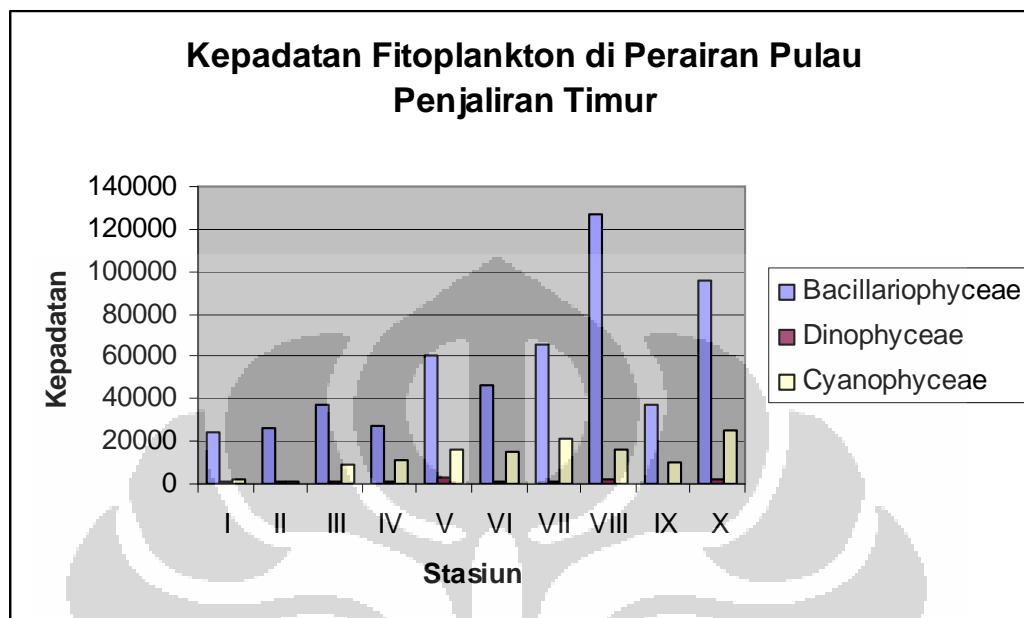


Keterangan: a. *Bacteriastrum hyalinum*;  
b. *Rhizosolenia alata*;  
c. *Biddulphia synensis*;  
d. *Chaetoceros lorenzianum*;  
e. *Coscinodiscus* sp.;  
f. *Chaetoceros pseudocurvisetum*

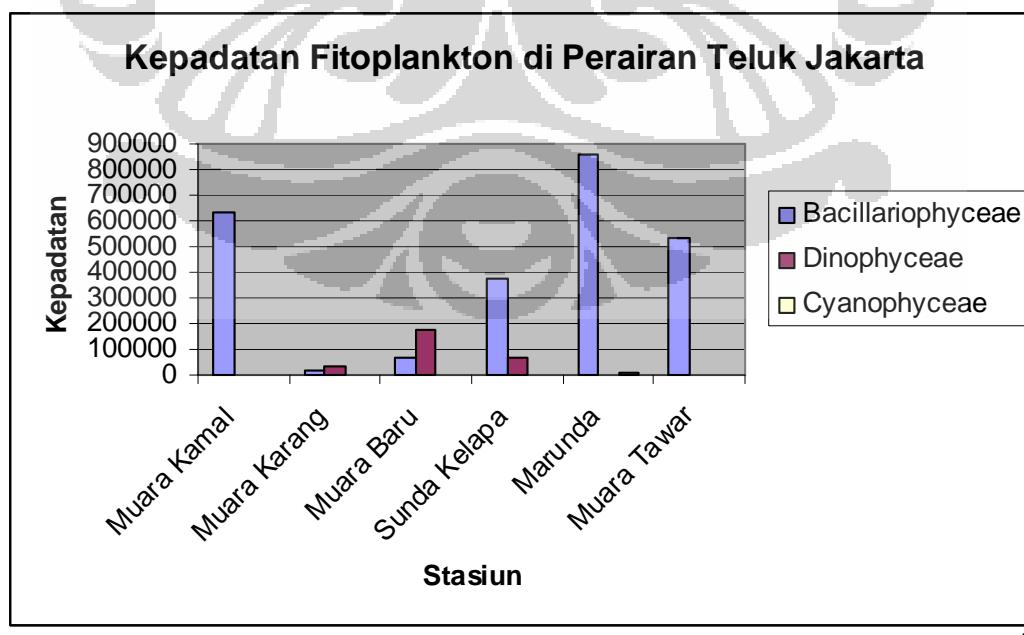
Gambar 7. Diatom yang ditemukan di perairan Penjaliran Timur



