Review of the 111th Christmas Bird Count in the Central Valley of California: December 2010-January 2011

Edward R. Pandolfino, 5530 Delrose Court, Carmichael, California 95608

INTRODUCTION

This is the fifth in an annual series reviewing the results of the Central Valley(CV) Christmas Bird Counts (CBC). This series notes high species counts of the CBC season and examines some of the interesting trends the data suggest.

Data used for this series come from 24 CBC circles within or overlapping the CV (Figure 1). Of these, 22 were conducted during Count Year (CY) 111. I used only data obtained from the actual CBC count day, omitting records 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

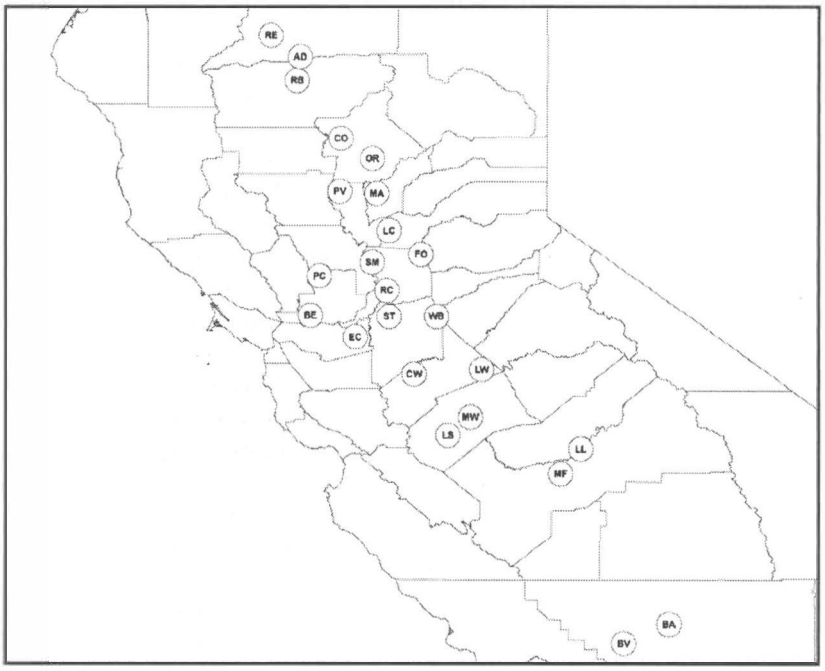
High Species Counts

Among North America's 2000-plus CBCs, CV counts consistently record the highest numbers for many species. Categories where the CV tends to dominate in terms of total numbers include waterfowl, raptors, and species associated with oak woodlands and grasslands. While falling well short of last year, when CV counts led for 26 different species, this year our local counts led took top spots for only 15, the lowest total since I started keeping track in CY 107. Our generally poor weather for most of December may have contributed to this result.

After leading all counts for Ross's Goose (*Chen rossii*) every year since its inception (in CY 108), the Merced NWR's total of 7908 was less than half of last year and only good for 3rd place. Interestingly, the two leading counts for this species, Pine Bluff in Arkansas and Montrose Lake in Missouri, are both in the Mississippi flyway which has not recorded high counts for this spe-cies for several years. Marysville's total of over 31,000 Greater White-fronted Geese (*Anser albifrons*) was the top count with Rio Cosumnes and Sacramento taking 2nd and 4th. Caswell-Westley again came in 3rd for Cackling Goose (*Branta hutchinsii*). Marysville, Stockton, and Lincoln took 2nd, 3rd, and 4th spots for Tundra Swan (*Cygnus columbianus*)

 https://doi.org/10.64555/ybgg9y17

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.



