

## Forested Wetlands Birds Guild

**Acadian Flycatcher** *Empidonax virescens*  
**Swainson's Warbler** *Limnothlypis swainsonii*  
**Louisiana Waterthrush** *Seiurus motacilla*  
**Kentucky Warbler** *Oporornis formosus*  
**Prothonotary Warbler** *Protonotaria citrea*  
**Red-shouldered Hawk** *Buteo lineatus*  
**Rusty Blackbird** *Euphagus carolinus*  
**Wood Duck** *Aix sponsa*

Contributor (2005): Craig Watson (USFWS)

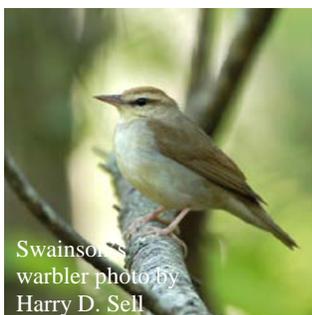
Reviewed and Edited (2012): John Kilgo (USFWS); (2013) Lisa Smith (SCDNR)

### DESCRIPTION

#### Taxonomy and Basic Descriptions

This group of birds represents 5 families: Tyrannidae (flycatcher), Parulidae (warblers), Accipitridae (hawk), Icteridae (blackbird), and Anatidae (wood duck). Species in this group range in length from the small Kentucky Warbler (13 cm or 5.1 in.) to the Wood Duck (54 cm or 21.2 in.). They are grouped together because they either nest or winter primarily in forested wetlands in South Carolina.

The Acadian Flycatcher is a relatively large songbird averaging 14.6 cm (5.75 in.) and weighing 13.1 g (0.46 oz.) (Sibley 2003). This flycatcher has gray legs with green upperparts, a pale grayish to white throat, and an olive band across the chest. The bird is yellow on the belly and under the tail. The Acadian Flycatcher is similar to other *Empidonax* flycatchers, but is the only *Empidonax* found in South Carolina in the summer (Whitehead and Taylor 2002).



The Swainson's Warbler is a secretive bird averaging 14 cm (5.5 in.) in length and 19 g (0.67 oz.) in weight. This warbler has a drab brown back and unstreaked breast. They have a long bill, pale face, dark eye-line and rufous-shaded crown. The juvenile is similar in appearance to the adult (Sibley 2003).

The Louisiana Waterthrush is a large warbler averaging 15.25 cm (6 in.) in length and 20.5 g (0.72 oz.) in weight.

This bird is more similar in appearance to a thrush or a sparrow than a warbler. Louisiana Waterthrush adults are brown above, white below with brown streaks, and have a bold white eye-stripe. The juvenile is similar in appearance to the adult (Sibley 2003).



The Kentucky Warbler is a small songbird averaging 13.3 cm (5.25 in.) in length and 15 g (0.53 oz.) in weight. The Kentucky Warbler is yellow below and olive above with black on the side of the face and throat. The juvenile is similar in appearance to the adult but with clear yellow spectacles and less pronounced black facial markings (Sibley 2003).



Kentucky warbler  
photo by Harry D. Sell



Prothonotary warbler photo by  
Wikipedia

The Prothonotary Warbler is a striking bird averaging 14 cm (5.5 in.) in length and 16 g (0.56 oz.) in weight. The adult male Prothonotary Warbler is bright yellow with an olive green back and gray-blue wings. The adult female is similar to the male bird but has a dull yellowish-green crown and back. The juvenile is similar to the adults but is duller in overall appearance (Sibley 2003).

The Red-shouldered Hawk is a stocky buteo averaging 43.2 cm (17 in.) in length, and 630 g (1.4 lb.) in weight. This hawk has reddish-orange barring on its breast, black and white bands on the wing and tail, and yellow legs. The juvenile bird has even brown streaking on the breast and a brown back (Sibley 2003).



