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**LAMPIRAN**

## LAMPIRAN

**Lampiran 1.** Tingkat kelangsungan hidup diakhir pengamatan (%)

| Ulangan              | Transplantasi |            |
|----------------------|---------------|------------|
|                      | APO           | T.APO      |
| S1                   | 40            | 60         |
| S2                   | 70            | 70         |
| S3                   | 50            | 60         |
| S4                   | 80            | 70         |
| <b>Rata-Rata</b>     | <b>60</b>     | <b>65</b>  |
| <b>Standar error</b> | <b>9.1</b>    | <b>2.9</b> |

| Transplantasi | Jumlah Unit Transplantasi |       | Tingkat Kelangsungan hidup (%) |
|---------------|---------------------------|-------|--------------------------------|
|               | Awal                      | Akhir |                                |
| APO           | 10                        | 6.0   | 60                             |
| T.APO         | 10                        | 6.5   | 65                             |

**Lampiran 2.** Data pertumbuhan lamun pada APO dan tanpa APO

- a. Rata-rata pertambahan panjang daun *Enhalus acoroides* pada APO dan tanpa APO setiap plot (cm/minggu)

| PLOT | MINGGU | DAUN TUA |       | DAUN MUDA |       |
|------|--------|----------|-------|-----------|-------|
|      |        | APO      | T.APO | APO       | T.APO |
| 1    | 1      | 3.4      | 2.9   | 3.26      | 2.6   |
|      | 2      | 6        | 4.8   | 5.36      | 5.08  |
|      | 3      | 11.04    | 9.12  | 10.1      | 10.78 |
|      | 4      | 13.52    | 10.52 | 13.12     | 14.66 |
| 2    | 1      | 2.3      | 2.4   | 2.6       | 2.4   |
|      | 2      | 4.22     | 5.32  | 5.26      | 4.6   |
|      | 3      | 8.98     | 9.78  | 11        | 10.44 |
|      | 4      | 9.88     | 11.72 | 13.38     | 13.52 |
| 3    | 1      | 3.2      | 4.26  | 2.34      | 3.9   |
|      | 2      | 5.6      | 5.4   | 5.2       | 6.7   |
|      | 3      | 9.34     | 9.78  | 10.42     | 11.06 |
|      | 4      | 11.44    | 11.78 | 14.22     | 13.38 |
| 4    | 1      | 3.5      | 2.9   | 3.60      | 3.50  |
|      | 2      | 6.08     | 5.6   | 6.30      | 5.78  |
|      | 3      | 9.74     | 7.8   | 11.04     | 9.70  |
|      | 4      | 11.18    | 10.32 | 14.02     | 12    |

- b. Rata-rata pertambahan panjang daun *Enhalus acoroides* pada APO dan tanpa APO (cm/minggu)

| MINGGU | DAUN TUA |       | DAUN MUDA |       |
|--------|----------|-------|-----------|-------|
|        | APO      | T.APO | APO       | T.APO |
| 1      | 3.10     | 3.12  | 2.95      | 3.10  |
| 2      | 5.48     | 5.28  | 5.53      | 5.54  |
| 3      | 9.78     | 9.12  | 10.64     | 10.50 |
| 4      | 11.51    | 11.09 | 13.69     | 13.39 |



- c. Laju pertumbuhan mingguan panjang daun tua *Enhalus acoroides* pada APO dan tanpa APO