and Los Banos was 2nd highest for Gadwall (*Anas strepera*). Sacramento made it 13 in a row, leading all counts again for Cinnamon Teal (*Anas cyanoptera*) with over 2700 birds, more than every other North American count combined. Benicia's 1276 Cinnamon Teal was good enough for 2nd place. Los Banos was 3rd for Northern Shoveler (*Anas clypeata*) and Caswell-Westley 4th. Northern Pintail (*Anas acuta*) numbers have been declining in the CV and only Marysville managed to break into the top 5 this year. CV counts took the top three places for Green-winged Teal (*Anas crecca*), with the Los Banos circle's total of over 16,000 ahead of Peace Valley and Merced NWR. Los Banos recorded 10,541 Ruddy Ducks (*Oxyura jamaicensis*), well under their all-time record of 28,000 last year and good for only 2nd spot this year. Sacramento took 4th place with 6400 Ruddys. Sacramento led all counts for Black-crowned Night-Heron (*Nycticorax nycticorax*) (1,303) for the 5th straight year and for the 9th of the past 13 years. Marysville took 3rd for White-faced Ibis (*Plegadis chihi*).

Benicia and Rio Cosumnes took 2nd and 4th spots, respectively, for White-tailed Kite (*Elanus leucurus*) and Benicia took 3rd for Northern

Harrier (*Circus cyaneus*). Benicia led all counts with 369 Red-tailed Hawks (*Buteo jamaicensis*). The Point Reyes Peninsula (California) count barely beat out Benicia for the highest American Kestrel (*Falco sparverius*) total, 185 to 182. The Lincoln count, typically in the top five for most of these raptor speciesmanaged only a 4th place for Prairie Falcons (*Falco mexicanus*).

Kudos to counters in Los Banos for diligently recording nearly 36,000 American Coots (*Fulica americana*), good enough for 4th place. Benicia took first place for both Black (*Laterallus jamaicensis*) and Virginia rails (*Rallus limicola*) (11 and 138, respectively). Sacramento and Rio Cosumnes took 2nd and 3rd for Long-billed Curlew (*Numenius americanus*) while Los Banos and Rio Cosumnes were 2nd and 4th for Long-billed Dowitchers (*Limnodromus scolopaceus*). Sacramento squeaked into 5th place with just over 6000 California Gulls (*Larus californicus*).

It is somewhat unusual for the CV to see four good Lewis's Woodpecker (*Melanerpes lewis*) years in a row, but CY 111 was another good one. Red Bluff led all counts with 127 while Putah Creek and Folsom were 3rd and 4th. Folsom finished in 5th for Acorn Woodpecker (*Melanerpes formicivorus*) and 3rd for Northern Flicker (*Colaptes auratus*). Sacramento led all counts with 484 flickers. Putah Creek and Rio Cosumnes shared first place for Nuttall's Woodpeckers (*Picoides nuttallii*) with 152 birds and Sacramento took 5th.

Putah Creek found the 3rd-most Western Scrub-Jays (*Aphelocoma californica*) and, for the first time ever, took first place for Yellow-billed Magpies (*Pica nuttalli*) with 471. Sacramento was 2nd with a usually low count of 420 magpies and Anderson was 3rd. Folsom again took top spot in the country with 461 Oak Titmice (*Baeolophus inornatus*) and Benicia was 2nd for Marsh Wren (*Cistothorus palustris*). The Folsom count recorded the 2nd-most Western Bluebirds (*Sialia mexicana*) and Wallace-Bellota broke into the top five for the first time at number 4. The 350,000 European Starlings (*Sturnus vulgaris*) found on the Rio Cosumnes count was a distant 2nd to the 600,000 tallied on the Sooner Lake, Oklahoma, count. Benicia took 5th place for Yellow-rumped Warbler (*Dendroica coronata*). Wallace-Bellota and Putah Creek finished 3rd and 5th for Lark Sparrow (*Chondestes grammacus)*. Wallace-Bellota also came in 3rd for White-crowned Sparrow (*Zonotrichia leucophrys*) with Rio Cosumnes in 5th. Rio Cosumnes reported the 3rd-highest total of Golden-crowned Sparrows (*Zonotrichia atricapilla*).

