

# Using Spatial Models to Refine Distance Sampling Estimates of Black Bears

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**Abstract:** The Alaska Department of Fish and Game has used a point independence double-observer distance sampling model (Borchers et al. 2006) with an asymmetric normal detection function to obtain bear population estimates over large geographic areas. We developed a spatially explicit model of black bear abundance over a large area of south-central Alaska using a density surface model (Miller et al. 2013) applied to our distance sampling model. We build maps of abundance (and uncertainty) and relate estimates back to biologically meaningful covariates. The potential impacts of a proposed hydroelectric project on black bear populations can more accurately be calculated with the spatial model.

## References

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