| PLOT             | ULANGAN | DAUN TUA (APO) |             |             |             | DAUN TUA (T.APO) |             |             |             |
|------------------|---------|----------------|-------------|-------------|-------------|------------------|-------------|-------------|-------------|
|                  |         | 1              | 2           | 3           | 4           | 1                | 2           | 3           | 4           |
| 1                | 1       | 0.50           | 0.05        | 0.83        | 0.42        | 0.57             | 0.47        | 0.36        | 0.04        |
|                  | 2       | 0.43           | 0.63        | 0.56        | 0.67        | 0.36             | 0.13        | 0.71        | 0.28        |
|                  | 3       | 0.57           | 0.38        | 0.44        | 0.38        | 0.43             | 0.30        | 0.46        | 0.08        |
|                  | 4       | 0.36           | 0.72        | 0.50        | 0.38        | 0.43             | 0.30        | 0.34        | 0.62        |
|                  | 5       | 0.57           | 0.38        | 0.47        | 0.22        | 0.29             | 0.38        | 0.29        | 0.38        |
| 2                | 1       | 0.50           | 0.05        | 0.66        | 0.26        | 0.36             | 0.30        | 0.08        | 1.04        |
|                  | 2       | 0.21           | 0.05        | 0.31        | 0.18        | 0.43             | 0.47        | 0.46        | 0.20        |
|                  | 3       | 0.21           | 0.82        | 0.60        | 0.28        | 0.21             | 0.55        | 0.41        | 0.28        |
|                  | 4       | 0.29           | 0.05        | 0.38        | 0.16        | 0.36             | 0.65        | 0.80        | 0.28        |
|                  | 5       | 0.43           | 0.63        | 0.43        | 0.02        | 0.36             | 0.47        | 0.48        | 0.14        |
| 3                | 1       | 0.36           | 0.30        | 0.26        | 0.84        | 0.50             | 0.22        | 0.13        | 0.54        |
|                  | 2       | 0.50           | 0.30        | 0.28        | 0.76        | 0.43             | 0.05        | 0.71        | 0.80        |
|                  | 3       | 0.43           | 0.47        | 0.21        | 0.10        | 0.79             | 0.55        | 0.31        | 0.14        |
|                  | 4       | 0.43           | 0.22        | 0.51        | 0.14        | 0.90             | 0.00        | 0.16        | 0.08        |
|                  | 5       | 0.57           | 0.72        | 0.61        | 0.26        | 0.43             | 0.13        | 0.88        | 0.44        |
| 4                | 1       | 0.50           | 0.28        | 0.59        | 0.26        | 0.71             | 0.30        | 0.26        | 0.00        |
|                  | 2       | 0.43           | 0.22        | 0.46        | 0.18        | 0.29             | 0.55        | 0.11        | 0.68        |
|                  | 3       | 0.57           | 0.47        | 0.01        | 0.44        | 0.43             | 0.47        | 0.01        | 0.78        |
|                  | 4       | 0.43           | 0.72        | 0.36        | 0.28        | 0.36             | 0.72        | 0.36        | 0.56        |
|                  | 5       | 0.57           | 0.47        | 0.41        | 0.28        | 0.29             | 0.22        | 0.36        | 0.50        |
| <b>Rata-rata</b> |         | <b>0.44</b>    | <b>0.40</b> | <b>0.44</b> | <b>0.33</b> | <b>0.45</b>      | <b>0.36</b> | <b>0.38</b> | <b>0.39</b> |

- d. Laju pertumbuhan mingguan panjang daun muda *Enhalus acoroides* pada APO dan tanpa APO

| PLOT             | ULA<br>NGAN | DAUN MUDA (APO) |      |      |      | DAUN MUDA (T.APO) |      |      |      |
|------------------|-------------|-----------------|------|------|------|-------------------|------|------|------|
|                  |             | 1               | 2    | 3    | 4    | 1                 | 2    | 3    | 4    |
| 1                | 1           | 0.71            | 0.30 | 0.56 | 0.42 | 0.57              | 0.55 | 0.71 | 0.60 |
|                  | 2           | 0.36            | 0.13 | 0.56 | 0.67 | 0.43              | 0.30 | 0.41 | 0.48 |
|                  | 3           | 0.41            | 0.48 | 0.44 | 0.55 | 0.00              | 0.45 | 0.73 | 0.48 |
|                  | 4           | 0.43            | 0.52 | 0.52 | 0.63 | 0.57              | 0.38 | 0.56 | 1.14 |
|                  | 5           | 0.41            | 0.32 | 0.56 | 0.25 | 0.29              | 0.38 | 0.44 | 1.18 |
| 2                | 1           | 0.43            | 0.05 | 0.76 | 0.50 | 0.43              | 0.38 | 0.44 | 0.58 |
|                  | 2           | 0.29            | 0.80 | 0.54 | 0.48 | 0.57              | 0.47 | 0.43 | 0.82 |
|                  | 3           | 0.36            | 0.77 | 0.73 | 0.68 | 0.00              | 0.22 | 0.53 | 0.64 |
|                  | 4           | 0.36            | 0.13 | 0.31 | 0.30 | 0.43              | 0.63 | 0.86 | 0.60 |
|                  | 5           | 0.43            | 0.47 | 0.53 | 0.42 | 0.29              | 0.13 | 0.66 | 0.44 |
| 3                | 1           | 0.29            | 0.55 | 0.28 | 1.06 | 0.64              | 0.30 | 0.76 | 0.14 |
|                  | 2           | 0.29            | 0.47 | 0.53 | 0.66 | 0.50              | 0.55 | 0.48 | 0.80 |
|                  | 3           | 0.39            | 0.52 | 0.56 | 0.56 | 0.86              | 0.55 | 0.33 | 0.60 |
|                  | 4           | 0.21            | 0.38 | 0.48 | 0.76 | 0.79              | 0.38 | 0.13 | 0.14 |
|                  | 5           | 0.50            | 0.47 | 0.76 | 0.76 | 0.00              | 0.55 | 0.48 | 0.64 |
| 4                | 1           | 0.57            | 0.38 | 0.61 | 0.48 | 0.79              | 0.38 | 0.61 | 0.28 |
|                  | 2           | 0.29            | 0.22 | 0.36 | 0.68 | 0.43              | 0.53 | 0.27 | 0.68 |
|                  | 3           | 0.64            | 0.55 | 0.16 | 0.80 | 0.50              | 0.47 | 0.21 | 0.58 |
|                  | 4           | 0.50            | 0.55 | 0.53 | 0.64 | 0.43              | 0.47 | 0.36 | 0.18 |
|                  | 5           | 0.57            | 0.55 | 0.71 | 0.38 | 0.36              | 0.05 | 0.51 | 0.58 |
| <b>Rata-rata</b> |             | 0.42            | 0.43 | 0.52 | 0.58 | 0.44              | 0.41 | 0.50 | 0.58 |

