Table S1. The AIC values and dispersion statistics in parenthesis for different models.

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| --- | --- | --- | --- | --- | --- | --- |
| Model | Ruddy Turnstone | Red Knot | Sanderling | Dunlin | Semipalmated Sandpiper | Short-billed Dowitcher |
| Poisson GLM | 1958 (22.60) | 2157 (36.12) | 4191 (62.33) | 27848 (470.8) | 36481 (448.7) | 3911 (53.08) |
| Negative binomial GLM | 598 (0.74) | 637 (0.82) | 724 (0.92) | 1078 (1.34) | 1366 (0.98) | 642 (0.66) |
| Poisson zero-inflated  | 1538 (3.70) | 2236 (5.98) | 3638 (6.94) | X | X | 2615 (5.11) |
| Negative binomial zero-inflated | 591 (0.96) | 636 (0.98) | 722 (1.10) | X | X | 642 (0.81) |