Red-shouldered Hawk by  
Wikipedia



Rusty blackbird  
photo by Wikipedia

The Rusty Blackbird is brown to black overall with a length of 23 to 25 cm (9.1 to 9.8 in.). Its bill is narrow and shorter than its head with a slightly rounded tail nearly as long as its wing. During the breeding season, the male gains a bluish-green gloss to its upper feathers (Avery 1995).

The Wood Duck is a small to medium-sized duck with males measuring 48 to 54 cm (18.9 to 21.2 in.) and females measuring 47 to 51 cm (18.5 to 20.0 in.). Both sexes have crested heads, broad wings, and large, rectangular-shaped tails. Sexual dimorphism exists in the coloring of the Wood Duck's plumage. Males have a sharply colored facial pattern with an iridescent green head, white throat and red eye. The male's crest is often green, purple, and white while its breast is a solid burgundy. Females are brown to gray with a white throat and patch around the eye and a gray crest (Hepp and Bellrose 1995).



Wood duck photo by Wikipedia

## Status

None of these species are officially recognized as threatened or endangered, but all are either experiencing declines or declines are suspected. The Kentucky Warbler and the Rusty Blackbird are recognized by Partners in Flight (PIF) as Watch List species

that are widespread but have exhibited significant population declines due to multiple threats (Hunter and Demarest 2005; Rosenberg 2004). Swainson's Warbler is also on the PIF Watch List; due to the restricted distribution and low population size of this warbler, PIF recommends long-term planning and responsibility to maintain population levels at current sizes (Rich et al. 2004). The Swainson's Warbler and the Prothonotary Warbler are the highest ranked species in the southeastern Coastal Plain. The Prothonotary Warbler is considered a moderate priority species in forested wetlands by PIF and is in need of conservation attention (Hunter et al. 2001). The Acadian Flycatcher and Louisiana Waterthrush are species of continental importance as stewardship species because their range only encompasses the eastern avifaunal biome (Rich et al. 2004). Long-term planning and responsibility is recommended to maintain both the Acadian Flycatcher and Louisiana Waterthrush populations at current sizes. Wood Ducks are recognized as species needing long-term planning and responsibility to insure that sustainable populations are maintained (Hunter and Demarest 2005). The South Carolina Governor's Wood Duck Nest Box Project has recorded declines in productivity since 1998 (Perry et al. 2005). The Acadian Flycatcher, the Kentucky Warbler, the Louisiana Waterthrush, and the Swainson's Warbler, are all ranked as apparently secure (S4). The Prothonotary Warbler is ranked vulnerable (S3B). The Red-shouldered Hawk, Rusty Blackbird, and Wood Duck are currently not ranked in the State.

## POPULATION SIZE AND DISTRIBUTION



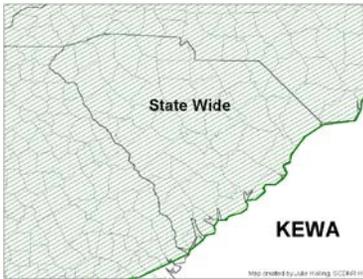
The Acadian Flycatcher is a common breeder in the Coastal Plain and a fairly common breeder in the Piedmont and Mountain Ecoregions of the State (Cely 2003). The general trend from 1966-2010 shows a decline of 0.6% per year in South Carolina (Sauer et al. 2012). The population estimate for Acadian Flycatcher in South Carolina is 180,000 (Rosenberg 2004).

The Swainson's Warbler is an uncommon breeder in South Carolina, inhabiting bottomlands in the Coastal Plain and rhododendron thickets in the mountains (Cely 2003). The 44-year trend graph indicates that Swainson's Warbler breeding populations in South Carolina appear to be increasing within the State (6.8% population change per year from 1966 to 2010) (Sauer et al. 2012). Currently, approximately 30 routes are being run in South Carolina, and the statewide population objective for Swainson's Warbler is 3,600 (Rosenberg 2004).

