Dynamics of a Rough-legged Hawk (*Buteo Lagopus*) Communal Roost in the Mission Valley, Montana[TWS]

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During the winters of 1994 -1998, I investigated the roosting ecology of Rough-legged Hawks (*Buteo lagopus*) in the Mission Valley of northwestern Montana. Nineteen hawks were radio-tagged during the winters of 1995- 96 and 1996 -97 from which I recorded a total of 320 day and 326 night locations. Radioed birds frequently used two major communal roosts, flying up to 20 km daily to and from foraging areas. The primary roost (Ronan roost) is located in contiguous Douglas fir (*Pseudotsuga menzziesii*) l ponderosa pine (*Pinus ponderosa*) forest near the foothills of

the Mission Mountains, and according to radio telemetry, encompasses approximately 238 ha (n = 133; adaptive kernel 70% polygon). The high-use area (adaptive kernel 40% polygon) within the roost consists of moderately dense forest (canopy closure >75 %) and contains many interspersed houses. A maximum of 225 Rough-legged hawks were counted departing the Ronan roost (Feb 1995), and multiple counts of >150 birds occurred in three of the four years. A maximum of only 44 hawks were count d during 1995- 96. Among- and between-year differences in the number of hawks attending the roost appear to reflect changes in microtine numbers. Preliminary data on the age and sex composition of hawks departing the roost are similar to those recorded on daytime surveys throughout the valley; however proportionately fewer juveniles were observed departing the roost than were recorded in the valley. Current research will test several hypotheses concerning the adaptive significance of rough-legged Hawk winter communal roosting behavior.