Once again, a coastal count (Moss Landing, California) found the most Tricolored Blackbirds (Agelaius tricolor) (2125). Panoche Valley, California also bested all CV counts for this species, relegating Merced NWR and Los Banos to 3rd and 4th. As it has been four of the past five years, Rio Cosumnes was the top count for Brewer's Blackbirds (*Euphagus cyanocephalus*) with over 55,000. Lincoln was 3rd and Merced NWR 5th. The importance of the CV for Western Meadowlark (*Sturnella neglecta*) is probably under-appreciated. CV counts again dominated, taking four of the top five spots and 10 of the top 13, with Lincoln again in first place (as in every year since CY 105) with 2700 birds. Benicia, Wallace-Bellota, and Rio Cosumnes finished 2nd through 4th.

For only the 2nd time in past 14 years, a CV circle did not record the highest number of House Finches (*Carpodacus mexicanus*). That honor went to Panoche Valley with nearly 3700 birds while Stockton, Benicia, and Rio Cosumnes took 2nd through 4th. Lincoln fell to 2nd place for Lesser Goldfinch (Spinus psaltria) and Folsom took 3rd.

Long-term Trends by Habitat Guild

I analyzed CBC data from CV counts for a large number of species over the period from 1976 (CY 107) through 2010 (CY 111) looking for population trends over this period. In each case I used linear regression and determined that a significant trend was shown when the p value was less than 0.05 based on a linear trend (without Bonferroni adjustment).

When one groups the species analyzed by their primary habitat association in the CV in winter, a very interesting pattern emerges. Species associated with wetland/water (Table 1) or riparian/woodland (Table 2) habitats, mostly showed positive population trends from CBC data. In stark contrast, species associated with grassland (Table 3) mostly showed negative trends. Of all waterbirds analyzed, over 60% showed positive trends and less than 10% showed negative trends. More than third of riparian/woodland birds had positive trends while less than 15% showed decreases. In contrast, half of all grassland birds showed negative trends and only one species showed a positive trend. The negative trends for grassland species are consistent with data from across North America that show long-term, highly significant population declines for most grassland species (Sauer et al. 2008, North American Bird Conservation Initiative 2011). Over these past decades, most of the conservation efforts in the CV have been focused on wetlands and riparian areas (Central Valley Joint Venture 2006), with almost no preservation efforts in grassland. In addition, grassland has been lost at a greater rate than other habitats to urbanization and conversion to intense agriculture such as vineyards and orchards (California Department of Conservation 2008, Volpe et al. 2010, R. Holland and J. Marty, unpublished data).

War between the Doves?

The rapid expansion and population explosion of the Eurasian Collared-Dove (*Streptopelia decaocto*) across North America (Romagosa and McEneaney 1999, Romagosa 2002) and through the CV (Hampton 2006, Pandolfino 2010) has been well-documented. They showed no signs of slowing this year with numbers from CV counts up 49% from the previous year. As the numbers become significant in many areas, it begs the question,

Table 1. Significant trends from CBC data (1976-2010) for birds associated with wetlands and water[1].

WATERFOWL	Trend
Greater White-fronted Goose	Positive***
Wood Duck	Positive***
Gadwall	Positive*
American Wigeon	Positive*
Mallard	Negative*
Cinnamon Teal	Positive***
Northern Shoveler	Positive***
Northern Pintail	Negative***
Canvasback	Positive***
Lesser Scaup	Positive***
Bufflehead	Positive***
Hooded Merganser	Positive***
Common Merganser	Positive*
Ruddy Duck	Positive***
SHOREBIRDS	**Trend**
Black-necked Stilt	Positive***
American Avocet	Positive**
Greater Yellowlegs	Positive***
Dunlin	Positive**
Long-billed Dowitcher	Positive**
HERONS & OTHER WATERBIRDS	**Trend**
American Bittern	Negative***
Great Egret	Positive***
Snowy Egret	Positive***
Cattle Egret	Positive***
Black-crowned Night-Heron	Positive**
White-faced Ibis	Positive***
Eared Grebe	Positive***
American Coot	Positive*

1 = Other species analyzed but showing no significant trend: Snow Goose, Ross's Goose, Tundra Swan, Green-winged Teal, Ring-necked Duck, Long-billed Curlew, Least Sandpiper, Great Blue Heron, Green Heron, Pied-billed Grebe, and Western/ Clark's Grebe.