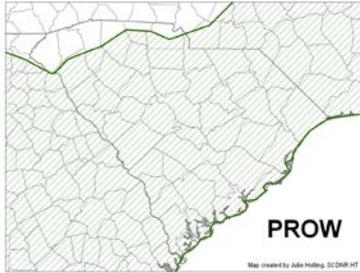


The Louisiana Waterthrush is a fairly common breeder in the mountains, less so in the Piedmont, and is known as a migrant in the Coastal Plain (Cely 2003). Again, the trend in South Carolina appears to be increasing (0.6% per year from 1966 to 2010) (Sauer et al. 2012). The current state population estimate is 4,100 (Rosenberg 2004).





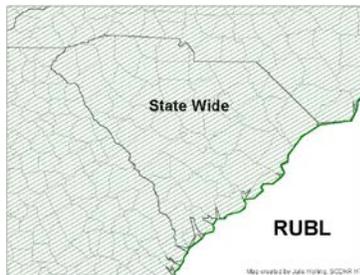
The Kentucky Warbler is a common breeder found throughout South Carolina, and breeding activity was confirmed in all but a few counties of the state (Cely 2003). Again, the trend in South Carolina appears to be increasing (3.0% from 1966 to 2010); yet survey-wide, this species is declining (-0.7% population change from 1966 to 2010) (Sauer et al. 2012). The current State population estimate is 11,000 (Rosenberg 2004).



The Prothonotary Warbler is a common breeder throughout most of South Carolina in wetland forests (Cely 2003). The Breeding Bird Survey (BBS) indicates a 0.1% rate of decline per year for South Carolina, and a decline of 0.9% survey-wide from 1966-2010 (Sauer et al. 2012).



The Red-shouldered Hawk is a widespread breeder throughout most of South Carolina (Cely 2003). The overall trend of this species appears to be increasing at a rate of 4.2% per year for South Carolina from 1966-2010 (Sauer et al. 2012).



The Rusty Blackbird is a fairly common winter visitor to the Piedmont and Coastal Plain, with lesser numbers occurring in the Mountains. The overall trend of this species appears to be a long-term steady decline (6.2% from 1966 to 2010) across the entire BBS survey area (Sauer et al. 2012). This rate of decline equates to a loss of over 95% of the population since the BBS was initiated in 1966. Rusty Blackbirds were commonly encountered on the Christmas Bird Count routes until approximately 1970 when the species started a decline that has not ended (National Audubon 2002). It is speculated that the steep population declines observed in the 1970's may be due to blackbird control programs.

Table 1: Population estimates and target 30-year population goals expressed as individual number of birds for South Carolina's priority forested wetland bird species in 3 Bird Conservation Regions (BCR) (Rosenberg 2004).

Species	Population Estimate	Continental Objective	SE Coastal Plain BCR	Appalachian Mountain BCR	Piedmont BCR
Acadian Flycatcher	180,000	Maintain	130,000	860	51,000
Swainson's Warbler	3,600	Maintain	3400		200
Louisiana Waterthrush	4,100	Maintain	98	360	3600
Kentucky Warbler	11,000	Increase by 50%	12,000		5100
Prothonotary Warbler	110,000	Increase by 50%			
Red-shouldered Hawk	30,000	Maintain			
Rusty Blackbird	Unknown	Double	Unknown	Unknown	Unknown
Wood Duck	-	-	-	-	-



The Wood Duck is a common breeder throughout most of South Carolina (Cely 2003). The BBS indicates a 0.5% rate of increase per year for this species in South Carolina and a 2.4% rate of increase per year for this species throughout the United States from 1966 to 2010 (Sauer et al. 2012).

