

Does interpretation of Marbled Murrelet nesting habitat change with different classification methods?

<http://www.firstlight.cn> 2010-08-31

Accurate and reliable identification of potential nesting habitat is required to manage for the threatened Marbled Murrelet (*Brachyramphus marmoratus*). Three habitat classifications are typically used by wildlife planners: a bivariate suitability algorithm following recommendations of the Canadian Marbled Murrelet Recovery Team (CMMRT) and based on geographical information systems (GIS), and two habitat classifications based on air photo interpretation mapping and low-level aerial survey mapping. The CMMRT model uses vegetation resource inventory data. The air photo interpretation and low-level aerial survey methods directly assess the forest for attributes likely to provide nesting platforms, cover, and

access into the stand by the bird. The prime indicators of nesting habitat potential for murrelets are large (generally mossy) branches for use as nest platforms. These are only directly visible using low-level aerial surveys. Methods involving GIS cost the least to apply, and low-level aerial surveys cost the most. We compared and assessed the consistency of the three methods using 243 sites. The CMMRT model proved least reliable by underestimating habitat suitability of sites compared to both the air photo interpretation

and aerial survey estimates. The air photo interpretation and aerial survey methods were generally aligned in the ordinal ranking of sites by habitat class, but only 44% had matching ranks. Sites that differed tended to be ranked lower by air photo interpretation and mostly occurred in the "Moderate" and "Low" air photo interpretation classes. Either classification may refine information from the CMMRT model, particularly for habitat classed as "Unsuitable." Using air photo interpretation first and then applying the aerial surveys

as a further refined assessment of moderate and low habitat classes may provide the most cost-effective approach for accurately classifying and mapping habitat potential for management planning.

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