

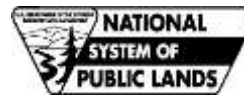


The Western Section of The Wildlife Society and Wildlife Research Institute

Western Raptor Symposium
February 8-9, 2011
Riverside, California



Symposium
Sponsors



February 9 – 09:35-09:55 am Session: Raptor Management and Monitoring

Siting Repowered Wind Turbines to Minimize Raptor Collisions

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Collisions with wind turbines in the Altamont Pass Wind Resource Area (APWRA) have annually taken about 9,300 birds, of which nearly 2,000 are raptors. Repowering the APWRA to modern wind turbines may decrease raptor fatality rates. In support of repowering the Tres Vaqueros Wind Energy project, we related raptor flight observations to a digital elevation model of the Vasco Caves Regional Preserve. Raptor flights were weighted by detection functions based on distance from the observer, volume of visible airspace within the maximum survey radius, degree of overlap of surveys from observation stations, and survey frequency. Fuzzy Logic models were developed to predict locations of weighted golden eagle flights, red-tailed hawk and American kestrel hovering flights, and burrowing owl nest burrows. The models included geoprocessing steps to help identify ridge saddles, notches, and benches where wind turbine locations are more hazardous. The models' highest likelihood surface – class 4 – included mapped flying golden eagle observations 2.4 times other than expected, hovering red-tailed hawks 13 times other than expected, hovering American kestrels 12 times other than expected, and burrowing owl nest burrows 8 times other than expected. We used our collision hazard maps to guide wind turbine siting.

*** NOTE: PowerPoint not posted online per author request**

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