*** $p<0.001$

** $p<0.01$

* $p<0.05$

Table 2. Significant trends from CBC data (1976-2010) for birds associated with riparian and other woodland habitats[1].

RIPARIAN/WOODLAND BIRDS	Trend
Cooper's Hawk	Positive***
Red-shouldered Hawk	Positive***
Nuttall's Woodpecker	Positive*
Hutton's Vireo	Positive***
Bushtit	Positive***
Bewick's Wren	Negative***
House Wren	Positive***
Yellow-rumped Warbler	Positive***
California Towhee	Negative*
Lincoln's Sparrow	Positive***
White-crowned Sparrow	Negative**

1 = Other species analyzed but showing no significant trend: Sharp-shinned Hawk, Downy Woodpecker, Northern Flicker, Oak Titmouse, White-breasted Nuthatch, Ruby-crowned Kinglet, Hermit Thrush, Spotted Towhee, Fox Sparrow, Song Sparrow, and Golden-crowned Sparrow.

*** $p<0.001$

** $p<0.01$

* $p<0.05$

Table 3. Significant trends from CBC data (1976-2010) for birds associated with grassland[1].

GRASSLAND BIRDS	Trend
Ferruginous Hawk	Positive***
Rough-legged Hawk	Negative***
American Kestrel	Negative***
Prairie Falcon	Negative*
Loggerhead Shrike	Negative*
American Pipit	Negative***
Lark Sparrow	Negative***
Western Meadowlark	Negative***

1 = Other species analyzed but showing no significant trend: Golden Eagle, Killdeer, Say's Phoebe, Horned Lark, Western Bluebird, and Savannah Sparrow.

*** $p<0.001$

** $p<0.01$

* $p<0.05$

"Are they having a negative impact on any other species?" One likely candidate is the Mourning Dove (*Zenaida macroura*) since the rural and rural/residential habitats used by the Eurasian Collared-Doves are also within the broad range of habitats used by Mourning Doves (Romagosa 2002, Otis et al. 2008). The trend of Mourning Dove numbers from CV CBCs for the 20 years prior to the appearance of the Collared-Doves (CY 106) was positive (Figure 2). For the five years since CY 106, Mourning Dove numbers have been below that trend line. It is still too early to draw any definite conclusions about impacts at this point, but these results are at least consistent with a negative impact. If Eurasian Collared-Doves are having an impact on Mourning Doves, we should see that impact most clearly in count circles where the ratio of Collared to Mourning doves is high. While Table 4 shows that the three counts with the highest ratios have negative Mourning Dove trends, this relationship is not consistent across counts (e.g., five of the six counts with the lowest ratios also have negative trends). This bears watching over time as Collared-Dove numbers continue to increase.

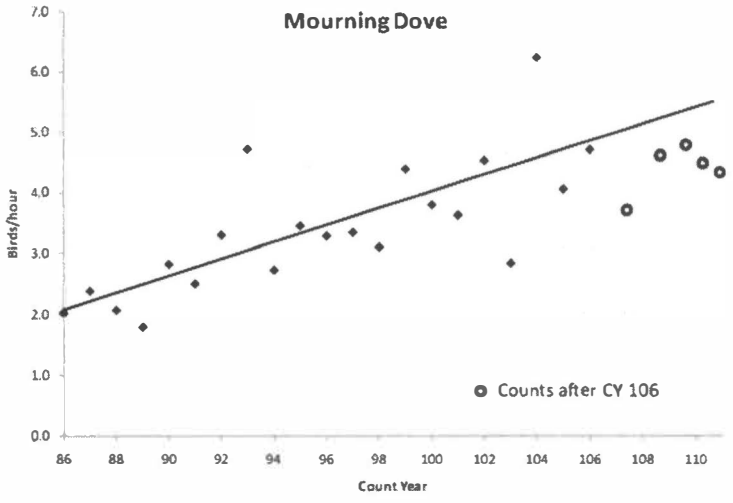


Figure 2. Abundance (birds per party hour) of Mourning Dove for Count Years 86-111 for all CV CBCs. Trendline is based on abundance data from Count Years 86-106. Open circles show abundance for the five years after Count Year 106.