## HABITAT AND NATURAL COMMUNITY REQUIREMENTS

The Acadian Flycatcher is found throughout all of South Carolina in deciduous forests near streams, in bottomland hardwoods, and in cypress swamps (Christy 1942; Sprunt and Chamberlain 1970; Kilgo et al. 1998). Key habitat requirements are tall, closed canopies with relatively open understories. It appears to require mostly undisturbed, mature forests throughout most of its continental range (Whitehead and Taylor 2002). Flycatchers appear to be an area-sensitive species and require patches sized at least 38 to 120 ha (95 to 300 ac.) (Whitehead and Taylor 2002), although they frequently occur in narrow (<50 m or 164 ft. wide) headwater stream bottoms (Kilgo et al. 1998). Nests are found in tall understory shrubs or, more often, in small trees or low branches of large trees in the midstory.

The Swainson's Warbler breeds in the Appalachian Mountains and in the Coastal Plain, occupying very different habitats in the two regions. In the mountains, this species is associated with an understory of rhododendron thickets under a closed canopy (Brown and Dickson 1994). In the Coastal Plain, this species is associated with dense understory thickets that occur in forest gaps and edges, primarily in and along bottomland forests. It appears to prefer damp forests with cane species (*Arundinaria* spp.) at a density of 26,000 to 50,000 stems/ha (per 2.5 ac.) (Eddleman et al. 1980). In swamp forest habitats, the Swainson's will not typically use inundated areas but will forage along wetter zones (Brown and Dickson 1994). The species is highly area-sensitive, rarely occurring in floodplain forests less than 500-1,000 m (1,640-3,281 ft.) wide (Kilgo et al. 1998). In an Illinois study, healthy populations occurred in forest tracts no less than 350 ha (865 ac.) (Eddleman et al. 1980). Overstory canopy in suitable habitat would be dense (75% or more canopy closure) with trees at least 7.6 m (25 ft.) tall. Percentage of ground cover in optimum habitat would be less than 34% (Eddleman et al. 1980).

The Louisiana Waterthrush is a fairly common breeder in the Upper Coastal Plain, Piedmont, and Appalachian Mountains of South Carolina. It is associated with headwater riparian woodlands, rocky streams, swamps, and thickets near streams (Robinson 1995). Nests are built on the ground in forested habitats, generally in the sides of stream banks (Hamel 1992). Habitat includes large (probably greater than 100 ha or 247 ac.) tracts of mature, deciduous, and deciduous-mixed forest along headwater streams or ravines with running water, or deciduous swamp forest with standing pools of water; the Louisiana Waterthrush is generally a forest interior species (NatureServe 2005; Prosser and Brooks 1998).

The Kentucky warbler prefers rich, moist, deciduous forests; bottomland hardwoods; and woods near streams (Hamel 1992). Generally, this species prefers habitat with a dense hardwood

understory with well-developed ground cover (McDonald 1998). This species nests on the ground, often in small canopy gaps where the density of trees and canopy coverage is relatively low and understory vegetation and ground cover are relatively dense (Kilgo et al. 1996).

The Prothonotary Warbler requires the presence of water in wooded areas containing suitable cavity nest sites. Nest cavities are usually placed over or near large, slow-moving water bodies, including seasonally flooded bottomland hardwood forest, bald cypress swamps, and large rivers or lakes. Nest cavities are usually old downy woodpecker nests but may also include bird boxes and cypress knees (Blem and Blem 1991).

The Red-shouldered Hawk is found in a variety of habitats including bottomland hardwood, riparian areas, flooded deciduous swamps, and upland mixed deciduous-coniferous forest. They tend to prefer stands of mature or old-growth canopies with a subcanopy that is generally open (Henneman 2006, Dykstra et al. 2008). Red-shouldered Hawks can also be found in residential areas with native woodlands. Red-shouldered hawks usually nest in broad-leaved deciduous trees, occasionally in a conifer near the top of the tree but below the canopy (Crocoll 1994).

