

Peer Review Plan

Influential Scientific Information

Highly Influential Scientific Information

Topic of the Review: Status & trends of nesting habitat for the Marbled Murrelet , 1994-2008

Agency, Office or Center: Forest Service, PNW Research Station

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Subject of Review: This is the second in a series of periodic monitoring reports on marbled murrelet habitat trends on federally administered lands since implementation of the Northwest Forest Plan (the Plan) in 1994.

Purpose of Report: The primary objectives of the effectiveness monitoring plan for the Marbled Murrelet (*Brachyramphus marmoratus*) include mapping baseline nesting habitat (at the start of the Northwest Forest Plan) and estimating changes in that habitat over time. Using vegetation data derived from satellite imagery, habitat suitability was modeled by using a maximum entropy model. Maxent software was used to compute habitat suitability scores from vegetation and physiographic attributes based on comparisons of conditions at 342 sites that were occupied by Marbled Murrelets (equal numbers of confirmed nest sites and likely nest sites) and average conditions over all forested lands in which the murrelets occurred. It is estimated that 3.8 million acres of higher-suitability nesting habitat over all lands in the murrelet's range in Washington, Oregon, and California at the start of the plan (1994/1996). Most (89 percent) of baseline habitat on federally-administered lands occurred within reserved -land allocations. A substantial amount (36 percent) of baseline habitat occurred on non-federal lands. A net loss was found of about 13 percent of higher-suitability nesting habitat from the baseline period to 2006/07 over all lands. Fire has been the major cause of loss of nesting habitat on federal lands since the Plan was implemented; timber harvest is the primary cause of loss on non-federal lands. It was also found that murrelet population size is strongly and positively correlated with amount of nesting habitat, suggesting that conservation of remaining nesting habitat and restoration of currently unsuitable habitat is key to murrelet recovery.

Type of Review: Panel Individual

Alternative Process (Briefly Explain):

Peer reviews included one internal reviewer; another from PSW Station and a third from University. Internal statistical review also completed.

Timing of Review: Three peer reviews were completed in August and September 2010.

Number of Reviewers: 3 or less 4 to 10 More than 10

Primary Disciplines/Types of Expertise of Reviewers: _murrelet ecology, wildlife ecology, statistical

Reviewers Selected by: Agency Designated Outside Organization

Public Nominations Requested for Review Panel: Yes No

Opportunities for the Public to Comment: Yes No

If yes, briefly state how and when will these opportunities be provided:

Peer Reviewers Provided with Public Comments: Yes No