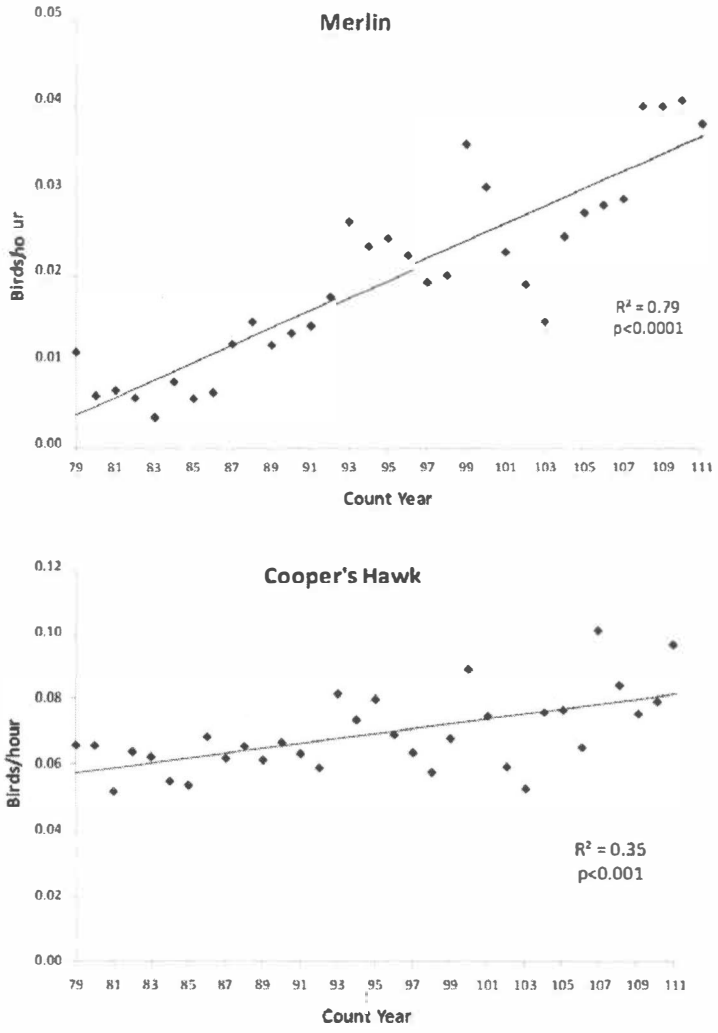
Table 4. Relationship between the ratio of Eurasian Collared-Doves (ECDO) to Mourning Doves (MODO) on each count and the trend in Mourning Dove numbers on that count since CY 106. Trends were not tested for significance.

COUNT CIRCLE	RATIO ECDO:MODO	MODO trend (CY 106-111)
Red Bluff	1.155	Negative
Los Banos	0.628	Negative
Chico	0.382	Negative
Putah Creek	0.377	Positive
Redding	0.272	Positive
Stockton	0.244	Negative
East Contra Costa	0.241	Positive
Rio Cosumnes	0.190	Negative
Caswell-Westley	0.189	Positive
Oroville	0.162	Positive
Buena Vista-Kern	0.117	Positive
Lincoln	0.090	Positive
Anderson	0.087	Negative
Sacramento	0.044	Positive
Benicia	0.039	Positive
LeGrand-Waterford	0.031	Positive
Marysville	0.031	Positive
Merced NWR	0.030	Positive
Bakersfield	0.020	Negative
Lost Lake	0.012	Negative
Folsom	0.004	Positive
Milburn-Fresno	0.000	Negative
Peace Valley	0.000	Negative
Wallace-Bellota	0.000	Negative

Backyard Raptors

Many species of Raptors have increased in North America since's the 1960's, most likely due to the combination of the banning of DDT and the decline of the active persecution of hawks. In more recent years several sources have documented widespread increases in Merlins (*Falco columbariu*s) and Cooper Hawk's based on data from CBCs (Niven et al.2004, Sauer et all 2004), Breeding Bird Surveys (Sauer et al. 2008), and hawkwatch counts at migratory sites (Hoffman and Smith 2003). These trends have been attributed, at least in part, to the ability of these two species to adapt to urbanized landscapes (Warkentin and James 1988, McConnell 2003, Warkentin et al 2005, Curtis et al. 2006) in the breeding season and in winter. I examined trends for Merlins and for Cooper's Hawks in the CV (Figure 3). The