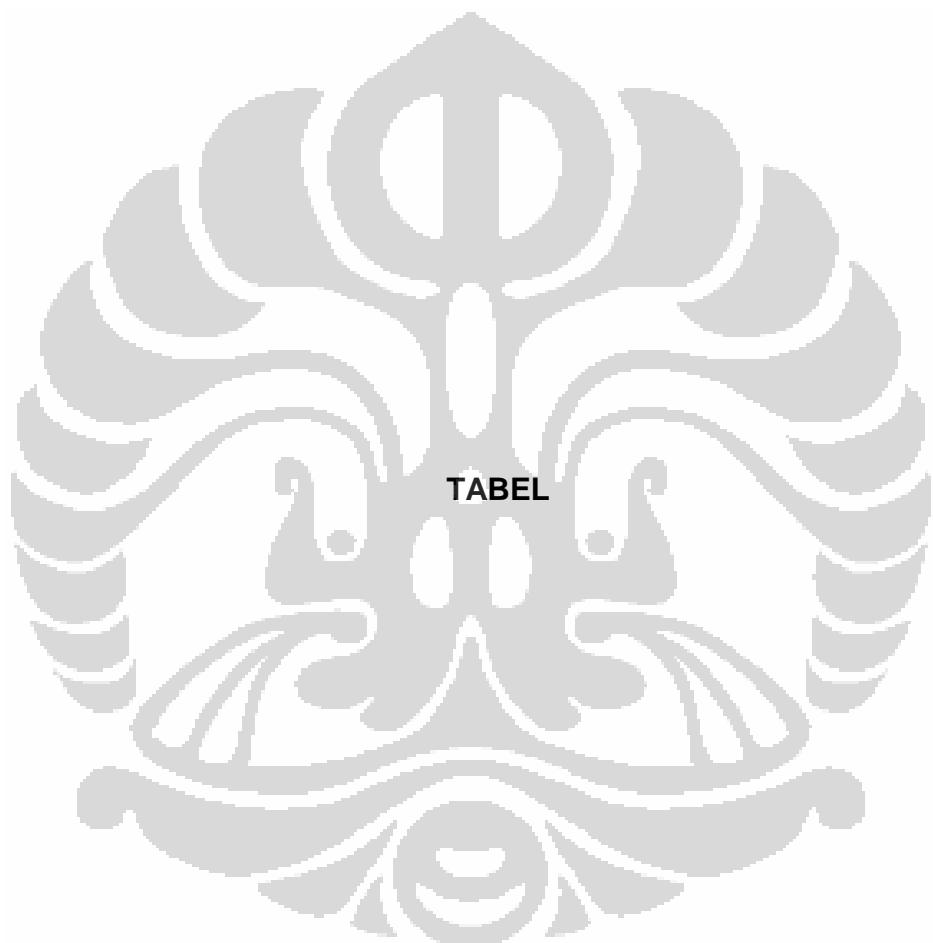
Gambar 8. Diatom yang ditemukan di perairan Teluk Jakarta



Gambar 9. Kepadatan fitoplankton di perairan Pulau Penjaliran Timur (plankter/m<sup>3</sup>)



Gambar 10. Kepadatan fitoplankton di perairan Teluk Jakarta (plankter/m<sup>3</sup>)



Tabel 1

Koordinat lokasi pengambilan sampel

Stasiun	Koordinat Posisi Stasiun Penjaliran Timur Bujur Timur (BT)	Lintang Selatan (LS)
I	106°33'58.8"	05°27'38.8"
II	106°34'02.0"	05°27'40.1"
III	106°34'01.7"	05°27'40.0"
IV	106°34'11.5"	05°27'39.2"
V	106°34'16.5"	05°27'37.1"
VI	106°34'23.7"	05°27'32.3"
VII	106°34'23.6"	05°27'15.7"
VIII	106°34'16.2"	05°27'13.9"
IX	106°34'09.4"	05°27'16.0"
X	106°34'02.8"	05°27'19.3"

