

Frog and Toad Survey 2007

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Abstract

Survey sites with bullfrog, chorus frogs (analysis combined for these two species), Cope's gray treefrog, eastern gray treefrog, and northern spring peeper were above their long-term averages. Of the 12 anuran species, three showed an increase in percent occurrence in 2007 from the 2006 levels. The number of frog survey routes run increased from 80 in 2006 to 83 in 2007. This number falls well short of our goal of two routes per county.

Introduction

The Wisconsin Department of Natural Resources (WDNR) has coordinated a volunteer frog and toad survey since 1984. The survey arose from concerns about declines in populations of some frog species and was endorsed and expanded by the WDNR Surveys committee in 1990. Wisconsin has 12 anuran species. One species (Blanchard's cricket frog) is endangered and three species (Boreal chorus frog, bullfrog, mink frog, and pickerel frog) are included on the Natural Heritage working list as "special concern". In general, anurans are considered to be good indicator species for the habitats where they are found.

Methods

Survey routes are distributed statewide, with a goal of two survey routes in each county of Wisconsin. Survey routes consist of 10 sites which are monitored three times yearly, 8-30 April, 20 May - 5 June, and 1-15 July. Surveys are started at dusk on evenings with wind velocities of less than eight miles per hour. Water temperature is recorded at each stop where possible. The occurrence of each frog species is determined at each site by presence or absence of their song. The abundance of each species is ranked by the relative number of calling individuals. Stops with species calling in which individuals can be counted and there is no overlap in calls has an abundance rank of 1. When calls of individuals can be distinguished but there is some overlapping of calls the abundance rank is 2. When calls are constant, continuous and overlapping (full chorus) the abundance rank is 3. Percent occurrence is determined for each species specific to geographic range and peak calling periods. Survey data are analyzed using the Statistical Analysis System (SAS). The calling index for each species was summed to provide an index to the route population each year. These route populations are regressed on time to create a species population trend.

Results

The number of survey routes increased from 80 in 2006 to 83 in 2007. Observers increased from 84 in 2006 to 87 in 2007 (Fig. 1). The number of routes run in each county is still well below our goal of two per county (Fig. 2).

Of the 12 anuran species, three showed an increase in percent occurrence in 2007 from 2006 levels. These were the chorus frogs, eastern American toad, and northern leopard frog (Fig. 3). The bullfrog, Cope's gray treefrog, eastern gray treefrog, and northern spring peeper were above the long-term mean, but down from the 2006 occurrence levels. The Blanchard's cricket frog, green frog, mink frog, leopard frog, and wood frog were below the previous year's occurrence levels and the long-term mean. Population trends, based on the call index, for each anuran species can be reviewed in Figure 3.

