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# LAMPIRAN

**Lampiran 1.** Data Jumlah Pari dan Parameter Lingkungan

| stasiun | 1 (tatawa besar) | 2 (tatawa kecil) | 3 (karang makassar) | 4 (mawan) | 5 (siaba kecil) | control (pink beach) |
|---|---|---|---|---|---|---|
| jumlah pari manta | 0 ekor | 0 ekor | 13 ekor | 8 ekor | 0 ekor | 0 ekor |
| kedalaman | 5 meter | 10meter | 0 meter | 3 meter | 10 meter | 5 meter |
| arus | 05, 23 (waktu) / 20 meter (jarak) = 0,062 m/s | 03, 51 (waktu) / 20 meter (jarak) = 0,087 m/s | 01, 13 (waktu) / 20 meter (jarak) = 0,282 m/s | 01, 32 (waktu) / 20 meter (jarak) = 0,217 m/s | 03, 42 (waktu) / 20 meter (jarak) = 0,09 m/s | 10, 31 (waktu) / 20 meter (jarak) = 0,032 m/s |
| salinitas | 34 ppt | 34 ppt | 35 ppt | 34 ppt | 34 ppt | 35 ppt |
| suhu | 31˚ | 32˚ | 27˚ | 29˚ | 31˚ | 30˚ |

**Lampiran 2.** Data Plankton

| stasiun 1 (Tatawa besar) | | stasiun 2 (Tatawa Kecil) | | stasiun 3 (karang Makassar) | | stasiun 4 (Mawan) | | stasiun 5 (Siaba Kecil) | | Control (Pink Beach) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Rhizosolenia | 47 ind | rhizosolenia | 49 ind | rhizosolenia | 56 ind | rhizosolenia | 58 ind | fragilaria | 4 ind | Chaetoceros | 10 ind |
| karenia | 4 ind | leuderia | 2 ind | Chaetoceros | 25 ind | navicula | 13 ind | synedra | 17 ind | synedra | 5 ind |
| synedra | 7 ind | synedra | 14 ind | oscilatoria | 8 ind | Chaetoceros | 20 ind | rhizosolenia | 55 ind | rhizosolenia | 30 ind |
| navicula | 12 ind | Chaetoceros | 9 ind | navicula | 8 ind | fragilaria | 7 ind | closterium | 4 ind | navicula | 5 ind |
| Chaetoceros | 16 ind | fragilaria | 3 ind | stepphanopyxis | 2 ind | thalossionema | 2 ind | Chaetoceros | 19 ind | | |
| skeletonema | 5 ind | skeletonema | 5 ind | prorocentrum | 2 ind | synedra | 26 ind | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | ceratium | 2 ind | pseduonitzchia | 3 ind | closterium | 3 ind | | | | |
| | karenia | 5 ind | synedra | 21 ind | aulacoseira | 2 ind | | | | |
| | | | ceratium | 3 ind | gomphonema | 2 ind | | | | |
| | | | fragilaria | 10 ind | | | | | | |
| 15.16666667 | | 11.13 | | 13.8 | | 14.77777778 | | 19.8 | | 12.5 |

**Lampiran 3.** Data Jumlah Kepadatan Plankton

| jumlah kepadatan plankton | Ind/liter |
|---|---|
| st.1 | 91 |
| st.2 | 89 |
| st.3 | 138 |
| st.4 | 133 |
| st.5 | 99 |
| K. | 50 |