Stasiun	Koordinat Posisi Stasiun Teluk Jakarta Bujur Timur (BT)	Lintang Selatan (LS)
Muara Kamal	106°43'40.8"	06°5'23.06"
Muara Karang	106°47'2.4"	06°6'25.96"
Muara Baru	106°48'7.2"	06°5'16.012"
Sunda Kelapa	106°48'14.4"	06°36'33.07"
Marunda	106°57'25.2"	06°5'41.86"
Muara Tawar	106°59'24"	06°5'10.43"

Tabel 2

Data parameter lingkungan di setiap stasiun pengambilan sampel

Penjaliran Timur				
Stasiun	Panjang tarikan (m)	pH	Salinitas (%)	Suhu (°C)
I	5	7	29	28,5
II	3	7	29	29
III	3	7	22	29
IV	3	7	23	29
V	2,5	7	24	29
VI	3	7	23	29
VII	3	7	24	29
VIII	3	7	23,5	29
IX	3	7	27	29
X	3	7	22	29

Teluk Jakarta				
Stasiun	Panjang tarikan (m)	pH	Salinitas (%)	Suhu (°C)
Muara Kamal	5	6	27	30
Muara Karang	5	6	16	29
Muara Baru	5	7	29	31
Sunda Kelapa	4	7	32	32
Marunda	5	8	20	31
Muara Tawar	5	8,5	26	31

Tabel 3

Kehadiran jenis fitoplankton di perairan Pulau Penjaliran Timur dan Teluk Jakarta

Fitoplankton	Penjaliran Timur										Teluk Jakarta					
	I	II	III	IV	V	VI	VII	VIII	IX	X	Muara Kamal	Muara Karang	Muara Baru	Sunda Kelapa	Marunda	Muara Tawar
<b>Kelas Bacillariophyceae(Diatom)</b>																
<b>Bangsa Centrales</b>																
<i>Asterolampra marylandica</i>	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Bacillaria paradoxa</i>	-	-	-	-	+	+	+	-	-	+	+	-	-	-	-	-
<i>Bacteriastrum comosum</i>	+	-	+	-	+	+	+	-	-	-	-	-	-	-	-	-
<i>Bacteriastrum delicatulum</i>	+	+	+	+	+	+	+	+	+	+	-	+	+	+	-	-
<i>Bacteriastrum hyalinum</i>	+	+	+	+	+	+	+	+	+	-	+	+	+	+	+	+
<i>Bacteriastrum varians</i>	+	+	+	-	+	+	+	+	+	+	-	+	+	-	-	-
<i>Biddulphia mobiliensis</i>	-	-	-	+	-	+	-	+	-	-	-	-	-	-	-	-
<i>Biddulphia pulchella</i>	-	-	-	-	+	-	+	+	+	-	-	-	-	-	-	-
<i>Biddulphia synensis</i>	+	+	+	+	+	+	+	+	+	+	-	-	-	+	-	-
<i>Cerataulina</i> sp.	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
<i>Chaetoceros affine</i>	-	-	-	-	+	+	+	+	+	+	-	+	+	+	+	+
<i>Chaetoceros breve</i>	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Chaetoceros coarctatum</i>	+	+	+	+	+	+	+	+	+	-	-	-	-	-	-	-
<i>Chaetoceros compressum</i>	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-
<i>Chaetoceros constrictum</i>	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-
<i>Chaetoceros delicatulum</i>	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Chaetoceros denticulatum</i>	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
<i>Chaetoceros didimum</i>	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-
<i>Chaetoceros distans</i>	-	-	-	-	-	-	-	-	-	+	-	-	+	-	-	-
<i>Chaetoceros diversum</i>	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-
<i>Chaetoceros laciniosum</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-



Keterangan: + : ada;  
- : tidak ada

Tabel 4

Presentase kehadiran bangsa diatom di perairan Pulau Penjalaran Timur dan Teluk Jakarta

