Whale-shark Al-lith

Supplementary information

# Model results

Table 1. Model selection table for the acoustic recaptures

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| model | logLik | AIC | BIC | deviance | AIC |
| season + lag + effort (IS) + size | -1563.8 | 3141.5 | 3198.8 | 2871.8 | 0.00 |
| season + lag + effort (IS) + effort (OS) + size | -1562.9 | 3141.9 | 3207.3 | 2869.5 | 0.34 |
| season + lag + effort (IS) + sex + size | -1563.2 | 3144.4 | 3218.0 | 2872.0 | 2.91 |
| season + lag + effort (IS) + effort (OS) + sex + size | -1562.4 | 3144.8 | 3226.5 | 2869.7 | 3.26 |
| season + lag + effort (IS) + effort (OS) | -1721.8 | 3457.6 | 3515.9 | 3152.4 | 316.10 |
| season + lag + effort (IS) | -1723.6 | 3459.2 | 3509.2 | 3157.2 | 317.71 |
| season + lag + effort (IS) + effort (OS) + sex | -1720.9 | 3459.8 | 3534.7 | 3152.6 | 318.25 |
| season + lag + effort (IS) + sex | -1722.7 | 3461.4 | 3528.0 | 3157.4 | 319.86 |
| season + lag + effort (OS) + size | -1730.1 | 3474.2 | 3531.4 | 3225.1 | 332.64 |
| season + lag + effort (OS) + sex + size | -1729.1 | 3476.2 | 3549.8 | 3225.3 | 334.72 |
| season + lag + size | -1780.5 | 3573.0 | 3622.1 | 3323.9 | 431.51 |
| season + lag + sex + size | -1779.4 | 3574.8 | 3640.2 | 3324.2 | 433.32 |
| season + lag + effort (OS) | -1907.4 | 3826.7 | 3876.7 | 3549.9 | 685.19 |
| season + lag + effort (OS) + sex | -1906.3 | 3828.5 | 3895.1 | 3550.3 | 686.98 |
| season + lag + sex | -1959.8 | 3933.7 | 3992.0 | 3656.5 | 792.15 |

Table 2. Model selection table for the visual recaptures

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| model | logLik | AIC | BIC | deviance | AIC |
| season + lag + effort + size | -445.4 | 904.8 | 951.3 | 746.5 | 0.00 |
| season + lag + effort + sex + size | -444.5 | 907.1 | 966.8 | 748.9 | 2.26 |
| season + lag + effort + sex | -470.5 | 957.0 | 1011.1 | 788.2 | 52.14 |
| season + lag + effort | -472.6 | 957.3 | 997.9 | 785.5 | 52.45 |
| season + lag + size | -474.3 | 960.6 | 1000.4 | 808.3 | 55.73 |
| season + lag + sex + size | -473.2 | 962.5 | 1015.5 | 809.8 | 57.65 |
| season + lag + sex | -501.3 | 1016.7 | 1064.0 | 854.9 | 111.83 |
| season + lag | -503.5 | 1016.9 | 1050.8 | 852.2 | 112.09 |

Table 3. Model results for the most best model of acoustic recapture

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| variable | EDF | Estimate | Std. Error | Stat. | p-value |
| (Intercept) | --- | -11.6861878 | 1.6420598 | -7.116786 | 0.0000000 |
| effort (IS) | --- | 0.2152810 | 0.0120737 | 17.830537 | 0.0000000 |
| size | --- | 0.6571829 | 0.4003276 | 1.641613 | 0.1006703 |
| season | 7.044642 | --- | --- | 173.976167 | 0.0000000 |
| lag | 3.228757 | --- | --- | 23.654871 | 0.0000547 |

Table 4. Model results for the most best model of visual recapture

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| variable | EDF | Estimate | Std. Error | Stat. | p-value |
| (Intercept) | --- | -16.7368657 | 2.0066970 | -8.340505 | 0.0000000 |
| effort | --- | 3.4996225 | 0.4569236 | 7.659098 | 0.0000000 |
| size | --- | 0.4366485 | 0.3841752 | 1.136587 | 0.2557111 |
| season | 1.920763 | --- | --- | 59.627063 | 0.0000000 |
| lag | 2.393144 | --- | --- | 18.943787 | 0.0001083 |