

Appendix C – Baseline carbon flux summary results

Table of contents

| | |
|---|---|
| Table C1 Cumulative CO _{2e} flux, carbon flux error (RMS) and annual carbon flux over 50-year period 2023-2072 across the Shetland Islands | 1 |
|---|---|

Table C1 Cumulative CO₂e flux, carbon flux error (RMS) and annual carbon flux over 50-year period 2023-2072 across the Shetland Islands

| Model year | Cumulative carbon flux (kt CO ₂ e) | Carbon flux error (RMS ¹) (kt CO ₂ e) | Annual carbon flux (kt CO ₂ e) |
|------------|--|---|--|
| 2023 | 732.10 | 46.16 | 732.10 |
| 2024 | 1,464.21 | 92.33 | 732.11 |
| 2025 | 2,196.32 | 138.49 | 732.11 |
| 2026 | 2,928.44 | 184.65 | 732.12 |
| 2027 | 3,660.56 | 230.82 | 732.12 |
| 2028 | 4,392.69 | 276.98 | 732.13 |
| 2029 | 5,124.82 | 323.14 | 732.14 |
| 2030 | 5,856.97 | 369.30 | 732.15 |
| 2031 | 6,589.12 | 415.47 | 732.16 |
| 2032 | 7,321.29 | 461.63 | 732.17 |
| 2033 | 8,053.47 | 507.79 | 732.18 |
| 2034 | 8,785.66 | 553.96 | 732.19 |
| 2035 | 9,517.86 | 600.12 | 732.20 |
| 2036 | 10,250.07 | 646.28 | 732.21 |
| 2037 | 10,982.30 | 692.45 | 732.23 |
| 2038 | 11,714.54 | 738.61 | 732.24 |
| 2039 | 12,446.79 | 784.77 | 732.25 |
| 2040 | 13,179.06 | 830.93 | 732.27 |
| 2041 | 13,911.34 | 877.10 | 732.28 |
| 2042 | 14,643.63 | 923.26 | 732.29 |
| 2043 | 15,375.94 | 969.42 | 732.31 |
| 2044 | 16,108.26 | 1,015.59 | 732.32 |
| 2045 | 16,840.59 | 1,061.75 | 732.33 |
| 2046 | 17,572.94 | 1,107.91 | 732.35 |
| 2047 | 18,305.29 | 1,154.08 | 732.36 |
| 2048 | 19,037.66 | 1,200.24 | 732.37 |
| 2049 | 19,770.05 | 1,246.40 | 732.38 |
| 2050 | 20,502.44 | 1,292.56 | 732.40 |
| 2051 | 21,234.85 | 1,338.73 | 732.41 |
| 2052 | 21,967.27 | 1,384.89 | 732.42 |
| 2053 | 22,699.70 | 1,431.05 | 732.43 |
| 2054 | 23,432.14 | 1,477.22 | 732.44 |
| 2055 | 24,164.59 | 1,523.38 | 732.45 |
| 2056 | 24,897.05 | 1,569.54 | 732.46 |
| 2057 | 25,629.52 | 1,615.70 | 732.47 |
| 2058 | 26,362.01 | 1,661.87 | 732.48 |
| 2059 | 27,094.50 | 1,708.03 | 732.49 |
| 2060 | 27,827.00 | 1,754.19 | 732.50 |
| 2061 | 28,559.51 | 1,800.36 | 732.51 |
| 2062 | 29,292.02 | 1,846.52 | 732.52 |
| 2063 | 30,024.55 | 1,892.68 | 732.53 |
| 2064 | 30,757.08 | 1,938.85 | 732.53 |
| 2065 | 31,489.63 | 1,985.01 | 732.54 |
| 2066 | 32,222.17 | 2,031.17 | 732.55 |
| 2067 | 32,954.73 | 2,077.33 | 732.56 |
| 2068 | 33,687.29 | 2,123.50 | 732.56 |

¹ The errors represent the range for carbon coefficient values related to each land cover class as presented within literature. Where there is a cumulative carbon stock or carbon flux measurement calculated, a single error is given. This is calculated using the root mean squared (RMS) error of all calculated carbon stock or flux errors for each land cover type. RMS error is the square root of the arithmetic mean of the squares of the carbon stock or flux error for each land cover type and represents a measurement of the spread of the data around the average (standard deviation).

| Model year | Cumulative carbon flux (kt CO2e) | Carbon flux error (RMS') (kt CO2e) | Annual carbon flux (kt CO2e) |
|------------|-------------------------------------|---------------------------------------|---------------------------------|
| 2069 | 34,419.86 | 2,169.66 | 732.57 |
| 2070 | 35,152.44 | 2,215.82 | 732.58 |
| 2071 | 35,885.02 | 2,261.99 | 732.58 |
| 2072 | 36,617.61 | 2,308.15 | 732.59 |