A habitat model for the threatened Queen Charlotte Goshawk on northern Vancouver Island

E. Todd Manning[1], John M. Cooper[2] and John A. Deal[3]

[1]Manning, Cooper and Associates, Head Office, 5148 William Head Rd., Victoria, B.C. V9C 4H5
< etmanning@manningcooper.com >, Phone 250-478-7822.
[2]Manning, Cooper and Associates, Mid Island Office, Box 646, Errington BC V0R 1V0.
[3]Canadian Forest Products Ltd. (Canfor), Coastal Operations, Woss BC, V0N 3P0

Habitat modeling is one tool for helping to conserve species at risk. A habitat model was recently developed for the Threatened Queen Charlotte Goshawk (*Accipiter gentilis laingi)* in Canfor's Tree Farm Licence (TFL) 37, on north-central Vancouver Island. This model incorporates 4 habitat variables: biogeoclimatic unit with a maximum elevation qualifier, leading tree species, stand age with a site index modifier, and canopy closure. In order to validate the model, habitat variables at 29 of 40 known goshawk nests were assessed in the field using standardized habitat inventory procedures. Of the 40 known nests, the habitat model classified 29 nest sites as high habitat suitability for breeding goshawks, and 11 sites as medium suitability. This conformed very closely with actual field-based suitability ratings obtained at the same sites.

Habitat modeling can be very useful for stratifying survey effort when planning inventory of rare wildlife that are thinly distributed across large landscapes and are difficult to detect. Models are also a useful tool for identifying high suitability habitats which can be subsequently incorporated into landscape management planning for species at risk and wildlife habitat. In Canfor's TFL 37, the goshawk habitat model is being used to qualify and quantify current and potential nesting habitat across the TFL. This information is incorporated into landscape level management plans and related conservation measures (10 Wildlife Habitat Areas have been established to date in TFL 37 for Queen Charlotte goshawk). In addition, the habitat model will help direct future inventory efforts for detecting new goshawk territories in the TFL. An adaptive management strategy is in place which allows for input of habitat data from the TFL in order to refine the goshawk model over time and space as we learn more about the ecology of this species.