and is state-listed in Georgia and Florida. Should it experience continued declines, hundreds of other species, including the eastern indigo snake will feel the impacts. In Georgia, for example, indigo snakes depend upon tortoise burrows for warmth during the winter months.[247]

According to the applicant, the project site is home to approximately 30 adult tortoises, 25 subadults and several juveniles. Were mining to commence, tortoises that are found would be relocated on the property and fenced in to try to prevent attempted recolonization. In the long-term, however, continued mining would greatly reduce the ability of the property to support the species. Gopher tortoises require large parcels of undeveloped and unfragmented land, as well as soils that have not been permanently homogenized or compacted by heavy machinery. In this case, the cumulative impacts of mining—roadbuilding, logging, compaction of burrows, fragmentation of suitable habitat—is likely to result in the complete extirpation of the species from the entire 12,000-acres. This would affect not just the indigo snake, but other commensal species, such as the gopher frog.

b. Gopher Frog

The gopher frog is an ESA candidate species and is state-listed in Georgia. Surveys indicated that gopher frogs were documented on the Adirondack, Loncala, and Keystone tracts. Gopher frogs depend upon wetlands and gopher tortoise burrows for various life stages, both of which will be impacted by the proposed mine. Like gopher tortoise, it is unlikely that gopher frog will be found on site after mining operations conclude.

c. Florida Pine Snake and Southern Hognose Snake

The applicant's surveys confirmed the presence of the Florida pine snake on the Project Site. Because the species has lost 97 percent of its historical range, it is state-listed as threatened in Florida. Efforts are underway to restore habitat for the Florida pine snake, which requires high, dry, and easy-to-tunnel land. Because mining could result in the permanent compaction of the soils upon which the species depends, Florida pine snakes are likely to be extirpated from the site. The habitat of the Southern hognose snake (ESA candidate) was also documented on the site. Like the Florida pine snake, the species depends upon well-drained soils and requires underground habitat, which is likely to be compacted and disturbed by mining operations.

d. Bachman's Sparrow

The Georgia state-listed Bachman's sparrow has been documented on the site. The Bachman's sparrow has experienced significant range contractions, as a result of habitat conversion and commercial development. The species depends upon open, mature pinelands, regenerating clear cuts, and utility rights-of-way. Mining disturbances are likely to result in the localized disappearance of Bachman's sparrows from the site and affect the behavioral patterns of the larger population found within the Refuge.

[247] Stevenson, D.J., K.J. Dyer, and B.A. Willis-Stevenson. 2003. Survey and monitoring of the eastern indigo snake in Georgia. Southeastern Naturalist 2:393-408; Enge et al. 2013.