

Early Succession Bird Group

Chestnut-sided Warbler *Dendroica pensylvanica*

Prairie Warbler *Dendroica discolor*

Bewick's Wren *Thryomanes bewickii*

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DESCRIPTION

Taxonomy and Basic Description

The chestnut-sided and prairie warblers are in the taxonomic order Passeriformes (perching birds) in the family Parulidae (the wood warblers). The Bewick's wren is also in the perching bird order, but is in the wren family, Troglodytidae. All three are small birds and can be distinguished by song, appearance and habitat preference.

The chestnut-sided warbler appears as its name suggests; both males and females have a chestnut colored streak down the sides of their bodies. Adult birds have a yellow crown, white check patches and belly, and a lemonish-green back with black stripes. Males are colored more brightly than females. Juveniles are colored much differently, but can be identified as a chestnut-sided warbler by its white belly, lemonish-green back, and two pale yellow wingbars (Peterson and Peterson 2002).



Male and female prairie warblers also look very much alike. This bird has yellow underparts, black stripes on the sides of its body, a brownish-green back, and two black face marks. Males can be distinguished from females by darker coloration and the presence of chestnut colored streaks on its back. This species can also be identified by its propensity to bob its tail. Juvenile birds appear quite differently, but also bob their tails (Peterson and Peterson 2002).

Like most wrens, male and female Bewick's wrens look alike and cannot be distinguished from one another. Wrens are small, active birds with decurved bills and cocked tails. The Bewick's wren is a brown bird with a white eye stripe and black barring on its tail feathers (Peterson and Peterson 2002).



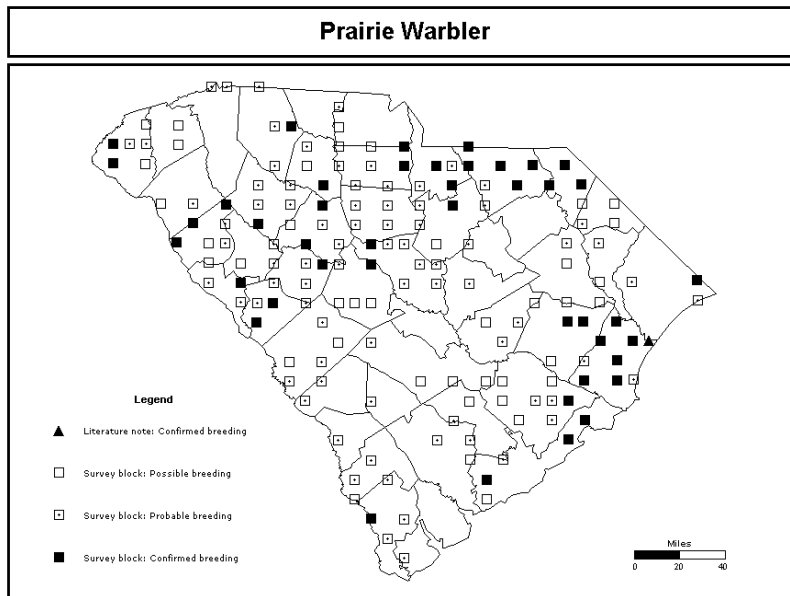
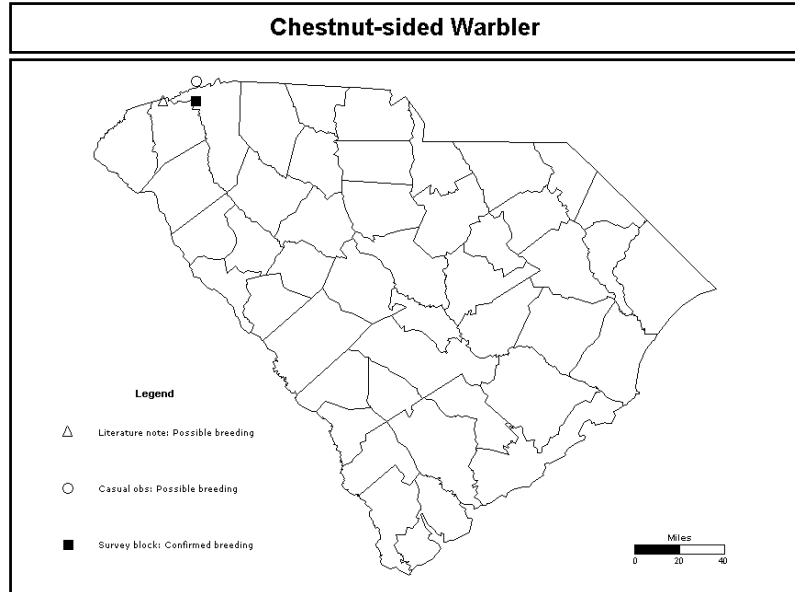
Status

Disturbance dependent birds, as are the birds in this report, are experiencing precipitous population declines (Askins 2000 and 2001; Hunter et al. 2001). Furthermore, all three species

are listed as birds of conservation concern by the United States Fish and Wildlife Service (USFWS 2002).

POPULATION DISTRIBUTION AND SIZE

The chestnut-sided warbler is a northern breeding bird found in southern Canada, the northeastern United States, and the Appalachian mountains (Richardson and Brauning 1995). South Carolina is at the southern most end of this bird's breeding range and its distribution in the state is restricted to the Appalachian Mountains. The chestnut-sided warbler winters in Central America. This warbler has been experiencing long-term (1966 through 2004) population declines of 0.6 percent per year in the eastern Breeding Bird Survey (BBS) region (Sauer et al. 2004).