Bangsa	Penjalaran Timur										Rata-rata
	I	II	III	IV	V	VI	VII	VIII	IX	X	
Bacillariophyceae (%)	91.46	94.18	78.33	68.19	76.37	74.47	74.60	87.36	78.97	77.52	80.15
Dinophyceae (%)	2.56	2.74	2.76	2.33	3.44	1.37	1.61	1.56	0.60	1.83	2.08
Cyanophyceae (%)	5.98	3.08	18.91	29.47	20.19	24.16	23.79	11.08	20.43	20.64	17.77

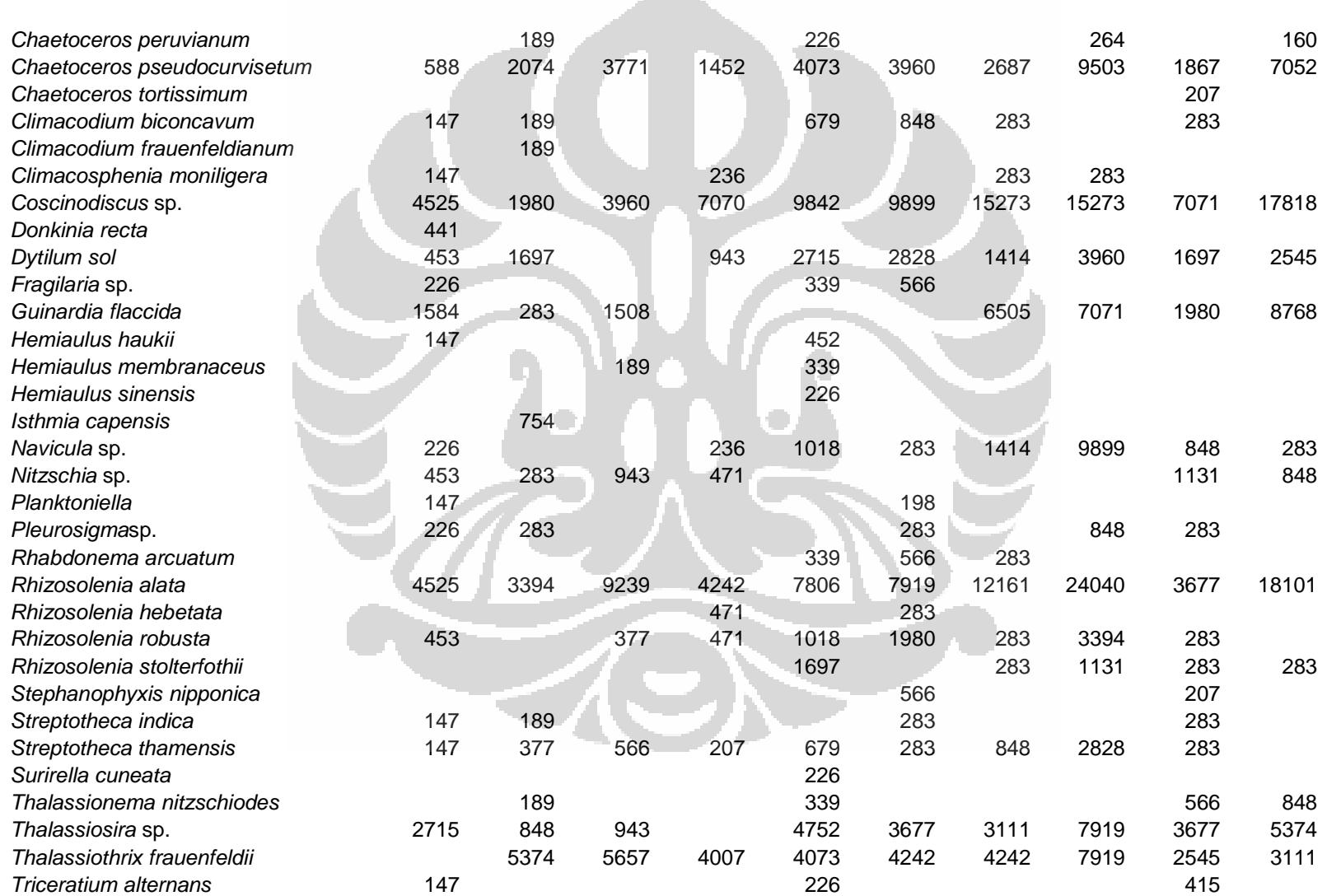
  

Bangsa	Teluk Jakarta					Rata-rata	
	Muara Kamal	Muara Karang	Muara Baru	Sunda Kelapa	Marunda		
Bacillariophyceae (%)	99.54	28.53	28.02	84.55	98.51	99.92	73.18
Dinophyceae (%)	0.46	67.59	71.98	15.45	0.44	0.08	25.99
Cyanophyceae (%)	-	3.88	-	-	1.05	-	2.46

Tabel 5

Kepadatan diatom di perairan Pulau Penjalaran Timur (plankter/m<sup>3</sup>)

Nama Jenis	Stasiun									
	I	II	III	IV	V	VI	VII	VIII	IX	X
<b>Diatom (Bacillariophyceae)</b>										
<i>Asterionella</i> sp.	1810	3394			339			283	566	283
<i>Asterolampra marylandica</i>		377								
<i>Bacillaria paradoxa</i>							566	848	283	
<i>Bacteriastrum comosum</i>	74		113				240	127		
<i>Bacteriastrum delicatulum</i>	147	57	226	509	724		321	1018	90	519
<i>Bacteriastrum hyalinum</i>	2133	1301	4186	2545	4073	1056	4728	9927	3045	8711
<i>Bacteriastrum varians</i>	147	57	226		453	905	641	764	358	519
<i>Biddulphia mobilensis</i>					339		566			566
<i>Biddulphia pulchella</i>					1697			848	283	283
<i>Biddulphia synensis</i>	2036	1131	2263	2828	7806	3394	5374	10465	1697	7071
<i>Campylodiscus ralfsii</i>								283	283	
