

ABSTRACTS FOR *CONDOR* 103(2) MAY 2001

FEATURE ARTICLES

RADAR-BASED MONITORING OF MARBLED MURRELETS¹

BRIAN A. COOPER²

ABR Inc., P.O. Box 249, Forest Grove, OR 97116-0249

MARTIN G. RAPHAEL AND DIANE EVANS MACK

USDA Forest Service, Pacific Northwest Research Station, 3625 93rd Avenue SW, Olympia, WA 98512-9193

¹Received 27 April 2000. Accepted 26 October 2000.

²E-mail: bcooper@abrinc.com

Abstract. We used radar to measure daily, monthly, and annual patterns of Marbled Murrelet (*Brachyramphus marmoratus*) abundance and movements at 12 major river valleys in the Olympic Peninsula of Washington. Landward movements of murrelets peaked from ~75 min to ~20 min before sunrise, followed by a seaward exodus from ~20 min before sunrise to ~65 min after sunrise. This general pattern of a landward movement followed by a seaward exodus varied little, but the timing of the seaward exodus gradually became later from May to July. Within a morning, numbers of landward radar targets averaged twice the numbers of seaward targets, and morning counts were approximately five times evening counts. Species identification error rates were lower for landward radar counts than for seaward counts. Radar counts varied through the season, with numbers increasing from May to July, then dropping in August. Seaward counts were more variable than landward counts. There was wide overlap among months in the amount of daily variation in both landward and seaward counts. Radar appears to be a powerful, cost-effective, and non-intrusive tool that can establish an index of abundance for murrelets at specific inland breeding areas.

[Back to *CONDOR* 103\(2\) MAY 2001 Table of Contents](#)