Central Valley Winter Raptor Survey

An impressive array of birds spends the winter in the Central Valley (CV). Among the most charismatic and conspicuous are the raptors. Numbers of common species such as Red-tailed Hawk, American Kestrel, and Northern Harrier swell during winter and are obvious and abundant almost everywhere. Less common species such as Ferruginous Hawk, Rough-legged Hawk, Prairie Falcon, Merlin, and Golden Eagle are scattered throughout the CV in smaller numbers, and add a touch of excitement to any day in the field. In certain areas, it is not uncommon to see 12-15 raptor species in a single day.

A comparison of Christmas Bird Count data by Ed Pandolfino (CVBC Bulletin 9: 21-36, 2006) indicates that the Central Valley, along with the Texas/Louisiana Gulf Coast, supports the greatest abundance and diversity of wintering, open-country raptors in North America. While the CBC tends to undercount raptors, the analysis nonetheless points to the region as continentally important for this group of raptors.

In the winter of 2007-08, local volunteers drove nineteen survey routes in the CV from Shasta County in the north to Kings County in the south. More than 6,000 individual raptor observations were made over 66 surveys and 2000+ miles.

The main goals are to sample raptor diversity and abundance in open habitats throughout this bioregion to document in which habitats the birds occur. Routes were chosen by volunteers familiar with their local area and are surveyed at least once per month from December through February. Birds are identified, aged and sexed when possible and the mileage where the bird is seen is recorded. Observers count all raptors, including vultures and Loggerhead Shrikes (included since they are conspicuous along roadsides).

In addition to the bird data, habitat was quantified along each route at 0.5-mile intervals based on broad categories (grassland, pasture, rural, riparian, fallow, urban, etc). We hope to sample the variety of open habitats found in the CV and then correlate this with the raptor data to determine habitat associations along the routes. Our goal is to determine what habitats are important for supporting the greatest diversity and number of raptors as well as highlighting important areas for certain species — in other words, to find out what birds are associated with what habitats in a simple, repeatable way.

Results from the first season are encouraging. The average diversity per route was 9 species (range 5-15) and the average birds-observed-per kilometer-traveled (bpk) was around 2 bpk (range 0.3-4.7). We also saw interesting fluctuations in numbers throughout the season on certain

routes, indicating some potential movement within season between different areas of the valley. Most birds observed were adults, which may point to a low breeding output, differential migration of age classes, observer bias, or some other effect. Without much analysis, we are noticing some interesting relationships in the data. For example, Rough-legged and Ferruginous hawks are showing a definite affinity for grassland habitats, while American Kestrels seem to prefer alfalfa. Data from future seasons will indicate if these and other habitat associations will be statistically significant.

Why gather this information? Nearly the entire CV is a human-altered landscape. Agriculture takes up the largest percentage of open land in the valley, much of which is useless to raptors. Certain crop types are beneficial to raptor numbers and diversity (rice, alfalfa), but many common crops (almonds, vineyards, sunflowers, corn) provide little in the way of foraging habitat. The human population in the CV is rapidly growing and urban areas are increasing in size, which compromises potential habitat for open-country raptors. Very little (if any) native grassland still exists, and much of the rangelands that make up much of the valley's border are under pressure to be developed. As mentioned above, our data are showing these grassland areas are important to Rough-legged Hawks, Ferruginous Hawks, Golden Eagles and Prairie Falcons.

To date four presentations on the project have been given at research conferences (one at a Raptor Research Foundation meeting, two at Wildlife Society meetings and one at a Western Field Ornithologists meeting) and the response from other biologists has been favorable.

Future plans for the project include:

1) Continue data collection through winter 2009-2010 (ideally longer)
2) Present results at ornithological/conservation meetings and conferences
3) Publish results in peer-reviewed journals

The Waldo Holt Conservation Fund is managed by the CVBC to finance local bird research projects, and is helping to support the Central Valley Winter Raptor Survey. Donations to this important fund will go to support current and future avian research and conservation in the Central Valley.

Please see the Central Valley Raptor Survey blog www.centvalleyraptors.com for project information, survey updates, monthly summaries, photos and volunteer comments. If you possess good raptor identification skills and would like to participate in the project, please contact:

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Ed Pandolfino (ERPfromCA@aol.com).