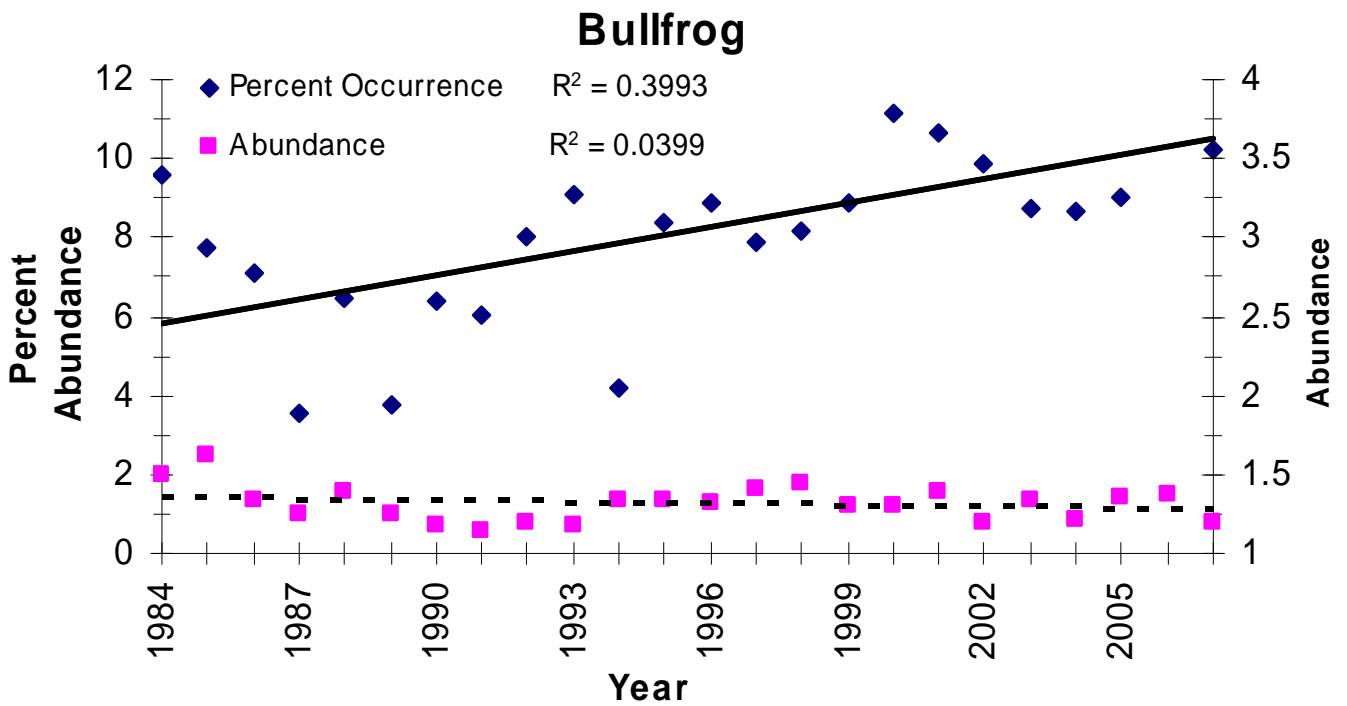
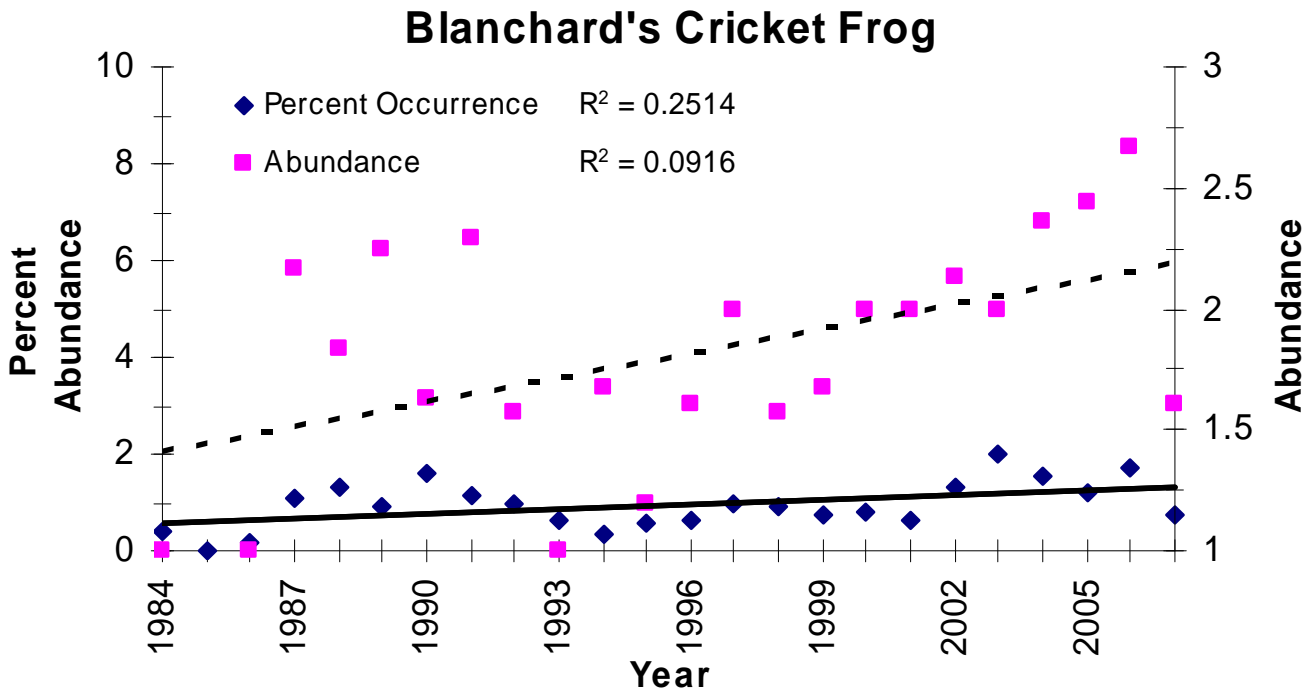


Figure 3. Percent occurrence and abundance of the 12 anuran species in Wisconsin, 1984-2007.

