



Species of Concern

Cerulean Warbler *Dendroica cerulea*

What is a Cerulean Warbler?

Appearance

Named for the male's unique blue color, the cerulean warbler is a small, migratory bird that weighs about 0.3 oz. The brightly colored male looks quite different from the female. It is bright *cerulean* blue above and white below, with white wing bars, white tail spots, a narrow black necklace and black streaks along the sides and back. The female is dull turquoise above and yellowish-white below, with a pale blue crown and a white or yellowish line over the eye. The female also has white wing bars and white tail spots but does not have a breast band or distinctive streaking. Young birds are similar to adult females, but are greener in color.

Range

The cerulean warbler's summer range extends eastward from the Great Plains in eastern North and South Dakota, Nebraska, Kansas, and Oklahoma; south to Arkansas, Mississippi, Tennessee, northern Alabama and Georgia, and South Carolina; north to Massachusetts, southern Quebec, southeastern Ontario, Michigan, Wisconsin, and central Minnesota. Within this range their core breeding area is in eastern Tennessee, eastern Kentucky, southern and western West Virginia, southeastern Ohio, and southwestern Pennsylvania.

During migration, cerulean warblers pass through the southern United States, flying across the Gulf of Mexico to the highlands of Central America and on to South America. They winter



Photo by Stuart Tingley

The cerulean warbler is a small, migratory bird that breeds in forests of the central and eastern United States.

Photo by USGS BRD; Stuart Tingley

in broad-leaved evergreen forests within a narrow band of middle elevations (1,600 to 6,000 ft.) in the Andes Mountains of northern South America from Columbia to Peru and Venezuela.

Habitat

Cerulean warblers nest and raise their young in large tracts of deciduous hardwood forests that have tall, large-diameter trees and diverse vertical structure in the forest canopy. Gaps in the forest canopy or small forest openings appear to be important. Cerulean warblers nest in uplands, wet bottomlands, moist slopes, and mountains from less than 100 feet to more than 3,500 feet in elevation.

Migratory and winter season habitats are not well known. This species may prefer primary forests with older-growth conditions, but has been found in second-growth forests and shade-grown coffee plantations. Similar to breeding

habitat, multiple layers of vegetation in the forest canopy appear to be important.

Feeding Habits

Cerulean warblers eat mostly insects, including bees, wasps, caterpillars, and weevils. They search for and take insects from the base of leaves and the foliage of many different tree species. During winter, ceruleans also feed on nectar.

Reproduction

Cerulean warblers are considered area-sensitive because they prefer breeding in large forest tracts. They will breed in smaller forested stands in areas where the larger landscape is well-forested.

During the breeding season, males sing high in mature trees. Females build open-cup nests on the middle and upper branches of deciduous forest trees, 30 to 60 feet above the ground. Nests are often located over an open space but are

concealed from above by clumps of leaves from other branches or vines. Three to four eggs are laid in May or June and the female incubates for 11 to 13 days. After hatching, both parents feed the young for 9 to 11 days before fledging. Only one brood of young is raised annually, but the pair may re-nest if their first nest is destroyed.

Why is There Concern About the Cerulean Warbler?

Population Declines

Data from the Breeding Bird Survey indicate that the cerulean warbler has steadily declined at a rate of about 3 percent per year since 1966, when the survey first began. Based on an estimated 560,000 ceruleans in 1995, that rate of decline would result in a 2006 population of about 400,000.

Habitat Loss on the Breeding Grounds

Within its breeding range, over 50 percent of the historical forests have been cleared and replaced with farms, cities and suburbs. Many forests that remain do not have suitable habitat for cerulean warblers. For example, some forest management practices remove the largest trees, eliminating the structurally diverse canopy that ceruleans need. In many areas where forest acreage is increasing, that increase is due to second-growth stands of similar-sized and relatively young trees. Those stands lack the structural complexity preferred by this species. Small wooded tracts within a mostly cleared landscape are unsuitable cerulean habitat because they have high rates of nest parasitism and predation.

Habitat Loss on the Wintering Grounds

Over 60 percent of the cerulean's wintering habitat has been converted from native tropical

forest to pastures and farms. The rate of clearing is declining because much of what remains is on steep slopes. Ceruleans do use shade-grown coffee plantations but some of those plantations are being converted to sun-grown coffee, which ceruleans do not use.

Habitat Loss on the Migratory/Stopover Grounds

During migration ceruleans use coastal woodlots and forests along the Gulf Coast of North and Central America. Those wooded areas are being cleared as coastal development expands.

What is Being Done to Conserve Cerulean Warblers?

USFWS Migratory Birds – Cerulean Warbler Focal Species Strategy

The Service is preparing a Cerulean Warbler Focal Species Strategy by compiling management and conservation documents into an action plan that will include monitoring, research, assessment, habitat management and public awareness to accomplish: 1) improved population status; 2) a clear statement of the responsibilities for actions; 3) a focus of Service resources on implementing those actions; and 4) communications to solicit support and cooperation for partners inside and outside the Service.

Cerulean Warbler Technical Group

The Cerulean Warbler Technical Group (CWTG) was formed in 2001 to develop a broad-based, scientific and technically sound approach to cerulean warbler conservation. Composed of private, state, and federal natural resource managers and species experts, the CWTG is developing strategies to meet monitoring, research, and conservation needs.

Monitoring

The CWTG partnered with major forest-products companies in the

mid-Appalachians to evaluate cerulean warbler status on up to 250,000 acres of previously unsurveyed habitat. During the nesting seasons of 2003 - 2005, hundreds of points on private lands were surveyed. The data are being used to test and refine predictive models on the spatial distribution, abundance, and habitat associations of cerulean warblers in their core breeding range.

Management

Trial timber harvest techniques to benefit cerulean warblers are being evaluated on several national forests in the Southeast. We believe these techniques have the potential to create and restore habitat much faster than natural succession would allow.

Wintering Range

The Non-Breeding Season Group of the CWTG compiled a database of documented observations of cerulean warblers, assessed non-breeding threats and conservation needs, identified opportunities for improving awareness of migratory bird issues, and (via the USDA Forest Service and The Nature Conservancy) provided funding for South American biologists to conduct new research on cerulean warblers in winter from 2003-2004 through 2005-2006.

Research

A number of independent studies throughout the cerulean's breeding range provided information about the species ecology and population status. The CWTG has proposed a large-scale, coordinated breeding season effort to replicate some of the previous work and to address information gaps.

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