<i>Cerataulina</i> sp.									283	283
<i>Chaetoceros affine</i>						198	896	792	207	801
<i>Chaetoceros breve</i>										
<i>Chaetoceros coarctatum</i>	147	189	151	207	905	198	537	2640	415	3366
<i>Chaetoceros compressum</i>			151			198				321
<i>Chaetoceros constrictum</i>								264		
<i>Chaetoceros delicatulum</i>										
<i>Chaetoceros denticulatum</i>	189									160
<i>Chaetoceros distans</i>										321
<i>Chaetoceros laeve</i>						226				
<i>Chaetoceros lauderii</i>								528		
<i>Chaetoceros lorenzianum</i>	147	943	2715	830	2489	1584	2329	3696	1659	6892
<i>Chaetoceros paradoxum</i>			151		226		358	264	415	160



<i>Triceratium favus</i>	147	151								160
<b>Total</b>	24232	25930	37486	26725	60341	46197	65626	127079	37170	95607
<b>Dinophyceae</b>										
<i>Amphisolenia</i> sp.	453	566	566		339		283	1414	283	848
<i>Ceratium</i> sp.										
<i>Dinophysis</i> sp.	226	189	189			566	848	283		1414
<i>Noctiluca scintillans</i>			377							
<i>Protoperidinium</i> sp.			189	679	679	283	283	566		
<i>Pyrocystis noctiluca</i>				236	1697					
<b>Total (Dinophyceae)</b>	679	755	1321	915	2715	849	1414	2263	283	2262
<b>Cyanophyceae</b>										
<i>Trichodesmium</i> sp.	1584	848	9051	11549	15952	14990	20929	16121	9616	25455
<b>Total</b>	26495	27533	47858	39189	79008	62036	87969	145463	47069	123324

Tabel 6

Kepadatan diatom di perairan Teluk Jakarta (plankter/m<sup>3</sup>)