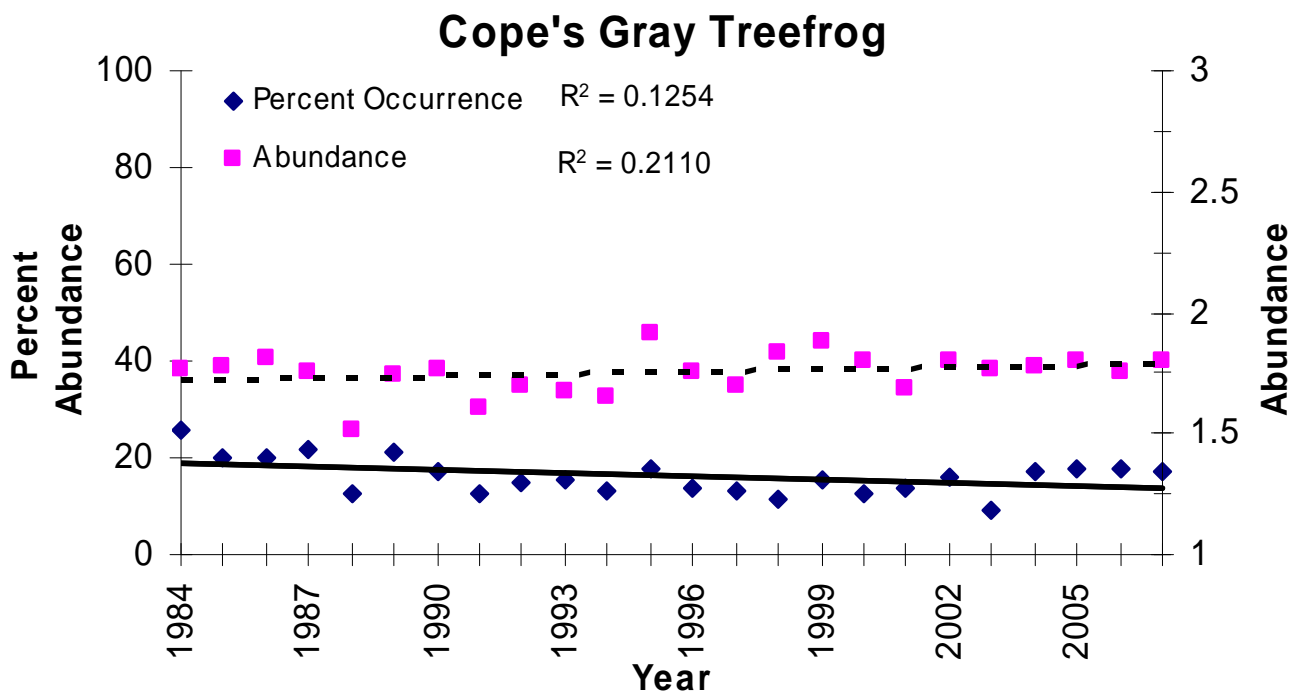
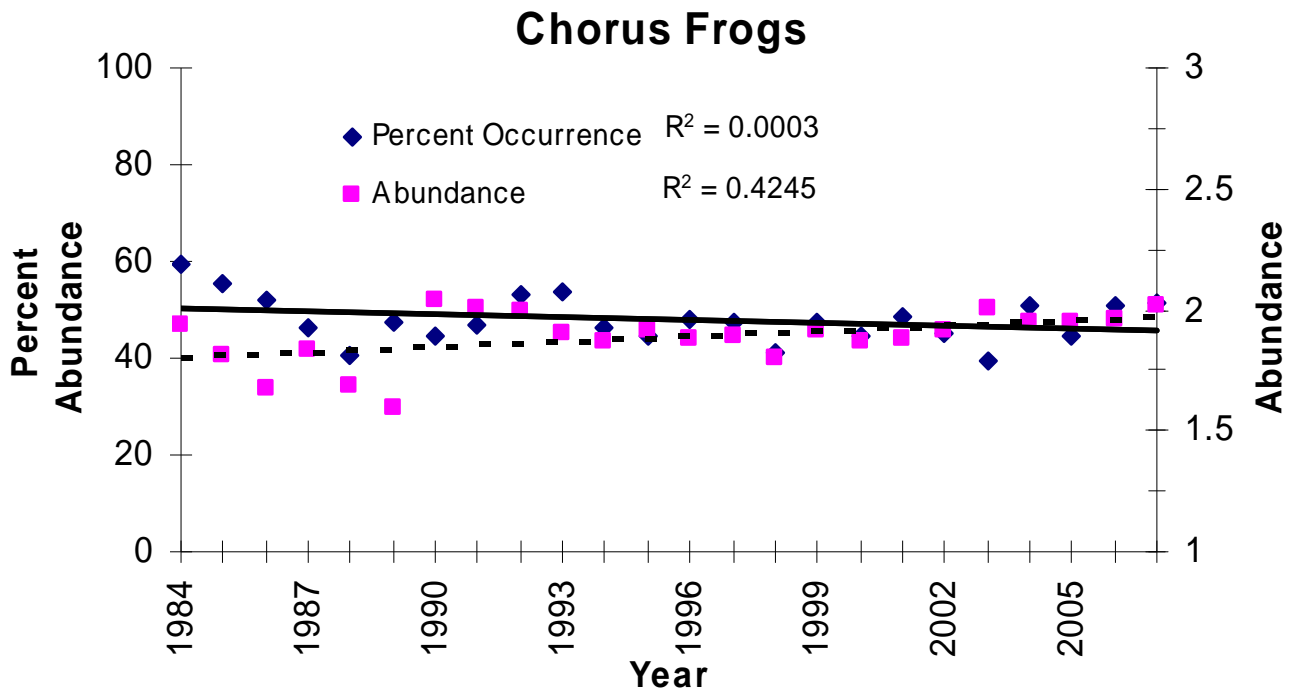


