**MARBLED MURRELET FOREST SURVEY FORM**

State/Province (circle) AK BC WA OR CA

Month ____________ Day ________ Year ________

Observer (s) Name: __________________________ Initials: _______ Affiliation: __________________ Phone: (_____)_________________

Station Location: - UTM zone: _______ E (x) coordinate: _________________________ N (y) coordinate: ___________________________

Source: _______________________________ Datum: _________________________ Accuracy: ___________________________


**ENVIRONMENTAL CONDITIONS:**

<table>
<thead>
<tr>
<th>Time</th>
<th>Vertical Viewing</th>
<th>Horiz. Vis. to 100m (Y/N/U)</th>
<th>Audibility to 200m (Y/N)</th>
<th>Precipitation</th>
<th>Wind</th>
<th>Noise</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ceiling</td>
<td>Cloud Cover</td>
<td>Canopy to 2x</td>
<td>Canopy to 2x</td>
<td>Rain</td>
<td>Fog</td>
<td>Other</td>
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- **Ceiling:** UL Unlimited (clear); HI > 2.0 canopy height; MID > 1.5 to < 2.0 canopy height; LO >1.0 to <1.5 canopy height; SUB < 1.0 canopy height; U = Unknown (too dark to see)
- **Cloud Cover:** 0 = 0%, 1 = 33%, 2 = 66%, 3 = 100%
- **Vertical Visibility:** N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
- **Horizontal Visibility:** N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
- **Audibility:** N = Impaired (detections may be missed due to conditions), Y = Unimpaired (conditions allow for reliable detection), U = Unknown.
- **Precipitation - Rain & Fog:** N = None, L = Light, M = Moderate, H = Heavy. Other: H = Hail, S = Snow. (Indicate intensity using same codes for rain & fog).
- **Wind:** 0 = <1 mph (calm), 1 = 1-3 mph (leaves barely move), 2 = 4-7 mph (leaves rustle, sm. twigs move), 3 = 8-12 mph (leaves & sm. twigs in constant motion), 4 = 13-18 mph (sm. branches move), 5 = 19-24 mph (lg. branches & sm. trees start to sway), 6 = 25-31 mph (lg. branches in constant motion), 7 = 32-38 mph (whole trees move), 8 = 39-46 mph (twigs & sm. branches break).
- **Noise:** N = None, A = Aircraft, B = Bird song/calls, C = Creek/water drainage, M = Machinery, P = Rain/hail, T = Tree drip, V = Vehicle, W = Wind, = Other (explain in Notes).

**Protocol Review**

- Survey began on time (at least 45 minutes before sunrise)
- Survey continued uninterrupted for at least 2 hours
- Vertical visibility to 2x-canopy height was not impeded for >12 minutes
- Horizontal visibility to 100m was not impeded for >12 minutes
- Audibility to 200m was not impeded for >12 minutes

Survey Visit to Protocol?: (circle one) Yes / No

Protocol Reviewer Name__________________________
Protocol Reviewer Affiliation: ______________________
Protocol Review Date ______________________
### MARBLED MURRELET FOREST SURVEY FORM

**Observer (s) Initials:** _______________

**Units of Measure (circle one):** U.S. / Metric

**Area Name** ___________________________

**Stratum Name /No:** ____________________

**Station Number:** _______________________

**Month ________ Day ________ Year _______**

**Detections - This Side Page Total:** _______

### SURVEY ACTIVITY:

*Note Significant Weather Changes on Page 1*

<table>
<thead>
<tr>
<th>Detection #</th>
<th>Detection Time</th>
<th>Initial Detection Direction</th>
<th>Initial Distance to Birds Seen</th>
<th>Type</th>
<th>Auditory</th>
<th># Birds Seen</th>
<th>Behavior</th>
<th>Initial Flight Direction</th>
<th>Bird Height Seen</th>
<th>Closest Distance to Birds Seen</th>
<th>Closest Distance to Birds Heard (Loudness)</th>
<th>Depart Flight Direction</th>
<th>Final Detection Direction</th>
<th>Notes</th>
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<td></td>
<td>L = Loud: 0-50m M = Moderate: &gt;50-150m F=Faint: &gt;150m</td>
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<tr>
<th>Detection #</th>
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**TYPE:** Heard; Seen; Both heard and seen; **BEHAVIOR:** Flyover above canopy (straight flight); Circling (or arcing) above canopy; Below-canopy (straight flight); Through (a) or below-canopy flight; Unknown