|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Variable | Symbol | Values / Equations | | Reference |
| Blue | Humpback |
| Model Parameters | Total Body Length (m) |  | 17.6 - 26.4 | 9.6 - 14.4 | Gough et al. 2022 |
| Lunges Per Day (n) |  | 163 - 245 | 437 - 655 | Savoca et al. 2021 |
| Percent Time Fluking (%) |  | 28 - 42 | 44 – 66 | - |
| Migration Distance (km) |  | 2000 – 12000 | | - |
| Swimming Speed (m s-1) |  | 1.0 – 4.0 | | Gough et al. 2019; 2021 |
|  |  | | | | |
| Derived Variables | Over-Ground Speed (m s-1) |  |  | | - |
| Days in Breeding Season |  | 60 | | Evans (Pers. Comm.) |
| Days along Migration Routes |  |  | | - |
| Days in Feeding Season |  |  | | - |
| Body Mass (kg) |  |  |  | Kahane-Rapport & Goldbogen 2018 |
| Daily Metabolic Cost (kJ day-1) |  |  | | Kleiber 1975 |
|  |  | | | | |
| Feeding Season Energetics | Feeding Lunge Cost (kJ) |  |  | | Gough et al. 2022 |
| Feeding Lunge Intake (kJ) |  |  | | Gough et al. 2022 |
| Feeding Lunge Net Energy (kJ) |  |  | | - |
| Lunges Per Feeding Season (n) |  |  | | - |
| Feeding Season Intake (kJ) |  |  | | - |
| Feeding Season Cost (kJ) |  |  | | - |
| Feeding Season Net Energy (kJ) |  |  | | - |
|  |  | | | | |
| Migration Energetics | Metabolic Efficiency (%) |  | 25 | | Gough et al. 2022 |
| Propulsive Efficiency (%) |  | 90 | | Gough et al. 2021 |
| Thrust Power (W kg-1) |  |  | | Gough et al. 2021 |
| Swimming Cost (kJ s-1) |  |  | | - |
| Daily Swimming Cost (kJ day-1) |  |  | | - |
| Migration Cost (kJ) |  |  | | - |
|  |  | | | | |
|  | Energy Ratio of Migration to Feeding Season |  |  | | - |