

Review of the 108th Christmas Bird Count in the Central Valley of California: December 2007-January 2008

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INTRODUCTION

This is the second in an annual series reviewing the results of the Central Valley (CV) Christmas Bird Counts (CBC). In this paper I note the highlights of the 108th CBC season and examine any interesting trends the data suggest.

This year saw the birth of two new CBC circles in the Central Valley: Anderson, in southern Shasta and northern Tehama counties; and Merced National Wildlife Refuge (NWR) in Merced County. These additions yield a total of 24 CBC circles within or overlapping the CV (Figure 1). I used only data obtained from the actual CBC count day, omitting birds reported as occurring within the "Count Week." Data were obtained from the National Audubon Society's online data base (<http://www.audubon.org/bird/cbc/index.html>) and supplemented with data from individual compilers when needed.

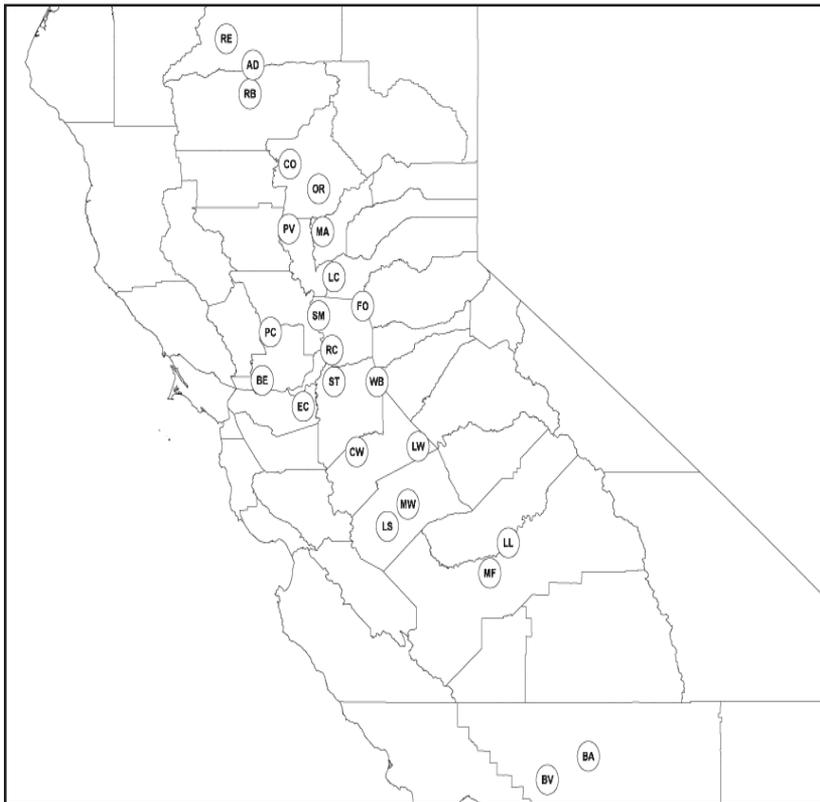
RESULTS AND DISCUSSION

High Species Counts

The continent-wide importance of the CV to wintering birds is amply demonstrated by the fact that, among the more than 2,000 CBC circles conducted across North America, CV circles recorded the highest totals for 17 different species during the 108th CBC.

The Merced NWR count debuted with a bang, recording the highest total for Ross's Goose (*Chen rossii*) in North America with more than 21,000 birds. This total was nearly 4 times the number recorded by the next nearest count (Matagorda County-Mad Island Marsh, Texas). Historically, only the Peace Valley count has reported numbers of this magnitude (in excess of 20,000 in Count Years 76, 83, 85, and 93). Merced NWR also placed second in numbers of Green-winged Teal (*Anas crecca*). Sacramento had the highest total (1,429) for Cinnamon Teal (*Anas cyanoptera*), third highest for Northern Pintail (*Anas acuta*) and Snow Geese (*Chen caerulescens*), fourth best for Northern Shoveler (*Anas clypeata*) and fifth for Canvasback (*Aythya valisineria*). Marysville had the highest total (67,639) for Northern Pintail. The Stockton and Marysville CBCs placed third and fourth in Tundra Swans (*Cygnus columbianus*), as they have for 4 of the past 5 years.