- e. Rata-rata laju pertumbuhan *Enhalus acoroides* pada APO dan tanpa APO (cm/hari)

| PLOT                         | ULANGAN | DAUN TUA     |              | DAUN MUDA    |              |
|------------------------------|---------|--------------|--------------|--------------|--------------|
|                              |         | APO          | T.APO        | APO          | T.APO        |
| 1                            | 1       | 0.45         | 0.36         | 0.50         | 0.61         |
|                              | 2       | 0.57         | 0.37         | 0.43         | 0.40         |
|                              | 3       | 0.45         | 0.32         | 0.47         | 0.42         |
|                              | 4       | 0.49         | 0.42         | 0.53         | 0.66         |
|                              | 5       | 0.41         | 0.33         | 0.38         | 0.57         |
| 2                            | 1       | 0.37         | 0.44         | 0.43         | 0.46         |
|                              | 2       | 0.19         | 0.39         | 0.53         | 0.57         |
|                              | 3       | 0.48         | 0.36         | 0.63         | 0.35         |
|                              | 4       | 0.22         | 0.52         | 0.28         | 0.63         |
|                              | 5       | 0.38         | 0.36         | 0.46         | 0.38         |
| 3                            | 1       | 0.44         | 0.35         | 0.54         | 0.46         |
|                              | 2       | 0.46         | 0.50         | 0.49         | 0.58         |
|                              | 3       | 0.30         | 0.45         | 0.51         | 0.58         |
|                              | 4       | 0.32         | 0.29         | 0.46         | 0.36         |
|                              | 5       | 0.54         | 0.47         | 0.62         | 0.42         |
| 4                            | 1       | 0.41         | 0.32         | 0.51         | 0.51         |
|                              | 2       | 0.32         | 0.41         | 0.39         | 0.48         |
|                              | 3       | 0.37         | 0.42         | 0.54         | 0.44         |
|                              | 4       | 0.45         | 0.50         | 0.56         | 0.36         |
|                              | 5       | 0.43         | 0.34         | 0.55         | 0.37         |
| <b>Rata-rata keseluruhan</b> |         | <b>0.40</b>  | <b>0.40</b>  | <b>0.49</b>  | <b>0.48</b>  |
| <b>Standar error</b>         |         | <b>0.022</b> | <b>0.015</b> | <b>0.019</b> | <b>0.023</b> |

**Lampiran 3.** Penambahan daun baru berdasarkan pengamatan (lembar)

| PLOT                         | ULANGAN | STASIUN |       | RATA/PLOT   |             |
|------------------------------|---------|---------|-------|-------------|-------------|
|                              |         | APO     | T.APO | APO         | T.APO       |
| 1                            | 1       | 1       | 2     | 4           | 7           |
|                              | 2       | 0       | 1     |             |             |
|                              | 3       | 1       | 2     |             |             |
|                              | 4       | 1       | 1     |             |             |
|                              | 5       | 1       | 1     |             |             |
| 2                            | 1       | 2       | 1     | 10          | 8           |
|                              | 2       | 2       | 2     |             |             |
|                              | 3       | 2       | 2     |             |             |
|                              | 4       | 2       | 1     |             |             |
|                              | 5       | 2       | 2     |             |             |
| 3                            | 1       | 1       | 1     | 7           | 6           |
|                              | 2       | 1       | 2     |             |             |
|                              | 3       | 1       | 1     |             |             |
|                              | 4       | 2       | 1     |             |             |
|                              | 5       | 2       | 1     |             |             |
| 4                            | 1       | 1       | 1     | 8           | 6           |
|                              | 2       | 1       | 1     |             |             |
|                              | 3       | 2       | 1     |             |             |
|                              | 4       | 2       | 1     |             |             |
|                              | 5       | 2       | 2     |             |             |
| <b>Rata-rata keseluruhan</b> |         |         |       | <b>7.25</b> | <b>6.75</b> |
| <b>Standar error</b>         |         |         |       | <b>1.25</b> | <b>0.48</b> |