The prairie warbler is a common breeding bird in eastern North America and ranges from the northern border of the United States to northern Florida and winters in central and southern Florida, eastern Central American and the Caribbean (Nolan et al 1999). In South Carolina, the prairie warbler is most common in the piedmont and coastal plain ecoregions.

The prairie warbler has been experiencing long term (1966 through 2004) population declines of 2.3 percent in South Carolina with the steepest declines (6.3 percent) occurring from 1966 through 1979 (Sauer et al. 2004). Recently (1980 through 2004), population trends have stabilized; however populations are still below objectives.

The Bewick's wren primarily breeds and winters in Central America and central and western North America (Kennedy and White 1997). This species has expanded and contracted its range in response to habitat changes in eastern North America and once could be found in the western Appalachian Mountains. Today this bird is rare in the eastern United States and likely extirpated from South Carolina.

The Bewick's wren has been experiencing long-term (1966 through 2004) population declines of 1.76 percent per year (Sauer et al. 2004) in the eastern and central BBS regions.

HABITAT AND NATURAL COMMUNITY REQUIREMENTS

Disturbance-dependent birds have suffered steep population declines throughout the eastern U.S. (Hunter et al. 2001). Historically fire, floods, windstorms and herbivores maintained habitat conditions conducive to disturbance-dependent species (Askins 2001). Fire suppression, the loss of large canopy trees such as the American chestnut (*Castanea dentata*) and the extirpation of beaver (*Castor canadensis*) and mega herbivores such as elk (*Cervus elaphus*) and bison (*Bison bison*) following European settlement reduced the availability of early-successional habitat throughout the eastern U.S. (Askins 2000).

Although natural ecological forces that create habitat for each of these birds revolve around disturbance regimes, each bird has its own unique requirements. The chestnut-sided warbler is a high elevation specialist most common in second growth of forest clearings, large tree-fall gaps, areas recovering from forest fires and successional growth following beaver activity (Richardson and Brauning 1995).

The prairie warbler's name is a bit of a misnomer because open prairie is not the preferred habitat. This bird requires a shrubby component to habitat. The prairie warbler can be found breeding in southern pine forests with a well developed shrub layer, dunes along the Atlantic coast, scrub oak and pine barrens, and abandoned pastureland or fields (Nolan et al 1999).

The Bewick's wren prefers scrub thickets of stunted vegetation interspersed within an open woodland landscape. Remnant populations in the east are often found near buildings or brushy areas on farms in relatively open country (Kennedy and White 1997).

CHALLENGES

Habitat loss and suppression of disturbance regimes are the main challenges to the early succession bird group. The loss of the American chestnut resulted in reduced availability of larger tree fall gaps that create early successional habitat within a forested landscape. The extirpation of elk and bison, large animals that drive successional processes through herbivory, has also reduced the ecological forces that maintain early succession habitat. Fire suppression and reduced abundance of beaver have also reduced available habitat for disturbance dependent birds.

Even aged timber management reduces the structural complexity of forested landscapes upon which the prairie and chestnut-sided warbler depend. Urban development and the conversion of

agricultural land to monoculture plantations has reduced available habitat for the prairie warbler and Bewick's wren.

Other causes of population declines may be attributed to bird strikes at communication towers and windmills, brood parasitism by the brown-headed cowbird (another disturbance dependent species) and habitat loss on wintering grounds.

CONSERVATION ACCOMPLISHMENTS

Long-term monitoring programs, such as the Breeding Bird Survey (Sauer et al 2004), have provided population trend data that enables biologists and land managers to prioritize management decisions based on knowledge of population trends.

National initiatives such as the Partners in Flight (PIF) Landbird Conservation Plan (Rich et al. 2004) and the North American Bird Conservation Initiative (NABCI 2005) have provided a method by which interested parties can coordinate conservation activities. These initiatives have provided guidelines for priority species, population and habitat objectives and recommendations for conservation actions. State and federal agencies have implemented habitat improvement projects based on guidelines outlined in PIF and NABCI.

CONSERVATION RECOMMENDATIONS

- Utilize GIS and land type associations to determine total area and distribution of available habitat. Modeling will enable SCDNR to prioritize land acquisition and habitat improvement projects.
- Partner with other land management agencies and make recommendations about habitat improvement projects that benefit early succession species.
- Expand the use of farm bill and other cost share programs to implement activities that integrate habitat objectives for early succession birds.
- Expand participation in the Landowner Incentive Program (LIP) to create or enhance habitat on private lands.
- Promote the use of Best Management Practices that support providing buffer zones and that increase structural diversity (such as providing small clear cuts).
- Partner with appropriate agency to encourage prescribed burning activities on public and private lands.
- Work with international partners to identify problems on wintering grounds. Where feasible, provide financial incentives to conserve habitat.
- Continue to monitor populations of early succession birds through participation in the BBS.
- Initiate agency supported monitoring programs, such as PIF point counts.
- Expand monitoring programs to areas not adequately sampled.
- Monitor bird response to management activities both pre and post treatment.
- Continue to strengthen partnerships with regional and national initiatives such as the Atlantic Coast Joint Venture, Appalachian Mountains Bird Conservation Region (BCR), PIF and NABCI.

- Pursue opportunities for funding for land acquisition or management activities through partnerships with regional agencies and NGOs.
- Develop partnership with recreational bird watching organizations in the state.
- Research effects of bird strikes on migratory bird populations and partner with the communications industry to work toward solutions.

MEASURES OF SUCCESS

The first measure of success will be to implement monitoring programs that will allow SCDNR to document population trends and avian response to management in the state. The next goal will be to determine population and habitat objectives for priority species. Finally, implementing the above mentioned recommendations to provide the appropriate quantity of habitat to support target populations will be important. The ultimate measure of success will be to halt population declines and, once determined, to support populations equivalent to those outlined in population objectives.

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