Figure 1. Map of the 24 CV CBC circles used. From north to south, they are: Redding, Anderson, Red Bluff, Chico, Oroville, Peace Valley, Marysville, Lincoln, Folsom, Sacramento, Putah Creek, Rio Cosumnes, Benicia, Stockton, Wallace-Bellota, East Contra Costa, Caswell-Westley, La Grange-Waterford, Merced NWR, Los Banos, Lost Lake-Fresno, Milburn-Fresno, Bakersfield, and Buena Vista-Kern.



Waterfowl numbers were down somewhat on the Peace Valley count with that CBC cracking the top five only for Gadwall (*Anas strepera*) and Green-winged Teal (in fourth place for each species). Benicia recorded the third-highest total for Cinnamon Teal and the fifth highest for Green-winged Teal. Caswell-Westley came in fifth in Cackling Geese (*Branta hutchinsii*).

As has been previously noted, White-faced Ibis (*Plegadis chihi*) numbers have exploded exponentially in the CV in recent years (Shuford et al. 1996, Pandolfino 2006). Historically, only the Los Banos CBC produced significant numbers of this species in the CV. More recently, White-faced Ibis increased dramatically in the southern Sacramento Valley and this year Marysville and Peace Valley reported the second and third highest totals

(5,381 and 4,738, respectively) in North America, behind the Crowley, Louisiana total of 8,348.

The CV's status as a critical area for wintering raptors (Pandolfino 2006) was reinforced this year with CV counts taking all of the top five places (Lincoln - 328, Benicia - 322, Sacramento - 310, Rio Cosumnes - 280, and Stockton - 279) for Red-tailed Hawk (*Buteo jamaicensis*). As usual, CV counts dominated in White-tailed Kite (*Elanus leucurus*) totals with Benicia in first place (178), Lincoln in second (159), Rio Cosumnes third (124) and Sacramento fourth (109). Benicia and Lincoln ranked second and fourth in Northern Harriers (*Circus cyaneus*) and Lincoln had the third highest Prairie Falcon (*Falco mexicanus*) total. Of possible concern (more on this below), for the third straight year no CV count ranked in the top five for American Kestrel (*Falco sparverius*).

The Stockton CBC, which records the vast majority of our CV Sandhill Cranes (*Grus canadensis*), ranked third this year. Benicia assumed its usual place as number one for Black Rail (*Laterallus jamaicensis*) (10) with Marysville tied for fourth place (3) with Martinez Lake-Yuma, Arizona. East Contra Costa's 837 Long-billed Curlews (*Numenius americanus*) was enough to rank second to the South Salton Sea CBC (1,649), the perennial high count circle for this species. Sacramento was fourth in Long-billed Curlews with 394.

CV counts produced the highest totals for three different woodpeckers, Lewis's Woodpecker (*Melanerpes lewis*), Northern Flicker (*Colaptes auratus*) and Nuttall's Woodpecker (*Picoides nuttallii*). The brand new Anderson count reported an astounding 307 Lewis's Woodpeckers, the second highest total in the history of ALL Christmas Bird Counts behind the 374 reported during Count Year 90 (1989-1990) from the nearby Red Bluff CBC. Having conducted raptor surveys in the area of the Anderson circle last winter, I can attest to the stunning numbers of Lewis's Woodpeckers present. Sacramento led all counts for Northern Flicker (497) with Folsom third. CV counts were first, second and third (Putah Creek - 201, Rio Cosumnes - 190, and Sacramento - 189) for Nuttall's Woodpecker.

The CV continued to dominate the high counts for Yellow-billed Magpie (*Pica nuttalli*), with only the San Jose CBC slipping into third position to prevent a CV sweep of the top five places. Sacramento's first place total of 567 was above the past two years, though still below its historical average (more on this below). Putah Creek was second (406), Caswell-Westley fourth and Wallace-Bellota fifth. Putah Creek and Sacramento posted the second and third highest totals for Western Scrub-Jay (*Aphelocoma californica*). Folsom (464) and Putah Creek (407) ranked first and second for Oak Titmouse (*Baeolophus inornatus*) while Benicia took second place for Marsh Wren (*Cistothorus palustris*). Folsom was North America's highest count (730) for Western Bluebird (*Sialia mexicana*). Though falling short of the one million it counted last year, the Rio Cosumnes total of 807,000 European Starlings (*Sturnus vulgaris*) was still

enough to retain its questionable distinction as starling-capital-of-the-continent for the second straight year.