**Lampiran 4.** Data Pasang Surut

| No. | Station | Hari/Tanggal | Timestamp | Pasang Surut | Mean Sea Level |
|---|---|---|---|---|---|
| 1 | LBJO | Senin, 24 Oktober 2022 | 00.00 | 1.335 | 1.488 |
| 2 | LBJO | | 01.00 | 1.595 | 1.488 |
| 3 | LBJO | | 02.00 | 1.760 | 1.488 |
| 4 | LBJO | | 03.00 | 1.880 | 1.488 |
| 5 | LBJO | | 04.00 | 1.885 | 1.488 |
| 6 | LBJO | | 05.00 | 1.770 | 1.488 |
| 7 | LBJO | | 06.00 | 1.580 | 1.488 |
| 8 | LBJO | | 07.00 | 1.360 | 1.488 |
| 9 | LBJO | | 08.00 | 1.175 | 1.488 |
| 10 | LBJO | | 09.00 | 1.105 | 1.488 |
| 11 | LBJO | | 10.00 | 1.150 | 1.488 |
| 12 | LBJO | | 11.00 | 1.260 | 1.488 |
| 13 | LBJO | | 12.00 | 1.540 | 1.488 |
| 14 | LBJO | | 13.00 | 1.780 | 1.488 |
| 15 | LBJO | | 14.00 | 1.990 | 1.488 |
| 16 | LBJO | | 15.00 | 2.060 | 1.488 |
| 17 | LBJO | | 16.00 | 2.060 | 1.488 |
| 18 | LBJO | | 17.00 | 1.880 | 1.488 |
| 19 | LBJO | | 18.00 | 1.590 | 1.488 |
| 20 | LBJO | | 19.00 | 1.315 | 1.488 |
| 21 | LBJO | | 20.00 | 1.050 | 1.488 |
| 22 | LBJO | | 21.00 | 0.870 | 1.488 |
| 23 | LBJO | | 22.00 | 0.790 | 1.488 |
| 24 | LBJO | | 23.00 | 0.890 | 1.488 |
| 25 | LBJO | Selasa, 25 Oktober 2022 | 00.00 | 1.110 | 1.488 |
| 26 | LBJO | | 01.00 | 1.390 | 1.488 |
| 27 | LBJO | | 02.00 | 1.645 | 1.488 |
| 28 | LBJO | | 03.00 | 1.835 | 1.488 |
| 29 | LBJO | | 04.00 | 1.910 | 1.488 |
| 30 | LBJO | | 05.00 | 1.885 | 1.488 |
| 31 | LBJO | | 06.00 | 1.730 | 1.488 |
| 32 | LBJO | | 07.00 | 1.545 | 1.488 |
| 33 | LBJO | | 08.00 | 1.345 | 1.488 |
| 34 | LBJO | | 09.00 | 1.225 | 1.488 |
| 35 | LBJO | | 10.00 | 1.220 | 1.488 |
| 36 | LBJO | | 11.00 | 1.295 | 1.488 |
| 37 | LBJO | | 12.00 | 1.500 | 1.488 |
| 38 | LBJO | | 13.00 | 1.740 | 1.488 |
| 39 | LBJO | | 14.00 | 1.980 | 1.488 |

**Lampiran 5.** Data Korelasi

**Descriptive Statistics**

| | Mean | Std. Deviation | N |
|---|---|---|---|
| parimanta | 3.50 | 5.648 | 6 |
| plankton | 100.00 | 32.360 | 6 |
| kedalaman | 9.83 | 4.355 | 6 |
| suhu | 30.00 | 1.789 | 6 |
| arus | .12833 | .098319 | 6 |
| salinitas | 34.33 | .516 | 6 |
| pasut | 1.56000 | .460576 | 6 |

**Correlations**

| | | parimanta | plankton | kedalaman | suhu | arus | salinitas | pasut |
|---|---|---|---|---|---|---|---|---|
| parimanta | Pearson Correlation | 1 | .829* | .858* | -.930** | .975** | .411 | .737* |
| | Sig. (1-tailed) | | .021 | .014 | .004 | .000 | .209 | .047 |
| | N | 6 | 6 | 6 | 6 | 6 | 6 | 6 |

*. Correlation is significant at the 0.05 level (1-tailed).

