APPENDIX 1

Sampling dates, mean daily passage rates, and mean flight altitudes (meters above ground level [m agl]) of pre-sunrise, landward flying Marbled Murrelets detected on radar at three sites in northern California, 2012

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Trip |  |  | Passage rate [murrelets/survey](n = number of survey mornings) |  | Flight altitude [m agl](n = number of murrelets) |
| Dates | Seasonal period | Crescent City | Espa Lagoon | Eel River |  | Crescent City | Espa Lagoon | Eel River |
|  |  |  |  |  |  |  |  |  |  |
| 1 | 12–22 February | Winter | 19.3 ± 9.4(3) | 9.3 ± 3.3(3) | 5.3 ± 1.5(3) |  | 159.2 ± 10.8(18) | 115.3 ± 8.1(15) | 198.0 ± 11.0(2) |
| 2 | 23 March–7 April | Spring | 3.2 ± 2.0(2) | 36.7 ± 7.0(3) | 4.0 ± 2.0(2) |  | 216.0 ± 69.0(2) | 138.7 ± 13.2(27) | 181.0 ± -(1) |
| 3 | 20–29 April | Summer | 84.3 ± 34.4(3) | 49.3 ± 11.1(3) | 12.3 ± 2.4(3) |  | 85.9 ± 11.9(27) | 120.4 ± 14.5(29) | 228.9 ± 24.9(12)  |
| 4 | 15–23 May | Summer | 120.0 ± 24.0(3) | 114.3 ± 4.1(3) | 20.3 ± 1.8(3) |  | 95.7 ± 5.9(98) | 91.1 ± 3.5(159) | 259.1 ± 11.3(46) |
| 5 | 27 June–6 July | Summer | 148.7 ± 6.9(3) | 128.3 ± 32.7(3) | 26.7 ± 13.3(3) |  | 95.7 ± 4.0(136) | 59.7 ± 4.5(86) | 257.0 ± 8.9(59) |
| 6 | 5–13 August | Fall | 48.7 ± 29.9(3) | 12.0 ± 3.6(3) | 23.7 ± 4.9(3) |  | 70.5 ± 5.3(31) | 66.3 ± 15.1(17) | 249.9 ± 11.4(48) |
| 7 | 3–11 September | Fall | 2.7 ± 1.8(3) | 8.0 ± 3.8(3) | 0.3 ± 0.3(3) |  | 144.5 ± 5.3(4) | 119.1 ± 10.0(6) | 196.0 ± -(1) |
| 8 | 10–19 October | Fall | 9.5 ± 1.5(2) | 5.3 ± 4.3(3) | 1.3 ± 0.7(3) |  | 198.5 ± 32.5(2) | 101.1 ± 18.6(12) | -(0) |
| 9 | 5–13 December | Winter | 6.0 ± 3.5(3) | 19.7 ± 3.8(3) | 13.3 ± 1.8(3) |  | 98.0 ± -(1) | 102.5 ± 7.1(32) | 295.3 ± 18.0(20) |

APPENDIX 2

The distribution of flight altitudes of pre-sunrise, landward flying Marbled Murrelets detected year-round at three inland sites in northern California

|  |  |  |
| --- | --- | --- |
| Flight altitude category (m agl)a |  | Percentage of radar targets |
|  | Crescent City(n = 319) | Espa Lagoon(n = 383) | Eel River(n = 189) |
|  |  |  |  |  |
| 1–25 |  | 2.8 | 6.5 | 0.0 |
| 26–50 |  | 13.5 | 12.5 | 0.0 |
| 51–75 |  | 22.9 | 23.0 | 0.0 |
| 76–100 |  | 23.8 | 21.1 | 0.5 |
| 101–125 |  | 10.0 | 14.9 | 1.6 |
| 126–150 |  | 11.6 | 8.6 | 4.3 |
| 151–175 |  | 6.6 | 4.2 | 8.0 |
| 176–200 |  | 3.8 | 4.7 | 12.2 |
| 201–225 |  | 0.9 | 2.1 | 10.1 |
| 226–250 |  | 1.9 | 0.8 | 13.8 |
| 251–275 |  | 1.0 | 0.5 | 13.3 |
| 276–300 |  | 0.6 | 0.8 | 10.6 |
| 301–325 |  | 0.6 | 0.3 | 7.4 |
| 326–350 |  | 0.0 | 0.0 | 3.7 |
| 351–375 |  | 0.0 | 0.0 | 7.4 |
| 376–400 |  | 0.0 | 0.0 | 2.1 |
| 401–425 |  | 0.0 | 0.0 | 3.4 |
| 426–450 |  | 0.0 | 0.0 | 1.6 |

aFlight altitudes expressed as the percentage of murrelets detected on radar at each site in 25 m increments above ground level (agl).