Nama Jenis	Stasiun					Muara Tawar
	Muara Kamal	Muara Karang	Muara Baru	Sunda Kelapa	Marunda	
<b>Diatom (Bacillariophyceae)</b>						
<i>Amphiprora alata</i>						140
<i>Asterionella</i> sp.						140
<i>Bacillaria paradoxa</i>	611	147				
<i>Bacteriastrum delicatulum</i>	3207					
<i>Bacteriastrum hyalinum</i>		1324				
<i>Bacteriastrum varians</i>	5727					
<i>Biddulphia synensis</i>	458					
<i>Chaetoceros affine</i>	290259	1324	19521	185818	93070	72866
<i>Chaetoceros didimum</i>				318		
<i>Chaetoceros distans</i>				636		
<i>Chaetoceros diversum</i>			164			
<i>Chaetoceros laciniosum</i>				318		
<i>Chaetoceros lorenzianum</i>	114088	1029	5741	28636	33949	54369
<i>Chaetoceros paradoxum</i>			164	318		
<i>Chaetoceros pseudocurvisetum</i>		1029	14108	70636		140
<i>Chaetoceros van heurkii</i>			3773	4136		
<i>Coscinodiscus</i> sp.	1222	1177			2650	3643
<i>Ditylum sol</i>			164			
<i>Gyrosigma</i> sp.	1069					
<i>Hemiaulus membranaceus</i>				318		
<i>Lauderia annulata</i>			656	1909		
<i>Melosira</i> sp.			164			
<i>Navicula</i> sp.	1680				1325	140
<i>Nitzschia closterium</i>				318		
<i>Nitzschia serata</i>				4773	5465	28726
<i>Pleurosigma</i> sp.	29018			318		561
<i>Rhizosolenia alata</i>	458		328			140
<i>Rhizosolenia imbricata</i>		147				
<i>Rhizosolenia setigera</i>				318		
<i>Skeletonema costatum</i>	185106	8971	18209	63000	704650	364331
<b>Total</b>	<b>632903</b>	<b>15148</b>	<b>66929</b>	<b>370997</b>	<b>854192</b>	<b>534164</b>

Tabel 7

Indeks dominansi diatom di perairan Pulau Penjalaran Timur

Nama Jenis	Stasiun									
	I	II	III	IV	V	VI	VII	VIII	IX	X
<b>Diatom (Bacillariophyceae)</b>										
<i>Asterionella</i> sp.	7.47%	13.09%			0.56%			0.22%	1.52%	0.30%
<i>Asterolampra marylandica</i>		1.45%								
<i>Bacillaria paradoxa</i>							0.86%	0.67%	1.76%	
<i>Bacteriastrum comosum</i>	0.31%	0.30%					0.37%	0.10%		
<i>Bact. delicatulum</i>	0.61%	0.22%	0.60%	1.90%	1.20%		0.49%	0.80%	0.24%	0.54%
<i>Bact. hyalinum</i>	8.80%	5.02%	11.17%	9.52%	6.75%	2.29%	7.20%	7.81%	8.19%	9.11%
<i>Bact. varians</i>	0.61%	0.22%	0.60%		0.75%	1.96%	0.98%	0.60%	0.96%	0.54%
<i>Biddulphia mobilensis</i>					0.56%		0.86%			0.59%
<i>Bidd. pulchella</i>					2.81%			0.67%	0.76%	0.30%
<i>Bidd. synensis</i>	8.41%	4.36%	6.04%	10.58%	12.94%	7.35%	8.19%	8.23%	4.57%	7.40%
<i>Campylodiscus ralfsii</i>								0.22%	0.76%	
<i>Cerataulina</i> sp.									0.76%	0.30%
<i>Chaetoceros affine</i>						0.43%	1.37%	0.62%	0.56%	0.84%
<i>Chaet. breve</i>			0.40%							
<i>Chaet. coarctatum</i>	0.61%	0.73%	0.40%	0.77%	1.50%	0.43%	0.82%	2.08%	1.12%	3.52%
<i>Chaet. compressum</i>						0.43%				0.34%
<i>Chaet. constrictum</i>									0.21%	
<i>Chaet. delicatulum</i>		0.73%								
<i>Chaet. denticulatum</i>										0.17%
<i>Chaet. distans</i>										0.34%
<i>Chaet. laeve</i>					0.37%					
<i>Chaet. lauderii</i>								0.42%		
<i>Chaet. lorenzianum</i>	0.61%	3.64%	7.24%	3.11%	4.12%	3.43%	3.55%	2.91%	4.46%	7.20%
<i>Chaet. paradoxum</i>			0.40%		0.37%		0.55%	0.21%	1.12%	0.17%
<i>Chaet. peruvianum</i>		0.73%			0.37%			0.21%		0.17%
<i>Chaet. pseudocurvisetum</i>	2.43%	8%	10.06%	5.43%	6.75%	8.57%	4.09%	7.48%	5.02%	7.38%