Sacramento recorded the second highest total for Yellow-rumped Warbler (*Dendroica coronata*) and Chico the fifth highest. Rio Cosumnes finished second to San Antonio, Texas this year for Lincoln's Sparrows (*Melospiza lincolni*). Stockton had the second highest White-crowned Sparrow (*Zonotrichia leucophrys*) total with Rio Cosumnes in fifth. Los Banos reported over 3,400 Tricolored Blackbirds (*Agelaius tricolor*) to take first place, nearly twice the number posted by the new Merced NWR count which took second place. As usual, the CV counted huge numbers (over 239,000 total for all CV CBCs) of Brewer's Blackbirds (*Euphagus cyanocephalus*), taking the first four places (Rio Cosumnes, Sacramento, Lincoln, and Stockton). Lincoln had the continent's highest Western Meadowlark (*Sturnella neglecta*) total (2,535) for the fourth consecutive year, while Wallace-Bellota was second (2,446), Sacramento fourth and Benicia fifth. Stockton ranked first for House Finches (*Carpodacus mexicanus*) (4,064). CV counts took places two through five for Lesser Goldfinch (*Carduelis psaltria*) (Folsom, Chico, Anderson, and Lincoln).

Trends

The impact of West Nile Virus (WNV) on Yellow-billed Magpies has been previously documented (Airola et al. 2007, Crosbie et al. 2008). Airola et al. (2007) also presented evidence for impacts on CV populations of the Western Scrub-Jay, American Crow (*Corvus brachyrhynchos*), and Oak Titmouse. Loggerhead Shrikes (*Lanius ludovicianus*) in the CV likely have been affected by WNV as well (Pandolfino 2008). Table 1 uses data from CV CBCs to compare the abundance of these five species before and after the peak WNV outbreak of the summer of 2005. As noted above, each species declined in Count Year 106 (2005-2006) compared to the average abundance of the prior 10 years. Results from Count Years 107 and 108 suggest that numbers of Oak Titmouse and Western Scrub-Jay may be rebounding, with abundances in Count Year 108 of both species approaching pre-WNV averages. Abundances of the other three species remain well below historical averages.

I examined 30-year trends for three different raptor species, American Kestrel, Red-shouldered Hawk (*Buteo lineatus*), and Northern Harrier (Figure 2). Declines in reported abundance of the American Kestrel were significant (-1.7%/year; $p < 0.001$; $R^2 = 0.8$), consistent with trends previously reported in California (Sauer 2005; Pandolfino 2006) and across North America (Bednarz et al. 1990, Sauer 2005, and http://hawkmountain.org/media/kestrelCSR_June07.pdf) using CBC, Breeding Bird Survey (BBS) and hawk watch data. In stark contrast, the numbers of Red-shouldered Hawks continue to increase dramatically (17%/year; $p < 0.001$; $R^2 = 0.9$). This increase has been previously noted in the CV and throughout California

Table 1. Percent change in abundance (birds per party-hour) vs. ten-year average (Count Years 96-105). Data are from CV CBCs which averaged at least 20 individuals per year of the relevant species and were conducted at least 7 of the 10 years from Count Year 96-105.

Species	Number/Hour		
	% change vs. 10-year average		
	106	107	108
Loggerhead Shrike	-39%	-54%	-49%
American Crow	-43%	-28%	-37%
Yellow-billed Magpie	-50%	-63%	-64%
Western Scrub Jay	-42%	-24%	-19%
Oak Titmouse	-34%	-22%	-12%

(Harlow and Bloom 1989, Roberson 1993, Shuford 1993, Rottenborn 2000, Sauer 2005, and Pandolfino 2006). The increase is likely linked to this species' adaptability to human-altered landscapes (Rottenborn 2000).

Northern Harrier numbers in the CV in winter appear stable (Figure 2), in spite of the historical and continued loss of critical marsh and grassland habitats. Interestingly, BBS data also suggest no significant decline in breeding populations in California over the past 40 years (Sauer 2005). The Northern Harrier is a California Species of Special Concern (Davis and Niemela 2008) due primarily to projected losses of nesting and foraging habitat. It is important to note that, in the CV in winter, the numbers of this species are augmented significantly by migrants from elsewhere. Therefore, CBC data might be insensitive to changes in the local breeding population.