**. Correlation is significant at the 0.01 level (1-tailed).

**Correlations**

| | | parimanta | plankton | kedalaman | suhu | arus | salinitas | pasut |
|---|---|---|---|---|---|---|---|---|
| parimanta | Pearson Correlation | 1 | .829* | .858* | -.930** | .975** | .411 | .737* |
| | Sig. (1-tailed) | | .021 | .014 | .004 | .000 | .209 | .047 |
| | N | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| plankton | Pearson Correlation | .829* | 1 | .883** | -.888** | .922** | -.144 | .810* |
| | Sig. (1-tailed) | .021 | | .010 | .009 | .004 | .393 | .025 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | N | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| kedalaman | Pearson Correlation | .858* | .883** | 1 | -.924** | .935** | .119 | .826* |
| | Sig. (1-tailed) | .014 | .010 | | .004 | .003 | .411 | .021 |
| | N | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| suhu | Pearson Correlation | -.930** | -.888** | -.924** | 1 | -.963** | -.217 | -.654 |
| | Sig. (1-tailed) | .004 | .009 | .004 | | .001 | .340 | .079 |
| | N | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| arus | Pearson Correlation | .975** | .922** | .935** | -.963** | 1 | .226 | .805* |
| | Sig. (1-tailed) | .000 | .004 | .003 | .001 | | .333 | .027 |
| | N | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| salinitas | Pearson Correlation | .411 | -.144 | .119 | -.217 | .226 | 1 | .038 |
| | Sig. (1-tailed) | .209 | .393 | .411 | .340 | .333 | | .472 |
| | N | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| pasut | Pearson Correlation | .737* | .810* | .826* | -.654 | .805* | .038 | 1 |
| | Sig. (1-tailed) | .047 | .025 | .021 | .079 | .027 | .472 | |
| | N | 6 | 6 | 6 | 6 | 6 | 6 | 6 |

*. Correlation is significant at the 0.05 level (1-tailed).

**. Correlation is significant at the 0.01 level (1-tailed).

**Lampiran 6.** Data PCA

| **Variabel/stasiun** | **1** | **2** | **3** | **4** | **5** | **6** |
|---|---|---|---|---|---|---|
| Pari Manta (ekor) | 0 | 0 | 13 | 8 | 0 | 0 |
| Plankton (ind/$m^3$) | 91 | 89 | 138 | 133 | 99 | 50 |
| Kedalaman (m) | 5 | 10 | 16 | 13 | 10 | 5 |
| Suhu (˚) | 31 | 32 | 27 | 29 | 31 | 30 |
| Arus (m/s) | 0,062 | 0,087 | 0,282 | 0,217 | 0,09 | 0,032 |
| Salinitas (‰) | 34 | 34 | 35 | 34 | 34 | 35 |
| Pasut (m) | 1.105 | 1.150 | 1.990 | 2.060 | 1.880 | 1.175 |