**Lampiran 4.** Rata-rata pengukuran tinggi gelombang signifikan (H/3) seminggu

| PENGUKURAN 1  |       |       | Efisiensi |
|---------------|-------|-------|-----------|
| WAKTU         | APO   | T.APO |           |
| 12-Nov        | 14    | 18    | 25        |
| 13-Nov        | 16    | 20    | 16        |
| 14-Nov        | 13    | 16    | 18        |
| 15-Nov        | 11    | 14    | 24        |
| 16-Nov        | *     | *     | *         |
| 17-Nov        | 9     | 13    | 34        |
| 18-Nov        | 11    | 13    | 14        |
| Rata-rata     | 12    | 16    | 22.09     |
| Standar error | 1,056 | 1,103 |           |

| PENGUKURAN 2  |       |       | Efisiensi |
|---------------|-------|-------|-----------|
| WAKTU         | APO   | T.APO |           |
| 12-Nov        | 16    | 23    | 31        |
| 13-Nov        | 20    | 25    | 18        |
| 14-Nov        | 15    | 18    | 19        |
| 15-Nov        | 13    | 17    | 23        |
| 16-Nov        | 11    | 13    | 16        |
| 17-Nov        | 9     | 12    | 21        |
| 18-Nov        | 10    | 13    | 25        |
| Rata-rata     | 13    | 17    | 22        |
| Standar error | 1,460 | 1,874 |           |

| PENGUKURAN 3  |       |       | Efisiensi |
|---------------|-------|-------|-----------|
| WAKTU         | APO   | T.APO |           |
| 12-Nov        | 17    | 21    | 20        |
| 13-Nov        | 21    | 23    | 10        |
| 14-Nov        | 18    | 20    | 10        |
| 15-Nov        | 16    | 19    | 16        |
| 16-Nov        | 10    | 13    | 25        |
| 17-Nov        | 9     | 11    | 19        |
| 18-Nov        | 10    | 13    | 22        |
| Rata-rata     | 14    | 17    | 17.45     |
| Standar error | 1,756 | 1,778 |           |

**Catatan:** \* tidak dilakukan pengukuran

## Lampiran 5. Sedimen

| APO              |            |            |              |                |
|------------------|------------|------------|--------------|----------------|
| Ukuran Sieve Net | Berat awal | Berat (gr) | % Berat      | % Komulatif    |
| 2                | 100.096    | 0.05       | 0.050        | 0.050          |
| 1                |            | 0.092      | 0.092        | 0.142          |
| 0,5              |            | 0.8        | 0.800        | 0.942          |
| 0,25             |            | 10.948     | 10.953       | 11.896         |
| 0,125            |            | 81.29      | 81.331       | 93.227         |
| 0,063            |            | 6.758      | 6.761        | 99.988         |
| < 0,063          |            | 0.012      | 0.012        | 100.000        |
| <b>Jumlah</b>    |            |            | <b>99.95</b> | <b>100.000</b> |

| T.APO            |            |            |                |                |
|------------------|------------|------------|----------------|----------------|
| Ukuran Sieve Net | Berat awal | Berat (gr) | % Berat        | % Komulatif    |
| 2                | 100.096    | 0.086      | 0.086          | 0.086          |
| 1                |            | 0.705      | 0.705          | 0.790          |
| 0,5              |            | 7.275      | 7.270          | 8.061          |
| 0,25             |            | 34.433     | 34.410         | 42.471         |
| 0,125            |            | 52.542     | 52.507         | 94.977         |
| 0,063            |            | 5.001      | 4.998          | 99.975         |
| < 0,063          |            | 0.025      | 0.025          | 100.000        |
| <b>jumlah</b>    |            |            | <b>100.067</b> | <b>100.000</b> |

