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### Abstract

#### Using avian species monitoring and map-based data in a coarse-filter approach to sustaining biodiversity

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The coarse-filter approach to sustaining biological diversity attempts to maintain all representative ecosystems and wildlife habitats within an ecological region or a management unit. Ideally, the approach uses information that is simple to acquire or readily available. For Tree Farm Licence (TFL) 48 in northeastern British Columbia, we describe a coarse-filter approach that combines bird monitoring data with vegetation resources inventory (VRI) and Biogeoclimatic Ecosystem Classification (BEC) data to develop statistical relationships between species occurrences and broad habitat types. The resultant models can be readily added to existing geographical information system (GIS) databases to scale up habitat suitability estimates to the regional (tenure) level. We found that habitat types based on forest cover/age class were a better predictor of habitat suitability than BEC variants for most species, but together the two classification systems provided more information for predicting species occurrences. Forest cover/age class would also provide managers with specific attributes of the landscape that could be manipulated through management actions. The ability to treat space explicitly using habitat-based models is necessary because relationships developed for individual species indicate that no management strategy will accommodate all species in all planning units. For this reason, the ability to link the models to existing databases should greatly facilitate conservation planning. Implementation of this approach could consider all terrestrial vertebrates and other organism groups within a management area.

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