**Lampiran 7.** Data kuesioner

| no | Bulan sering di jumpai pari manta | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Januari | Februari | Maret | April | Mei | Juni | Juli | Agustus | September | Oktober | November | Desember |
| 1 | 1 | 1 | 1 | 1 | 1 | | | | 1 | 1 | 1 | 1 |
| 2 | 1 | 1 | 1 | 1 | 1 | | | | 1 | 1 | 1 | 1 |
| 3 | 1 | 1 | 1 | 1 | 1 | | | | | 1 | 1 | 1 |
| 4 | 1 | 1 | 1 | 1 | 1 | | | | | 1 | 1 | 1 |
| 5 | 1 | 1 | 1 | 1 | 1 | | | | 1 | 1 | 1 | 1 |
| 6 | 1 | 1 | 1 | 1 | | | | | | | | |
| 7 | | | | | | | | | | 1 | | |
| 8 | 1 | 1 | 1 | | | | | | | | | 1 |
| 9 | 1 | 1 | 1 | 1 | | | | | | | | 1 |
| 10 | 1 | 1 | 1 | 1 | 1 | | | | 1 | 1 | 1 | 1 |
| 11 | 1 | 1 | 1 | 1 | 1 | | | | | | | 1 |
| 12 | 1 | 1 | 1 | 1 | 1 | | | | 1 | 1 | 1 | 1 |
| 13 | 1 | 1 | 1 | 1 | 1 | | | | 1 | 1 | 1 | 1 |
| 14 | 1 | 1 | 1 | 1 | 1 | | | | 1 | 1 | 1 | 1 |
| 15 | 1 | 1 | 1 | 1 | 1 | | | | | 1 | 1 | 1 |
| 16 | | | | | | | | | 1 | 1 | 1 | 1 |
| 17 | 1 | 1 | 1 | | | | | | 1 | 1 | 1 | 1 |
| 18 | 1 | 1 | 1 | | | | | | | | | 1 |
| 19 | 1 | 1 | 1 | 1 | 1 | | | | | 1 | 1 | 1 |
| 20 | 1 | 1 | 1 | 1 | 1 | | | | | 1 | 1 | 1 |
| 21 | 1 | 1 | 1 | 1 | 1 | | | | | 1 | 1 | 1 |
| 22 | 1 | 1 | 1 | 1 | 1 | | | | | 1 | 1 | 1 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23 | 1 | 1 | 1 | 1 | 1 | | | | 1 | 1 | 1 | 1 |
| 24 | 1 | 1 | 1 | 1 | 1 | | | | 1 | 1 | 1 | 1 |
| 25 | 1 | 1 | 1 | 1 | 1 | | | | 1 | 1 | 1 | 1 |
| 26 | 1 | 1 | | | | | | | | | | 1 |
| 27 | | | | | 1 | | | | | | | |
| 28 | | | | | 1 | | | | | | | |
| 29 | 1 | 1 | 1 | | | | | | | | | 1 |
| 30 | 1 | 1 | 1 | | | | | | | | | 1 |
| 31 | 1 | 1 | 1 | 1 | 1 | | | | | 1 | 1 | 1 |
| 32 | 1 | 1 | 1 | 1 | 1 | | | | | 1 | 1 | 1 |
| 33 | 1 | 1 | 1 | 1 | 1 | | | | | 1 | 1 | 1 |
| 34 | | | | | | | | | 1 | | | |
| 35 | | | | | | | | | 1 | | | |
| 36 | 1 | 1 | 1 | | | | | | | 1 | 1 | 1 |
| 37 | | | | | | | | | | 1 | 1 | 1 |
| 38 | 1 | 1 | 1 | 1 | 1 | | | | | | | 1 |
| 39 | 1 | 1 | 1 | 1 | 1 | | | | | | | 1 |
| 40 | 1 | 1 | 1 | 1 | 1 | | | | 1 | 1 | 1 | 1 |
| 41 | 1 | 1 | 1 | 1 | 1 | | | | 1 | 1 | 1 | 1 |
| 42 | 1 | 1 | 1 | 1 | 1 | | | | 1 | 1 | 1 | 1 |
| 43 | 1 | 1 | 1 | 1 | 1 | | | | | 1 | 1 | 1 |
| 44 | 1 | 1 | 1 | 1 | 1 | | | | | 1 | 1 | 1 |
| 45 | 1 | 1 | | | | | | | | | | 1 |
| 46 | 1 | 1 | 1 | 1 | 1 | | | | 1 | 1 | 1 | 1 |
| 47 | 1 | 1 | 1 | 1 | 1 | | | | 1 | 1 | 1 | 1 |
| 48 | 1 | 1 | 1 | | | | | | | 1 | 1 | 1 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 49 | | | | | | | | | | 1 | 1 | 1 |
| 50 | 1 | 1 | 1 | 1 | 1 | | | | | 1 | 1 | 1 |
| jumlah | 42 | 42 | 40 | 33 | 33 | 0 | 0 | 0 | 19 | 35 | 34 | 44 |
| | jan | feb | maret | april | may | june | july | august | september | october | november | december |
| | 13% | 13% | 12% | 10% | 10% | 0% | 0% | 0% | 6% | 11% | 11% | 14% |