**Lampiran 6.** Suhu, salinitas, kekeruhan, TSS, dan laju akresi/erosi sedimen

| PARAMETER OSEANOGRAFI |       |       |           |      |           |      |            |       |
|-----------------------|-------|-------|-----------|------|-----------|------|------------|-------|
| WAKTU<br>PENGUKURAN   | SUHU  |       | SALINITAS |      | KEKERUHAN |      | TSS (mg/L) |       |
|                       | A     | TA    | A         | TA   | A         | TA   | A          | TA    |
| 23-Sep-12             | 31    | 31.1  | 34        | 34   | 3         | 9    |            |       |
| 29-Sep-12             | 31    | 31    | 34        | 34   | 3         | 7    |            |       |
| 14-Oct-12             | 31.4  | 31.4  | 34        | 34   | 8         | 7    |            |       |
| 3-Nov-12              | 31.8  | 32.3  | 34        | 34   | 5         | 10   | 42.8       | 32.4  |
| 27-Nov-12             | 34.2  | 34.8  | 31        | 31   |           |      | 59.3       | 80.7  |
| RATA-RATA             | 31.88 | 32.12 | 33.4      | 33.4 | 4.75      | 8.25 | 51.05      | 56.55 |

| Minggu | Laju akresi/erosi sedimen |        |
|--------|---------------------------|--------|
|        | APO                       | T.APO  |
| 1      | 0.164                     | 0.225  |
| 2      | -0.002                    | -0.002 |
| 3      | 0.005                     | -0.039 |

**Lampiran 7.** Hasil uji t tingkat kelangsungan hidup *Enhalus acoroides* dengan metode staple pada APO dan tanpa APO *staple* pada APO dan tanpa APO

**Group Statistics**

| GROUP |       | N | Mean    | Std. Deviation | Std. Error Mean |
|-------|-------|---|---------|----------------|-----------------|
| SR    | APO   | 4 | 60.0000 | 18.25742       | 9.12871         |
|       | T.APO | 4 | 65.0000 | 5.77350        | 2.88675         |

**Independent Samples Test**

|                             | Levene's Test for Equality of Variances |      | t-test for Equality of Means |       |                 |                 |                       |   |          |
|-----------------------------|---|------|------------------------------|-------|-----------------|-----------------|-----------------------|---|----------|
|                             | F                                       | Sig. | T                            | df    | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference |          |
|                             |   |      |                              |       |                 |                 |                       | Lower                                     | Upper    |
| SR Equal variances assumed  | 12.000                                  | .013 | -.522                        | 6     | .620            | -5.00000        | 9.57427               | 28.42740                                  | 18.42740 |
| Equal variances not assumed |   |      | -.522                        | 3.594 | .632            | -5.00000        | 9.57427               | 32.80945                                  | 22.80945 |



**Lampiran 8.** Hasil uji t perubahan panjang daun baik tua maupun muda antara APO dan tanpa APO

1. Daun Tua

a. Uji t pada minggu ke 2 daun tua antara APO dan tanpa APO

**Group Statistics**

| Group           | N  | Mean   | Std. Deviation | Std. Error Mean |
|-----------------|----|--------|----------------|-----------------|
| Daun_tua__2 APO | 20 | 5.4750 | 1.71460        | .38340          |
| T.APO           | 20 | 5.2800 | 1.43182        | .32016          |

**Independent Samples Test**

|                                     | Levene's Test for Equality of Variances |      | t-test for Equality of Means |        |                 |                 |                       |   |         |
|-------------------------------------|---|------|------------------------------|--------|-----------------|-----------------|-----------------------|---|---------|
|                                     | F                                       | Sig. | t                            | df     | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference |         |
|                                     |   |      |                              |        |                 |                 |                       | Lower                                     | Upper   |
| Daun_tua__2 Equal variances assumed | 1.080                                   | .305 | .390                         | 38     | .698            | .19500          | .49950                | -.81618                                   | 1.20618 |
| Equal variances not assumed         |   |      | .390                         | 36.829 | .698            | .19500          | .49950                | -.81724                                   | 1.20724 |

b. Uji t pada minggu ke 3 daun tua antara APO dan tanpa APO

**Group Statistics**

| Group          | N  | Mean   | Std. Deviation | Std. Error Mean |
|----------------|----|--------|----------------|-----------------|
| Daun_tua_3 APO | 20 | 9.7750 | 2.35414        | .52640          |
| T.APO          | 20 | 9.1200 | 2.41783        | .54064          |