<i>Chaet. tortissimum</i>									0.56%
<i>Climacodium biconcavum</i>	0.61%	0.73%			1.13%	1.84%	0.43%		0.76%
<i>Clim. frauenfeldianum</i>		0.73%							
<i>Climacosphenia moniligera</i>	0.61%		0.88%				0.43%	0.22%	
<i>Coscinodiscus</i> sp.	18.67%	7.64%	10.56%	26.45%	16.31%	21.43%	23.27%	12.02%	19.02% 18.64%
<i>Donkinia recta</i>		1.82%							
<i>Dytilum sol</i>	1.87%	6.54%		3.53%	4.50%	6.12%	2.15%	3.12%	4.57% 2.66%
<i>Fragilaria</i> sp.	1.10%				0.56%	1.23%			
<i>Guinardia flaccida</i>	6.54%	1.09%	4.02%				9.91%	5.56%	5.33% 9.17%
<i>Hemiaulus haukii</i>	0.61%				0.75%				
<i>Hem. membranaceus</i>			0.50%		0.56%				
<i>Hem. sinensis</i>					0.37%				
<i>Isthmia capensis</i>		2.91%							
<i>Navicula</i> sp.	0.93%			0.88%	1.69%	0.61%	2.15%	7.79%	2.28% 0.30%
<i>Nitzschia</i> sp.	1.87%	1.09%	2.52%	1.76%					3.04% 0.89%
<i>Planktoniella</i>	0.61%				0.43%				
<i>Pleurosigma</i> sp.	0.93%	1.09%			0.61%		0.67%	0.76%	
<i>Rhabdonema arcuatum</i>					1.23%	0.43%			
<i>Rhizosolenia alata</i>	18.67%	13.09%	24.65%	15.87%	12.94%	17.14%	18.53%	18.92%	9.89% 18.93%
<i>Rhizo. hebetata</i>				1.76%		0.61%			
<i>Rhizo. robusta</i>	1.87%		1.01%	1.76%	1.69%	4.29%	0.43%	2.67%	0.76%
<i>Rhizo. stolterfothii</i>					2.81%		0.43%	0.89%	0.76% 0.30%
<i>Stephanophysix nipponica</i>						1.23%			0.56%
<i>Streptotheca indica</i>	0.61%	0.73%				0.61%			0.76%
<i>Streptotheca thamensis</i>	0.61%	1.45%	1.51%	0.77%	1.13%	0.61%	1.29%	2.23%	0.76%
<i>Surirella cuneata</i>					0.37%				
<i>Thalassionema nitzschiodes</i>		0.73%			0.56%				1.52% 0.89%
<i>Thalassiosira</i> sp.	11.20%	3.27%	2.52%		7.88%	7.96%	4.74%	6.23%	9.89% 5.62%
<i>Thalassiothrix frauenfeldii</i>		20.73%	15.09%	14.99%	6.75%	9.18%	6.46%	6.23%	6.85% 3.25%
<i>Triceratium alternans</i>	0.61%				0.37%				1.12%
<i>Tricer. favus</i>	0.61%		0.40%						0.17%
<b>Total (Diatom)</b>	100%	100%	100%	100%	100%	100%	100%	100%	100%