Figure 3. Abundance (birds per party hour) of Merlin and Cooper's Hawk on CV CBCs from Count Years 879-111. Trendlines are based on linear regression.



increase in Merlins has been dramatic with numbers in the 2000s roughly six times those recorded in the 1980s. While the trend in Cooper's Hawks was positive, the increase was much less dramatic. Another potential issue with the data for Cooper's Hawk is the difficulty of identifying Accipiters to species. When I examined trends using all Accipi-ter data (Cooper's, Sharp-shinned and "Accipiter species" combined) I found a very slight, but non-significant positive trend.

Without having a breakdown of exactly what portion of each circle accounted for each observation, it is not possible to determine if increases in Merlins and Cooper's Hawks have occurred primarily in urbanized areas.

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

My thanks go to all the compilers and the participants on Central Valley CBCs.

LITERATURE CITED

California Department of Conservation. 2008. Farmland Mapping and Moni-toring Program: reports and statistics; www.conservation.ca.gov/dlrp/fmmp/products/Pages/ReportsStatistics.aspx (20 June 2010).

Central Valley Joint Venture. 2006. Central Valley Joint Venture Implementation Plan – Conserving Bird Habitat. U.S. Fish and Wildlife Service, Sacramento, CA.

Curtis, O.E., R.N. Rosenfield and J. Bielefeldt. 2006. Cooper's Hawk (*Accipiter cooperii*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/075doi:10.2173/bna.75 (July 2011).

Hampton, S. 2006. The expansion of the Eurasian Collared-Dove into the Central Valley of California. Central Valley Bird Club Bulletin 9:7-14.

Hoffman, S. W. and J. P. Smith. 2003. Population trends of migratory raptors in western North America, 1977-2001. Condor 105:397-419.

McConnell, S. 2003. Nest site vegetation characteristics of Cooper's Hawks in Pennsylvania. J. Penn. Ac. Sci. 76(2/3):72-76.

Niven, D.K., J.R. Sauer, G.S. Butcher, and W.A. Link. 2004. Christmas Bird Count provides insights into population change in land birds that breed in the boreal forest. American Birds 58:10-19.

North American Bird Conservation Initiative, U.S. Committee. 2011. The state of the birds 2011 report on public lands and waters. U.S. Department of Interior: Washington, DC

Pandolfino, E.R. 2010. Review of the 110th Christmas Bird Count in the Central Valley of California: December 2009-January 2010. Central Valley Bird Club Bulletin 13:25-34.

Romagosa, C.M., and T. McEneaney. 1999. Eurasian Collared-Dove in North America and the Caribbean. North American Birds 53: 348-353.

Romagosa, C.M. 2002. Eurasian Collared-Dove (Streptopelia decaocto), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/630doi:10.2173/bna.630 (July 2011).

Sauer, J. R., Hines, J. E., and Fallon, J. 2008. The North American Breeding Bird Survey, results and analysis 1966–2007, version 5.15.2008. USGS Patuxent Wildlife Research Center, Laurel, MD; www.mbr-pwrc.usgs.gov/bbs/bbs.html (June 2011).

Sauer, J. R., D. K. Niven, and W. A. Link. 2004. Statistical analyses make the Christmas Bird Count relevant for conservation. American Birds 58:21-25.

Volpe, R. J., Green, R. D., Heien, D. M., and Howitt, R. E. 2010. Wine-grape production trends reflect evolving consumer demand over 30 years. California Agriculture 64:42–46.

Warkentin, I.G. and P.C. James. 1988. Nest-site selection by urban Merlins. Condor 90: 734-738.

Warkentin, I. G., N. S. Sodhi, R. H. M. Espie, A. F. Poole, L. W. Oliphant and P. C. James. 2005. Merlin (*Falco columbarius*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/044doi:10.2173/bna.44 (July 2011).