**Independent Samples Test**

|  | Levene's Test for Equality of Variances |      | t-test for Equality of Means |        |                 |                 |                       |   |         |
|--|---|------|------------------------------|--------|-----------------|-----------------|-----------------------|---|---------|
|  | F                                       | Sig. | t                            | df     | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference |         |
|  |   |      |                              |        |                 |                 |                       | Lower                                     | Upper   |
| Daun_tua_3 Equal variances assumed     | .008                                    | .929 | .868                         | 38     | .391            | .65500          | .75458                | -.87257                                   | 2.18257 |
| Daun_tua_3 Equal variances not assumed |   |      | .868                         | 37.973 | .391            | .65500          | .75458                | -.87261                                   | 2.18261 |

c. Uji t pada minggu ke 4 daun tua antara APO dan tanpa APO

**Group Statistics**

| Group           | N  | Mean    | Std. Deviation | Std. Error Mean |
|-----------------|----|---------|----------------|-----------------|
| Daun_tua__4 APO | 20 | 11.5050 | 2.60394        | .58226          |
| T.APO           | 20 | 11.0850 | 2.09693        | .46889          |

**Independent Samples Test**

|                                     | Levene's Test for Equality of Variances |      | t-test for Equality of Means |        |                 |                 |                       |   |         |
|-------------------------------------|---|------|------------------------------|--------|-----------------|-----------------|-----------------------|---|---------|
|                                     | F                                       | Sig. | t                            | df     | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference |         |
|                                     |   |      |                              |        |                 |                 |                       | Lower                                     | Upper   |
| Daun_tua__4 Equal variances assumed | .433                                    | .514 | .562                         | 38     | .578            | .42000          | .74758                | 1.09340                                   | 1.93340 |
| Equal variances not assumed         |   |      | .562                         | 36.347 | .578            | .42000          | .74758                | 1.09567                                   | 1.93567 |

## 2. Daun Muda

## a. Uji t pada minggu ke 4 antara APO dan tanpa APO

**Group Statistics**

| Group           | N  | Mean    | Std. Deviation | Std. Error Mean |
|-----------------|----|---------|----------------|-----------------|
| Daun_muda_4 APO | 20 | 13.6850 | 2.30726        | .51592          |
| T.APO           | 20 | 13.3900 | 2.71117        | .60624          |

**Independent Samples Test**

|                                     | Levene's Test for Equality of Variances |      | t-test for Equality of Means |        |                 |                 |                       |   |         |
|-------------------------------------|---|------|------------------------------|--------|-----------------|-----------------|-----------------------|---|---------|
|                                     | F                                       | Sig. | t                            | df     | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference |         |
|                                     |   |      |                              |        |                 |                 |                       | Lower                                     | Upper   |
| Daun_muda_4 Equal variances assumed | 2.793                                   | .103 | .371                         | 38     | .713            | .29500          | .79605                | 1.31652                                   | 1.90652 |
| Equal variances not assumed         |   |      | .371                         | 37.052 | .713            | .29500          | .79605                | 1.31787                                   | 1.90787 |

**Lampiran 9.** Hasil uji t perubahan panjang daun tua yang dibandingkan dengan daun muda APO dan tanpa APO pada minggu ke 4 (cm/minggu)

a. APO

**Group Statistics**

| GROUP     | N  | Mean    | Std. Deviation | Std. Error Mean |
|-----------|----|---------|----------------|-----------------|
| APO_4 TUA | 20 | 11.5050 | 2.60394        | .58226          |
| MUDA      | 20 | 13.6850 | 2.30726        | .51592          |

**Independent Samples Test**

|                               | Levene's Test for Equality of Variances |      | t-test for Equality of Means |        |                 |                 |                       |   |         |
|-------------------------------|---|------|------------------------------|--------|-----------------|-----------------|-----------------------|---|---------|
|                               | F                                       | Sig. | t                            | df     | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference |         |
|                               |   |      |                              |        |                 |                 |                       | Lower                                     | Upper   |
| APO_4 Equal variances assumed | .395                                    | .533 | -2.802                       | 38     | .008            | -2.18000        | .77794                | -3.75487                                  | -.60513 |
| Equal variances not assumed   |   |      | -2.802                       | 37.457 | .008            | -2.18000        | .77794                | -3.75562                                  | -.60438 |

## b. Tanpa APO

**Group Statistics**

| GROUP       | N  | Mean    | Std. Deviation | Std. Error Mean |
|-------------|----|---------|----------------|-----------------|
| T.APO_4 TUA | 20 | 11.0850 | 2.09693        | .46889          |
| MUDA        | 20 | 13.3900 | 2.71117        | .60624          |

**Independent Samples Test**

|          | Levene's Test for Equality of Variances | t-test for Equality of Means |      |        |        |                 |                 |                       |   |         |
|----------|---|------------------------------|------|--------|--------|-----------------|-----------------|-----------------------|---|---------|
|          |   | F                            | Sig. | t      | df     | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference |         |
|          |   |                              |      |        |        |                 |                 |                       | Lower                                     | Upper   |
| T.AP O_4 | Equal variances assumed                 | 3.567                        | .067 | -3.008 | 38     | .005            | -2.30500        | .76641                | -3.85651                                  | -.75349 |
|          | Equal variances not assumed             |                              |      | -3.008 | 35.741 | .005            | -2.30500        | .76641                | -3.85973                                  | -.75027 |