Lampiran 7. (lanjutan)

| no | faktor | | | | | Waktu kemunculan | | | | Pasang/surut | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | makanan | arus | pasut | suhu | aktifitas pariwisata | pagi | siang | sore | malam | pasang | surut |
| 1 | 1 | 1 | 1 | | | 1 | | 1 | | 1 | |
| 2 | 1 | 1 | | | | 1 | | 1 | | 1 | |
| 3 | 1 | 1 | | | | 1 | | 1 | | 1 | |
| 4 | 1 | 1 | 1 | 1 | | 1 | | 1 | | 1 | |
| 5 | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | | 1 | 1 |
| 6 | 1 | 1 | | 1 | 1 | 1 | | 1 | | 1 | |
| 7 | | | 1 | | 1 | | | 1 | | 1 | |
| 8 | 1 | 1 | | 1 | | 1 | | | | 1 | |
| 9 | | | 1 | 1 | 1 | 1 | | | | 1 | |
| 10 | 1 | 1 | 1 | | | | | 1 | | 1 | 1 |
| 11 | 1 | 1 | 1 | 1 | 1 | | | 1 | | 1 | |
| 12 | 1 | 1 | | 1 | | 1 | | 1 | | 1 | |
| 13 | | | 1 | | | 1 | | 1 | | 1 | |
| 14 | | 1 | | 1 | | 1 | | 1 | | 1 | 1 |
| 15 | 1 | 1 | | 1 | 1 | 1 | | 1 | | 1 | |
| 16 | | | 1 | | | 1 | | 1 | | 1 | |

