

Pine Barrens Treefrog

Hyla andersoni

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DESCRIPTION

Taxonomy and basic description

The pine barrens treefrog is a small member of the treefrog family, Hylidae. This species reaches lengths of 2.8 to 4.4 cm (1.1-1.7 in.) with a maximum length of approximately 5 cm (1.9 in.) (Conant and Collins 1991). The pine barrens treefrog is green with a broad lavender stripe on either side of the body. This stripe has a thin, white outline. The concealed portions of the legs and inner thigh are bright orange with numerous yellow dots (Martof et al. 1980).

Status

The pine barrens treefrog is listed as a Species in Need of Management in South Carolina with a rank of S2,S3/G4 (NatureServe 2013).

POPULATION SIZE AND DISTRIBUTION

The pine barrens treefrog is found in the upper (northern) portion of South Carolina's Coastal Plain in the Sandhills (Fall-line) Ecoregion. Between 1979 and 1982, Cely and Sorrow (1982) surveyed 222 potential treefrog sites, in this region, and found that approximately 50 (23%) supported pine barrens treefrog colonies. Colony size ranged from a few frogs to several dozen, but larger colonies were difficult to estimate. During



PINE BARRENS TREEFROG

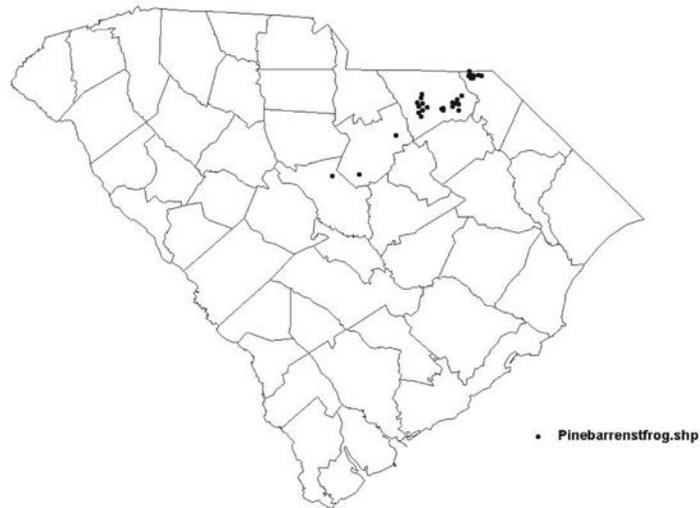
Generalized Range Map of the Pine Barrens Treefrog in South Carolina

Adapted from Conant and Collins 1991

this study, the researchers used a mark-recapture method to develop a population estimate for one large colony. The estimate for this colony of 159 frogs (95% C.I.= 91-637) was much higher than the 25 to 50 individuals originally estimated by call counts. The researchers concluded that estimates of pine barrens treefrog populations, based on call counts, will typically underestimate the actual population size.

The pine barrens treefrog was found to be more widespread in South Carolina than previously believed. Based on their findings, Cely and Sorrow recommended that the status of the frog be changed from Endangered to Threatened and considered a Species in Need of Management in South Carolina.

Element Occurrence Records for the Pine Barrens Treefrog in South Carolina



Currently, no valid estimate exists for the number of extant pine barrens treefrog

colonies in South Carolina or estimates for population size at any colony. The pine barrens treefrog does occur on public property such as the Sandhills National Wildlife Refuge, the Sandhills State Forest, and Cheraw State Park, all located in Chesterfield County. Garton and Sill (1977) found pine barrens treefrogs at 18 locations on the Carolina Sandhills NWR in 1977.

HABITAT AND NATURAL COMMUNITY REQUIREMENTS

The pine barrens treefrog, in South Carolina, occurs in herb shrub bogs, pocosins and other related communities in the Sandhills (Cely and Sorrow 1982; Conant and Collins 1991; Martof et al. 1980). Typical pine barrens treefrog habitat is found in transition zones on the down-slope of sandhills where water percolates out of the soil in some sort of seepage zone. These habitats would burn periodically—prior to European settlement of the Southeast and the exclusion of fire—and these fires would maintain an open character to the seepage bogs. Pitcher plants, sundews and terrestrial orchids are species that typify this habitat type and also require the acidic, open conditions of these bogs. Pine barrens treefrogs live in the thick, pocosin vegetation that often surrounds this habitat, but they also require the open, slow-flowing seeps as breeding habitat.

Currently, several pine barrens treefrog colonies exist along power-line and gas line right-of-ways, where mechanical vegetation control (e.g. mowing) keeps the vegetation low, maintaining the open habitat required by the species.

CHALLENGES

Terrestrial: The primary threat facing this species is habitat loss due to fire suppression, and other inappropriate management activities such as herbicide application in power-line rights of way, in the preferred herb-shrub bog habitat.

Aquatic: Ditching and drainage of small, hillside wetlands or other alterations of these wetlands is a potential threat to pine barrens treefrog populations.

CONSERVATION ACCOMPLISHMENTS

Several pine barrens treefrog populations occur on the Sandhills National Wildlife Refuge, and managers are aware of these populations and the status of this species. The Department's Heritage Trust Program has protected a population of the pine barrens treefrog through registration of a gas line right-of-way in Kershaw County. In 2011 SCDNR initiated a survey for pine barrens treefrogs on public and private lands, where permission is granted, in the northern sandhills of South Carolina. This project will use automated recording devices and call surveys to document the presence of this species at selected sample sites. The project will be focused on Kershaw, Chesterfield and Marlboro Counties and include the Sandhills National Wildlife Refuge, Sandhills State Forest and Cheraw State Park.

CONSERVATION RECOMMENDATIONS

The primary conservation goals for the pine barrens treefrog are: 1. Ensuring appropriate management is in place for populations on public lands. 2. Locating additional populations and protecting them. 3. Monitoring known populations and developing accurate population estimates for them. 4. Obtaining life history data for the species which will inform our conservation and management efforts.

MEASURES OF SUCCESS

As results from current research and surveys or future efforts are identified and analyzed, projects will be initiated to address specific needs that arise from these results.

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