**Lampiran 10.** Hasil uji t rata-rata laju pertumbuhan panjang daun tua *Enhalus acoroides* pada APO dan tanpa APO

**Group Statistics**

| Group        | N  | Mean  | Std. Deviation | Std. Error Mean |
|--------------|----|-------|----------------|-----------------|
| Daun_Tua APO | 20 | .4025 | .09684         | .02165          |
| T.APO        | 20 | .3960 | .06715         | .01502          |

**Independent Samples Test**

|   | Levene's Test for Equality of Variances |      | t-test for Equality of Means |        |                 |                 |                       |   |        |
|---|---|------|------------------------------|--------|-----------------|-----------------|-----------------------|---|--------|
|   | F                                       | Sig. | t                            | df     | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference |        |
|   |   |      |                              |        |                 |                 |                       | Lower                                     | Upper  |
| Daun_ Equal<br>Tua variances<br>assumed | 1.474                                   | .232 | .247                         | 38     | .806            | .00650          | .02635                | -.04684                                   | .05984 |
| Equal<br>variances not<br>assumed       |   |      | .247                         | 33.841 | .807            | .00650          | .02635                | -.04706                                   | .06006 |

**Lampiran 11.** Hasil uji t rata-rata laju pertumbuhan panjang daun muda *Enhalus acoroides* pada APO dan tanpa APO

**Group Statistics**

| Group         | N  | Mean  | Std. Deviation | Std. Error Mean |
|---------------|----|-------|----------------|-----------------|
| Daun_Muda APO | 20 | .4905 | .08262         | .01847          |
| T.APO         | 20 | .4805 | .10071         | .02252          |

**Independent Samples Test**

|                                       | Levene's Test for Equality of Variances |      | t-test for Equality of Means |        |                 |                 |                       |   |        |
|---------------------------------------|---|------|------------------------------|--------|-----------------|-----------------|-----------------------|---|--------|
|                                       | F                                       | Sig. | t                            | df     | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference |        |
|                                       |   |      |                              |        |                 |                 |                       | Lower                                     | Upper  |
| Daun_Muda Equal variances assumed     | 2.348                                   | .134 | .343                         | 38     | .733            | .01000          | .02913                | -.04896                                   | .06896 |
| Daun_Muda Equal variances not assumed |   |      | .343                         | 36.602 | .733            | .01000          | .02913                | -.04904                                   | .06904 |



**Lampiran 12.** Hasil uji t pertambahan jumlah daun baru *Enhalus acooides* yang muncul pada pada APO dan tanpa APO (Lembar)

**Group Statistics**

| GROUP         | N  | Mean | Std. Deviation | Std. Error Mean |
|---------------|----|------|----------------|-----------------|
| DAUN_BARU APO | 20 | 1.45 | .605           | .135            |
| T.APO         | 20 | 1.35 | .489           | .109            |

**Independent Samples Test**

|                                       | Levene's Test for Equality of Variances |      | t-test for Equality of Means |        |                 |                 |                       |   |       |
|---------------------------------------|---|------|------------------------------|--------|-----------------|-----------------|-----------------------|---|-------|
|                                       | F                                       | Sig. | t                            | df     | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference |       |
|                                       |   |      |                              |        |                 |                 |                       | Lower                                     | Upper |
| DAUN_BARU Equal variances assumed     | 2.619                                   | .114 | .575                         | 38     | .569            | .100            | .174                  | -.252                                     | .452  |
| DAUN_BARU Equal variances not assumed |   |      | .575                         | 36.414 | .569            | .100            | .174                  | -.253                                     | .453  |

**Lampiran 13.** Hasil uji t-test untuk pengukuran tinggi gelombang signifikan (H/3)

## a. Uji t setiap pengukuran

## 1. Pengukuran pertama

**Group Statistics**

| group1           | N | Mean    | Std. Deviation | Std. Error Mean |
|------------------|---|---------|----------------|-----------------|
| Pengukuran_1 APO | 6 | 12.3333 | 2.50333        | 1.02198         |
| T.APO            | 6 | 15.6667 | 2.87518        | 1.17379         |