The Rusty Blackbird is a wetland obligate for its entire life history. In South Carolina, the rusty blackbird is found wintering in swamps and bottomland hardwoods, sometimes associated with other species, but more often not. This species is primarily found in damp, wooded places, such as swamps and wet thickets but will forage in croplands and lawns with other blackbirds (Hamel 1992).

The Wood Duck is a common breeder throughout most of South Carolina, with most occurring in the Piedmont and Coastal Plain (Cely 2003). Nest sites are usually over or near bodies of water in areas with abundant deciduous tree cover; nest sites include bottomland hardwoods, beaver ponds, shrub/scrub wetlands, and emergent marshes (Hamel 1992). Wood Ducks are a secondary cavity nesting species and readily utilize nest boxes (Hamel 1992).

## CHALLENGES

By far, the loss and fragmentation of forested wetland habitats are the most significant challenges to successful conservation of these species. Urbanization, second home development, and intensive timber management are the primary causes of these losses and habitat alterations. Forested wetlands have been extensively drained and converted throughout the United States; most of the remaining intact-forested wetlands outside of the Mississippi Alluvial Valley occur in the Southeastern United States. Conservation of these remaining forested wetlands should be a top priority for any conservation entity. In some cases, a fragmented landscape will not be able to support minimum viable populations. For example, it is estimated that the Swainson's Warbler may require 14,826 ha (6,000 ac.) of mature forested wetlands within a forest-dominated landscape and 24,710 ha (10,000 ac.) within an agriculturally-dominated landscape (Hunter et al. 2001).

## CONSERVATION ACCOMPLISHMENTS

A primary objective of the South Atlantic Migratory Bird Initiative has been to delineate focus areas in which public lands serve as the anchors. These focus areas have been important in garnering North American Waterfowl Conservation Act (NAWCA) grants for significant land acquisition projects in the state (Watson and McWilliams 2005). Wood Duck productivity has significantly benefited from the Governor's Wood Duck Project that was initiated in 1982.

## CONSERVATION RECOMMENDATIONS

- Continue conservation and restoration of forested wetland habitats including pocosins and Carolina bays. Care should be taken to increase block/patch sizes in order to decrease the amount of small, isolated forest patches across the landscape so that minimum viable populations are sustained.
- Promote conservation easements on private lands, specifically developing and pursuing reforestation programs.
- Reduce the effects of habitat fragmentation by minimizing the frequency that roads and power line rights-of-way bisect contiguous forested tracts.
- Develop and implement forest management practices that produce large, mature forests with tall, closed canopies and high tree density with a mosaic of understories.
- Develop Best Management Practices to balance the habitat needs of priority forested wetland species. Identify silvicultural activities that mimic the historical mosaic of young and old forests created by catastrophic events.
- Protect Streamside Management Zones and identify optimal sizes.
- Restore canebrake habitats in the understory of forested wetlands.
- Preserve and improve water quality to ensure aquatic insect biomass and diversity.
- Conduct surveys and studies to collect information on the distribution and life history characteristics of Rusty Blackbirds in South Carolina.
- Follow green tree reservoir management guidelines to ensure timber survival and production of desired food.
- Continue to implement the Wood Duck nest box program on private and public lands.
- Develop and implement monitoring programs to better assess breeding and wintering bird population sizes. Management and surveillance monitoring techniques will need to be assessed to quantify short- and long-term population responses in order to answer specific monitoring questions. Measures will need to be developed to integrate state monitoring results into regional- and national-level databases in order to identify if continental goals are being reached.
- Continue use of the Breeding Bird Survey as a surveillance monitoring technique and consider modifications to make the survey more robust across the state.
- Continue use of the Christmas Bird Count to identify population trends of wintering species.