**Tabel 8**  
Indeks dominansi diatom di perairan Teluk Jakarta

<b>Nama Jenis</b>	<b>Stasiun</b>					
	<b>Muara Kamal</b>	<b>Muara Karang</b>	<b>Muara Baru</b>	<b>Sunda Kelapa</b>	<b>Marunda</b>	<b>Muara Tawar</b>
<b>Diatom (Bacillariophyceae)</b>						
<i>Amphiprora alata</i>						0.03%
<i>Asterionella</i> sp.						0.03%
<i>Bacillaria paradoxa</i>	0.09%	0.97%				
<i>Bacteriastrum delicatulum</i>	0.50%		1.47%	1.11%		
<i>Bacteriastrum hyalinum</i>		8.70%	0.74%	0.51%		
<i>Bacteriastrum varians</i>	0.90%		3.68%	0.86%		
<i>Biddulphia synensis</i>	0.07%					0.04%
<i>Chaetoceros affine</i>	45.86%	8.70%	29.17%	50.08%	10.90%	13.64%
<i>Chaet. didimum</i>				0.09%		
<i>Chaet. distans</i>				0.17%		
<i>Chaet. diversum</i>				0.25%		
<i>Chaet. laciniosum</i>				0.09%		
<i>Chaet. lorenzianum</i>	18%	6.79%	8.58%	7.72%	3.97%	10.20%
<i>Chaet. paradoxum</i>			0.25%	0.09%		
<i>Chaet. pseudocurvisetum</i>		6.79%	21.79%	19.04%		0.03%
<i>Chaet. van heurkii</i>			5.64%	1.11%		
<i>Coscinodiscus</i> sp.	0.19%	7.77%			0.30%	0.68%
<i>Dytilium sol</i>			0.25%			
<i>Gyrosigma</i> sp.	0.17%			0.09%		
<i>Hemiaulus membranaceus</i>				0.98%	0.51%	
<i>Lauderia annulata</i>				0.25%		
<i>Melosira</i> sp.						
<i>Navicula</i> sp.	0.27%				0.16%	0.03%
<i>Nitzschia closterium</i>					0.09%	
<i>Nitzschia serata</i>					1.29%	0.64%
<i>Pleurosigma</i> sp.	4.58%				0.09%	0.10%
<i>Rhizosolenia alata</i>	0.07%		0.49%			0.03%
<i>Rhizo. imbricata</i>		0.97%				
<i>Rhizo. setigera</i>				0.09%		
<i>Skeletonema costatum</i>	29%	59.20%	27.20%	16.98%	82.50%	68.20%
<b>Total (Diatom)</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Tabel 9

Nilai Indeks kekayaan, kemerataan, dan keanekaragaman diatom di perairan Pulau Penjaliran Timur

Stasiun	Penjaliran Timur			$H'$
	D	J		
I	1.85	Tinggi	0.77	Hampir merata 3.71 Sangat tinggi
II	1.64	Tinggi	0.81	Hampir merata 3.76 Sangat tinggi
III	1.25	Sedang	0.78	Hampir merata 3.35 Sangat tinggi
IV	1.02	Sedang	0.8	Hampir merata 3.21 Sangat tinggi
V	1.89	Tinggi	0.81	Hampir merata 3.4 Sangat tinggi
VI	1.48	Sedang	0.79	Hampir merata 3.64 Sangat tinggi
VII	1.5	Sedang	0.73	Cukup merata 3.37 Sangat tinggi
VIII	1.65	Tinggi	0.8	Hampir merata 3.89 Sangat tinggi
IX	2.04	Sangat tinggi	0.83	Hampir merata 4.15 Sangat tinggi
X	1.63	Tinggi	0.75	Cukup merata 3.62 Sangat tinggi

Keterangan: D : indeks kekayaan jenis;  
J : indeks kemerataan jenis;  
H': indeks keanekaragaman jenis

Tabel 10

Nilai Indeks kekayaan, kemerataan, dan keanekaragaman diatom di perairan Teluk Jakarta

<b>Teluk Jakarta</b>					
<b>Stasiun</b>	<b>D</b>	<b>J</b>	<b>H'</b>		
Muara Kamal	0.57	Rendah	0.52	Cukup merata	1.86 Sedang
Muara Karang	0.5	Sangat rendah	0.67	Cukup merata	2.01 Sedang
Muara Baru	0.81	Rendah	0.67	Cukup merata	2.55 Tinggi
Sunda Kelapa	0.92	Rendah	0.51	Cukup merata	2.11 Tinggi
Marunda	0.36	Sangat rendah	0.31	Kurang merata	0.94 Rendah
Muara Tawar	0.58	Rendah	0.31	Kurang merata	1.13 Sedang

Keterangan: D : indeks kekayaan jenis;  
J : indeks kemerataan jenis;  
H': indeks keanekaragaman jenis