**Independent Samples Test**

|                             | Levene's Test for Equality of Variances |      | t-test for Equality of Means |       |                 |                 |                       |   |        |
|-----------------------------|---|------|------------------------------|-------|-----------------|-----------------|-----------------------|---|--------|
|                             | F                                       | Sig. | t                            | df    | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference |        |
|                             |   |      |                              |       |                 |                 |                       | Lower                                     | Upper  |
| Pengukuran_1                | .208                                    | .658 | -2.142                       | 10    | .058            | -3.33333        | 1.55635               | -6.80110                                  | .13443 |
| Equal variances assumed     |   |      | -                            |       |                 |                 |                       |   |        |
| Equal variances not assumed |   |      | -2.142                       | 9.814 | .058            | -3.33333        | 1.55635               | -6.81002                                  | .14335 |

## 2. Pengukuran kedua

Group Statistics

| Group            | N | Mean    | Std. Deviation | Std. Error Mean |
|------------------|---|---------|----------------|-----------------|
| Pengukuran_2 APO | 7 | 13.4286 | 3.86683        | 1.46152         |
| T.APO            | 7 | 17.2857 | 5.12231        | 1.93605         |

Independent Samples Test

|                                      | Levene's Test for Equality of Variances |      | t-test for Equality of Means |        |                 |                 |                       |   |         |
|--------------------------------------|---|------|------------------------------|--------|-----------------|-----------------|-----------------------|---|---------|
|                                      | F                                       | Sig. | t                            | df     | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference |         |
|                                      |   |      |                              |        |                 |                 |                       | Lower                                     | Upper   |
| Pengukuran_2 Equal variances assumed | .599                                    | .454 | 1.590                        | 12     | .138            | -3.85714        | 2.42577               | -9.14244                                  | 1.42815 |
| Equal variances not assumed          |   |      | 1.590                        | 11.162 | .140            | -3.85714        | 2.42577               | -9.18678                                  | 1.47250 |

## 3. Pengukuran ketiga

Group Statistics

| Group            | N | Mean    | Std. Deviation | Std. Error Mean |
|------------------|---|---------|----------------|-----------------|
| Pengukuran_3 APO | 7 | 14.4286 | 4.72077        | 1.78429         |
| T.APO            | 7 | 17.1429 | 4.70562        | 1.77856         |

Independent Samples Test

|                                      | Levene's Test for Equality of Variances |      | t-test for Equality of Means |        |                 |                 |                       |   |         |
|--------------------------------------|---|------|------------------------------|--------|-----------------|-----------------|-----------------------|---|---------|
|                                      | F                                       | Sig. | t                            | df     | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference |         |
|                                      |   |      |                              |        |                 |                 |                       | Lower                                     | Upper   |
| Pengukuran_3 Equal variances assumed | .002                                    | .963 | 1.077                        | 12     | .302            | 2.71429         | 2.51931               | 8.20340                                   | 2.77483 |
| Equal variances not assumed          |   |      | 1.077                        | 12.000 | .302            | 2.71429         | 2.51931               | 8.20340                                   | 2.77483 |

## b. Uji t gabungan semua pengukuran

**Group Statistics**

| group         | N  | Mean    | Std. Deviation | Std. Error Mean |
|---------------|----|---------|----------------|-----------------|
| Gelombang APO | 20 | 13.4500 | 3.76235        | .84129          |
| T.APO         | 20 | 16.7500 | 4.24109        | .94834          |

**Independent Samples Test**

|                                   | Levene's Test for Equality of Variances |      | t-test for Equality of Means |        |                 |                 |                       |   |         |
|-----------------------------------|---|------|------------------------------|--------|-----------------|-----------------|-----------------------|---|---------|
|                                   | F                                       | Sig. | t                            | df     | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference |         |
|                                   |   |      |                              |        |                 |                 |                       | Lower                                     | Upper   |
| Gelombang Equal variances assumed | .562                                    | .458 | 2.603                        | 38     | .013            | -3.30000        | 1.26772               | -5.86636                                  | -.73364 |
| Equal variances not assumed       |   |      | 2.603                        | 37.468 | .013            | -3.30000        | 1.26772               | -5.86756                                  | -.73244 |

### Lampiran 14. Dokumentasi Kegiatan Penelitian



APO pancang yang digunakan awal Penelitian (tidak mampu menahan gelombang) diganti dengan gambar kanan



APO dengan metode tancap satu persatu (APO yang digunakan hingga akhir penelitian)



Plot-plot lamun transplantasi



Jangkar pada metode *Staple*



Lamun *transplant*



Transplantasi lamun



Pengukuran parameter oseanografi dengan  
*water quality checker*



Pengukuran Arus



Pengukuran pertumbuhan lamun