## MEASURES OF SUCCESS

Conserving and restoring forested wetland acreages throughout the state will greatly benefit a wide range of taxa. Collecting monitoring data based on habitat restoration and management

objectives should result in measurable population responses at the local level. Other bird species that are likely to be positively affected by forested wetland management and restoration include: Swallow-tailed Kite (*Elanoides forficatus*), Cerulean Warbler (*Dendroica cerulea*), Black-throated Green Warbler (*Dendroica virens*), Black-billed and Yellow-billed Cuckoos (*Coccyzus erythrophthalmus* and *americanus*), Worm-eating Warbler (*Helmitheros vermivorus*), Hooded Warbler (*Wilsonia citrina*), White-eyed Vireo (*Vireo griseus*), Carolina Wren (*Thryothorus ludovicianus*), Red-bellied Woodpecker (*Melanerpes erythrocephalus*), Yellow-throated Vireo (*Vireo flavifrons*), and Ivory-billed Woodpecker (*Campephilus principalis*)—if it still exists (Rich et al. 2004).

#### LITERATURE CITED

- Avery, M.L. 1995. Rusty blackbird (*Euphagus carolinus*). In: The Birds of North America, No. 200. A. Poole and F. Gill, Eds. The Academy of Natural Sciences, Philadelphia, Pennsylvania and The American Ornithologists' Union, Washington, D.C. Accessed online on June 11, 2005 at <http://www.bna.birds.cornell.edu/bna>.
- Blem, C.R., and L.B. Blem. 1991. Nest-box selection by prothonotary warblers. J. Field Ornithol. 62:299-307.
- Brown, R.E., and J.G. Dickson. 1994. Swainson's Warbler (*Limnothlypis swainsonii*). In: The Birds of North America, No. 126. A. Poole and F. Gill, Eds. The Academy of Natural Sciences, Philadelphia, Pennsylvania and The American Ornithologists' Union, Washington, D.C. Accessed online on June 11, 2005 at <http://www.bna.birds.cornell.edu/bna>.
- Cely, J.E. 2003. The South Carolina Breeding Bird Atlas 1988-1995. South Carolina Department of Natural Resources. Columbia, South Carolina. 33 pp.
- Christy, B.H. 1942. Acadian Flycatcher *Empidonax virescens*. Pp. 183–203. In: Life histories of North American flycatchers, larks, swallows, and their allies. A. C. Bent, ed. U.S. Natl. Mus. Bull. 179.
- Crocoll, S.T. 1994. Red-shouldered Hawk (*Buteo lineatus*). In The Birds of North America, No. 107 (A. Poole, and F. Gill, eds.). The Birds of North America Online, Ithaca, New York.
- Dykstra, Cheryl R., Jeffrey L. Hays and Scott T. Crocoll. 2008. Red-shouldered Hawk (*Buteolineatus*), 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/107doi:10.2173/bna.107>.
- Eddleman, W.R., K.E. Evans and W.H. Elder 1980. Habitat characteristics and management of Swainson's Warbler in southern Illinois. Wildlife Soc. Bull. 8 (3): 228–233.
- Hamel, P. 1992. Land Manager's Guide to the Birds of the South. The Nature Conservancy, Southeastern Region. Chapel Hill, North Carolina. 437 pp.