Lewis's Woodpeckers and Varied Thrushes (*Ixoreus naevius*) show extreme variation in numbers from one winter to the next in the CV. Last winter was a boom year for Varied Thrushes and unprecedented bust year for Lewis's Woodpeckers (Pandolfino 2007). Last year I predicted that the 108th CBC would see a rebound in numbers of Lewis's Woodpeckers based on the excellent acorn crop produced by Valley Oaks (*Quercus lobata*) and Blue Oaks (*Quercus douglasii*) in fall 2007. Figure 3 shows that this prediction was accurate with regard to the woodpeckers and that Varied Thrush numbers were well down from Count Year 107.

The rapid expansion of the Eurasian Collared-Dove (*Streptopelia decaocto*) into northern California (Cole et al. 2006, Hampton 2006) continued this year. In Count Year 107 a total of 29 Eurasian Collared-Doves were tallied on five CV count circles (Lincoln, Putah Creek, Rio Cosumnes, Caswell-Westley, and Buena Vista-Kern). This year the CV recorded 210 collared-doves within 12 circles (all of the above plus Anderson, Chico, Marysville, Benicia, Sacramento, Stockton, and Lost Lake-Fresno), confirming the increasing numbers and expanding range of this species.

Figure 2. Numbers per party-hour of American Kestrel, Red-shouldered Hawk, and Northern Harrier from CV CBCs. Trendline is from linear regression. Data are from CBCs which were conducted at least 21 of the 30 years and which averaged at least 20 birds per year (for American Kestrel or Northern Harrier) or 10 per year (for Red-shouldered Hawk).

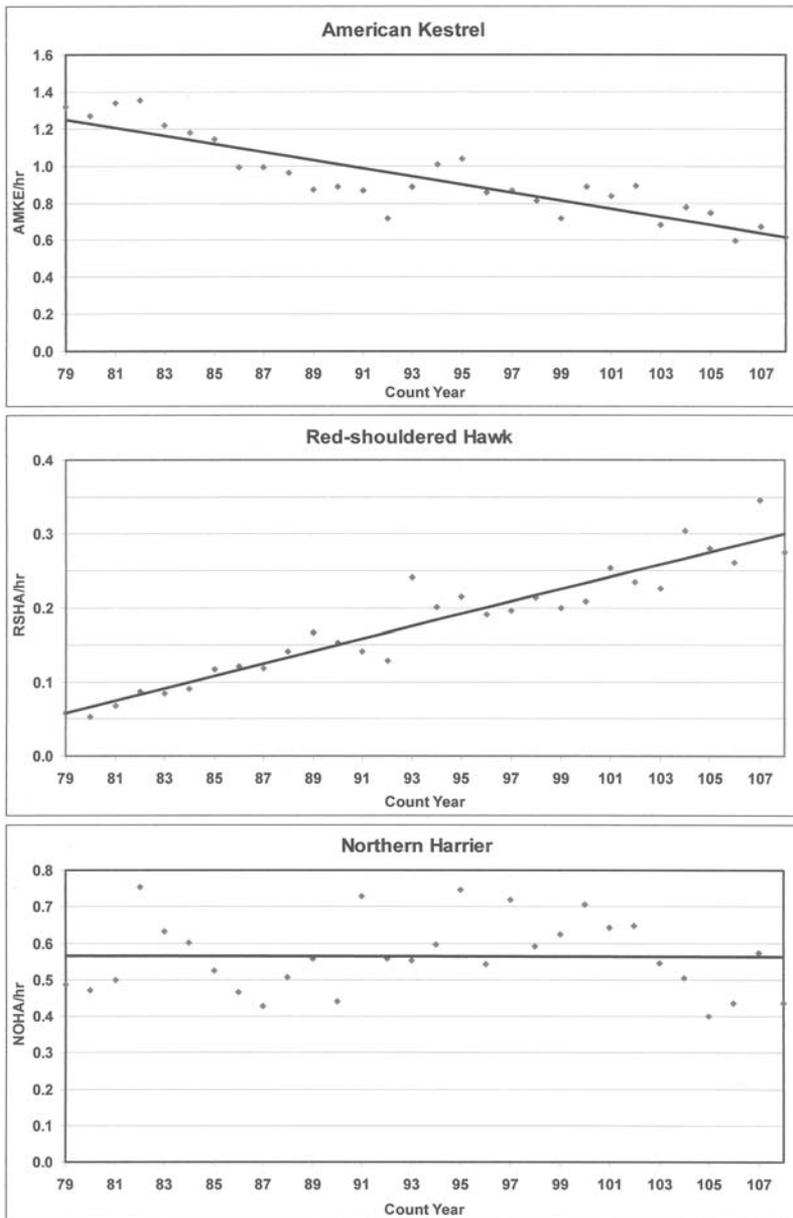
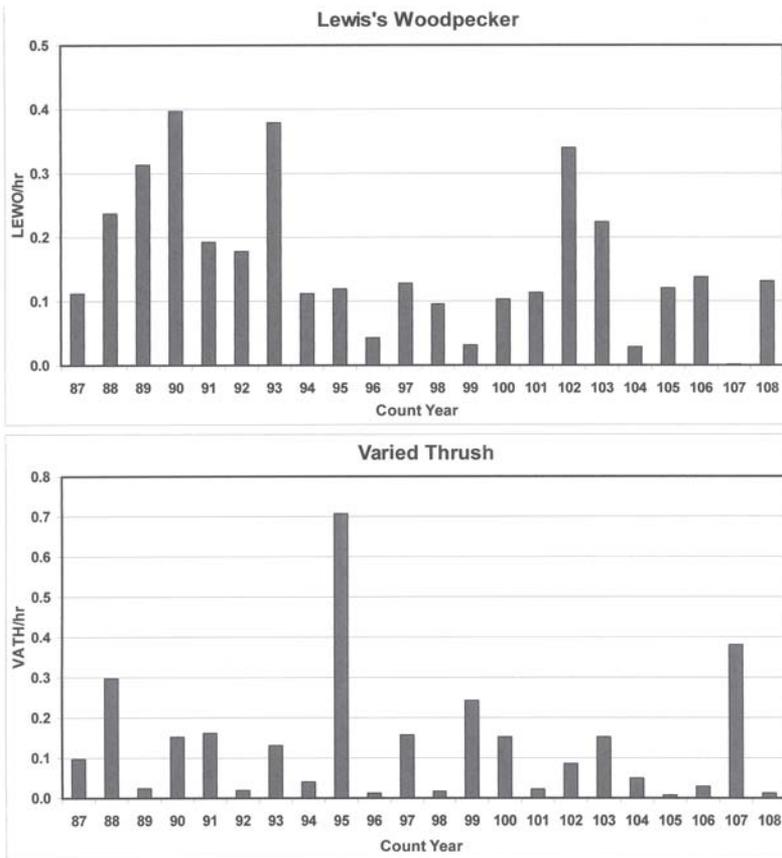


