Influence of Chinese Tallow Infestation on Winter Bird Community along Lanana Creek Basin

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Abstract

Exotic invasive plant species are among the greatest threats to biodiversity and persistence of rare wildlife species in the United States. These plants compete with native plants, causing extinctions or severe reductions in native populations. They may also affect wildlife through loss of preferred food items or changes in vegetation structure. Chinese tallow tree (*Triadeca sebifera*) is one of the most important and widespread exotic plants in the Southeast. Although impacts of Chinese tallow on vegetation communities are well studied, impacts on native wildlife are less well understood. This study explored the interaction between native wildlife and Chinese tallow infestation in the Lanana Creek basin in Nacogdoches, TX.

General Procedure

Locations:

Tucker Woods (native, See Figure 1)

Rose Lake (invasive, See Figure 2)

Methods

- Point-count surveys at 4 different locations in each site
- 10 minutes each on 3 separate occasions throughout November
- Evenness and richness were determined from the data collected. Richness refers to how many species are detected in each location. Evenness refers to the number of individuals detected for each species.

Results

Species richness was practically identical at both sites (See Figure 3). Species composition differed between the sites and Rose Lake had higher abundance (See Figures 4 and 5). Using the Shannon-Weiner Index, diversity was 2.81 at Tucker Woods and 2.40 at Rose Lake.

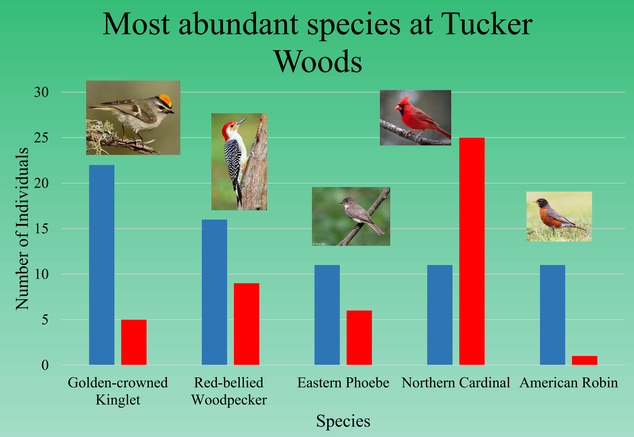

Figure 4. Most abundant species at Tucker Woods in comparison to the counts at Rose Lake. Blue represents Tucker Woods and red represents Rose Lake.

Figure 1. Tucker Woods

Figure 2. Rose Lake

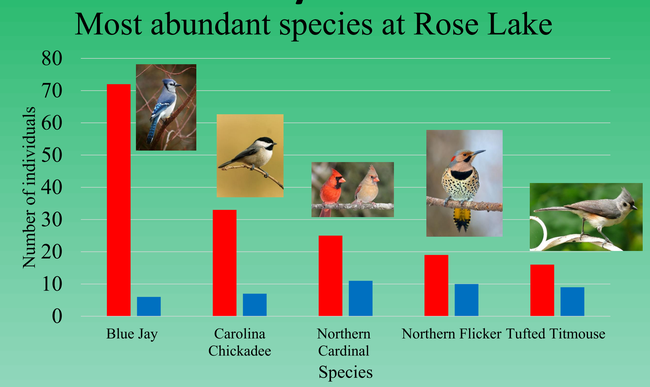

Figure 5. Most abundant species at Rose Lake in comparison to the counts at Tucker Woods.

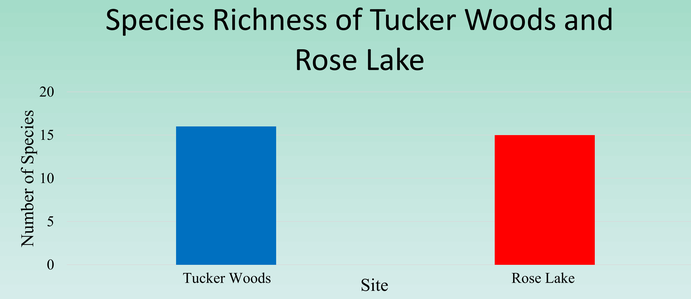

Figure 3. Number of species present at site.

Conclusion

There were some significant differences in abundance within species, but this was likely due to the differences in level of public disturbance, rather than the plants at the site. The site heavily invaded with Chinese Tallow was well-frequented with birds that were eating its seeds regardless of their exotic origin. The native site with a mixture of hardwoods and pines also provided suitable habitat for many passerines. Some factors other than tree species (e.g., native vs. exotic) may be more important for influencing winter bird communities.

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