- Henneman, C. 2006. Habitat associations of red-shouldered hawks in central Minnesota landscapes. PhD thesis, University of Minnesota.
- Hepp, G.R. and F.C. Bellrose. 1995. Wood duck (*Aix sponsa*). In: The Birds of North America, No. 169. A. Poole and F. Gill, Eds. The Academy of Natural Sciences, Philadelphia, Pennsylvania and The American Ornithologists' Union, Washington, D.C. Accessed online on June 11, 2005 at <http://www.bna.birds.cornell.edu/bna>.
- Hunter, W.C. and D. Demarest. 2005. All-bird conservation list, abridged version 1.0 for BCR 27, 28, and 29. U.S. Fish and Wildlife Service. Atlanta, Georgia. (Unpublished but available upon request from the authors).
- Hunter, W.C., L. Peoples and J. Callao. 2001. South Atlantic Coastal Plain Partners In Flight Bird Conservation Plan (Physiographic Area #03).
- Kilgo, J. C., R. A. Sargent, K. V. Miller, and B. R. Chapman. 1996. Nest sites of Kentucky warblers in bottomland hardwoods of South Carolina. *Journal of Field Ornithology* 67:300-306.
- Kilgo, J. C., R. A. Sargent, B. R. Chapman, and K. V. Miller. 1998. Effect of stand width and adjacent habitat on breeding bird communities in bottomland forests. *Journal of Wildlife Management* 62:72-83.
- McDonald, M.V. 1998. Kentucky Warbler (*Oporornis formosus*). In: The Birds of North America, No. 324. A. Poole and F. Gill, Eds. The Academy of Natural Sciences, Philadelphia, Pennsylvania and The American Ornithologists' Union, Washington, D.C. Accessed online on June 11, 2005 at <http://www.bna.birds.cornell.edu/bna>.
- National Audubon Society. 2002. The Christmas Bird Count Historical Results [Online]. Available <http://www.audubon.org/bird/cbc> [12 August 2005].
- NatureServe. 2005. NatureServe Explorer: An online encyclopedia of life [online web application]. Version 4.4. NatureServe, Arlington, Virginia. Accessed on May 30, 2005 at <http://www.natureserve.org/explorer>.
- Perry, B., W. Rhodes and D. Harrigal. 2005. Waterfowl Project Report. Internal Document. South Carolina Department of Natural Resources. Columbia, South Carolina. 46 pp.
- Prosser, D. J., and R. P. Brooks. 1998. A verified Habitat Suitability Index for the Louisiana waterthrush. *Journal of Field Ornithology* 62:288-298.
- Rich, T., C. Beardmore, H. Berlanga, P. Blancher, M. Bradstreet, G. Butcher, D. Demarest, E. Dunn, W. Hunter, E. Inigo-Elias, J. Kennedy, A. Martell, A. Panjabi, D. Pashley, K. Rosenberg, C. Rustay, J. Wendt and T. Will. 2004. Partners In Flight North American Landbird Conservation Plan. Cornell Lab of Ornithology. Ithaca, New York. 84 pp.

- Robinson, W.D. 1995. Louisiana Waterthrush (*Seiurus motacilla*). *In*: The Birds of North America, No. 151. A. Poole and F. Gill, Eds. The Academy of Natural Sciences, Philadelphia, Pennsylvania and The American Ornithologists' Union, Washington, D.C. Accessed online on June 11, 2005 at <http://www.bna.birds.cornell.edu/bna>.
- Rosenberg, K. 2004. Partners In Flight Continental Priorities and Objectives Defined at the State and Bird Conservation Region Level: South Carolina. Cornell Lab of Ornithology. Ithaca, New York. 29 pp. Available [http://www.iafwa.org/bird\\_conservation/landbird\\_reports.htm](http://www.iafwa.org/bird_conservation/landbird_reports.htm).
- Sauer, J.R., J.E. Hines, J. Fallon, K.L. Pardieck, D.J. Ziolkowski, and W.A. Link. 2012. The North American Breeding Bird Survey, Results and Analysis 1966 - 2003. Version 12.13.2011. [USGS Patuxent Wildlife Research Center](http://www.usgs.gov/patuxent). Laurel, Maryland.
- Watson, C. and K. McWilliams. 2005. The South Atlantic Migratory Bird Initiative Implementation Plan, an integrated approach to conservation of "all birds across all habitats." 96 pp. Available: <http://acjv.org/publication.htm>.
- Whitehead, D.R. and T. Taylor. 2002. Acadian Flycatcher (*Empidonax virescens*). *In*: The Birds of North America, No. 614. A. Poole and F. Gill, Eds. The Academy of Natural Sciences, Philadelphia, Pennsylvania and The American Ornithologists' Union, Washington, D.C. Accessed online on June 11, 2005 at <http://www.bna.birds.cornell.edu/bna>.