Figure 3. Numbers of Varied Thrush and Lewis's Woodpecker per party-hour from CV CBCs. Data for Lewis's Woodpecker are from CBCs which recorded at least 10 Lewis's Woodpeckers on two or more occasions. Data for Varied Thrush are from all 24 CV CBCs except those which have recorded no Varied Thrushes.



Pros and Cons of adding New CBC Circles

While I welcome the addition of two new circles this year (Anderson and Merced NWR) and the added geographical coverage they provide, I have concerns about how this addition may affect coverage of existing circles. CBC data provide an historical record of avian abundance and diversity that is simply not available from any other source. Count circles that have been conducted consistently for many years provide the foundation of this data set. For example, Red Bluff had an unbroken history of 31 years until Count Years 107 and 108 when it was not conducted. The new Anderson circle is just east of the Red Bluff circle. I hope the Red Bluff count

can be revived and that the new Anderson count can be an addition to the CV CBC coverage rather than a replacement.

The new Merced NWR circle is several miles east of the Los Banos circle, a count conducted every year since the winter of 1968-1969. I am concerned that the fact that the party hours for Los Banos this year were the lowest seen in 35 years might be related to presence of the new circle nearby.

I understand that, as areas urbanize, their attractiveness for birding decreases. However, the changes in bird life associated with these habitat changes are just the sort of information that the CBC can provide to substantiate the conservation issues that result from urbanization. I urge the birders of the Sacramento Valley to renew the Red Bluff circle and the birders from the San Joaquin Valley to make sure the Los Banos count is adequately covered.

Feedback

Please feel free to contact me by email with comments or suggestions about this series. Let me know if you have particular species you would like me to review in future installments.

ACKNOWLEDGEMENTS

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