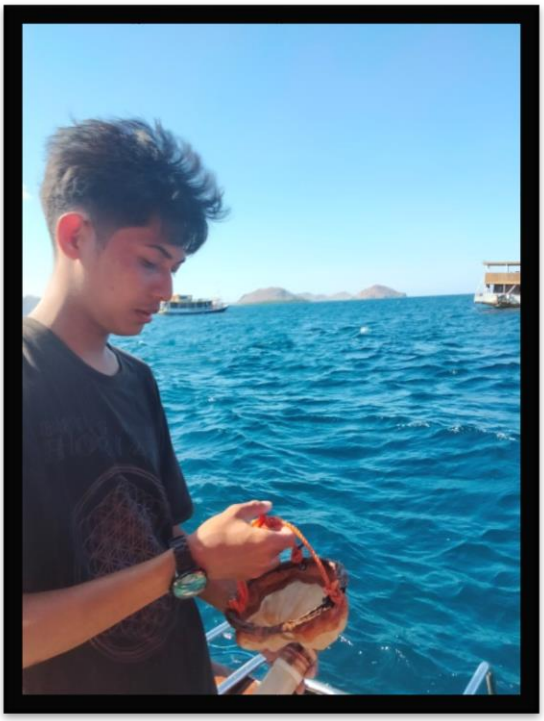
| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 17 | 1 | | 1 | | | 1 | | | | | 1 |
| 18 | | 1 | 1 | | | | | 1 | | 1 | 1 |
| 19 | | 1 | 1 | | | 1 | | | | 1 | 1 |
| 20 | 1 | | 1 | 1 | | | | 1 | | 1 | |
| 21 | 1 | 1 | 1 | 1 | 1 | 1 | | | | 1 | |
| 22 | | 1 | 1 | | | 1 | | | | 1 | |
| 23 | 1 | | 1 | | | | | 1 | | 1 | |
| 24 | 1 | | | 1 | | | 1 | 1 | | | 1 |
| 25 | | 1 | 1 | | | 1 | | | | 1 | |
| 26 | | 1 | | | 1 | 1 | | | | 1 | 1 |
| 27 | | | 1 | | | 1 | | 1 | | 1 | |
| 28 | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | | 1 | |
| 29 | | 1 | 1 | | | 1 | | 1 | | 1 | |
| 30 | 1 | | 1 | | | 1 | | 1 | | 1 | 1 |
| 31 | | 1 | | 1 | | 1 | | 1 | | 1 | 1 |
| 32 | 1 | 1 | 1 | | | 1 | | 1 | | 1 | 1 |
| 33 | | 1 | 1 | | | 1 | | 1 | | 1 | |
| 34 | | 1 | | | | | | 1 | | 1 | |
| 35 | | 1 | | | | | | 1 | | 1 | 1 |
| 36 | | | 1 | | | | | 1 | | 1 | 1 |
| 37 | 1 | | | 1 | | 1 | | | | 1 | |
| 38 | | | 1 | | 1 | 1 | | | | 1 | |
| 39 | | 1 | | 1 | | 1 | | 1 | | 1 | |
| 40 | 1 | 1 | 1 | | | 1 | | 1 | | 1 | 1 |
| 41 | 1 | | 1 | | | 1 | | 1 | | 1 | |
| 42 | | | 1 | | | | | 1 | | 1 | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 43 | 1 | 1 | 1 | 1 | 1 | | | 1 | | 1 | |
| 44 | 1 | 1 | 1 | 1 | 1 | | | 1 | | 1 | |
| 45 | 1 | 1 | | | | 1 | | | | 1 | 1 |
| 46 | | 1 | 1 | 1 | | | | 1 | | 1 | |
| 47 | 1 | 1 | | 1 | 1 | 1 | | | | 1 | |
| 48 | | | 1 | | 1 | 1 | | 1 | | 1 | 1 |
| 49 | 1 | 1 | | 1 | | | | 1 | | 1 | |
| 50 | 1 | | 1 | 1 | 1 | 1 | | | | 1 | |
| jumlah | 28 | 33 | 33 | 22 | 15 | 35 | 1 | 37 | 0 | 48 | 16 |
| | makanan | arus | pasut | suhu | aktifitas pariwisata | pagi | siang | sore | malam | pasang | surut |
| | 21% | 25% | 25% | 17% | 11% | 48% | 1% | 51% | 0% | 0.75 | 0.25 |

**Lampiran 8.** Pengambilan data di lapangan

Pari Manta

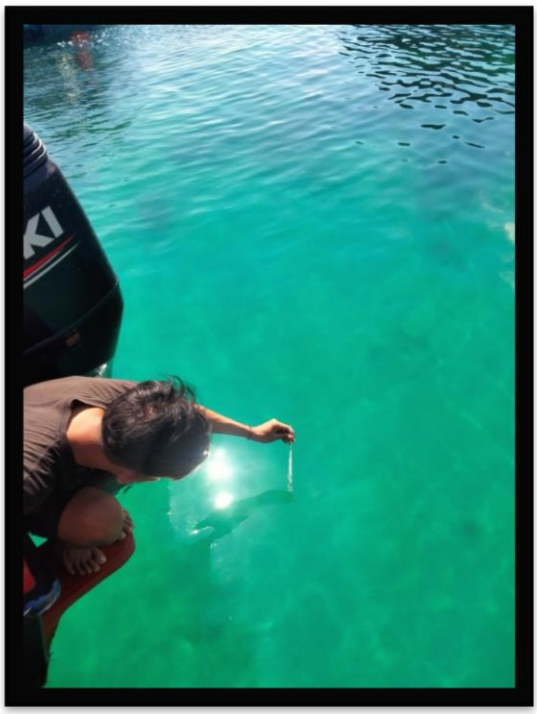

*Map Sounder* (Garmin 585s)



Pengambilan Sampel Plankton

Pengukuran Arus

Pengukuran Salinitas



Pengukuran Suhu

**Lampiran 9.** Analisis sampel di laboratorium

Pengamatan plankton

Sampel plankton