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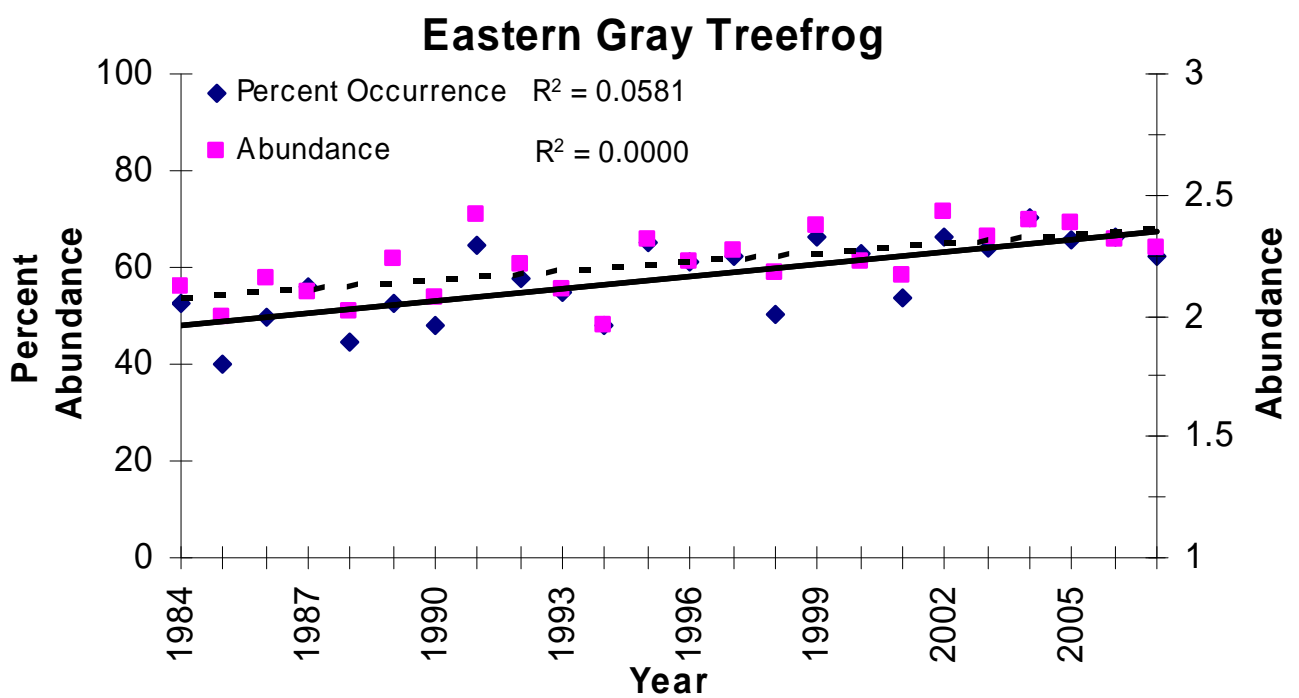
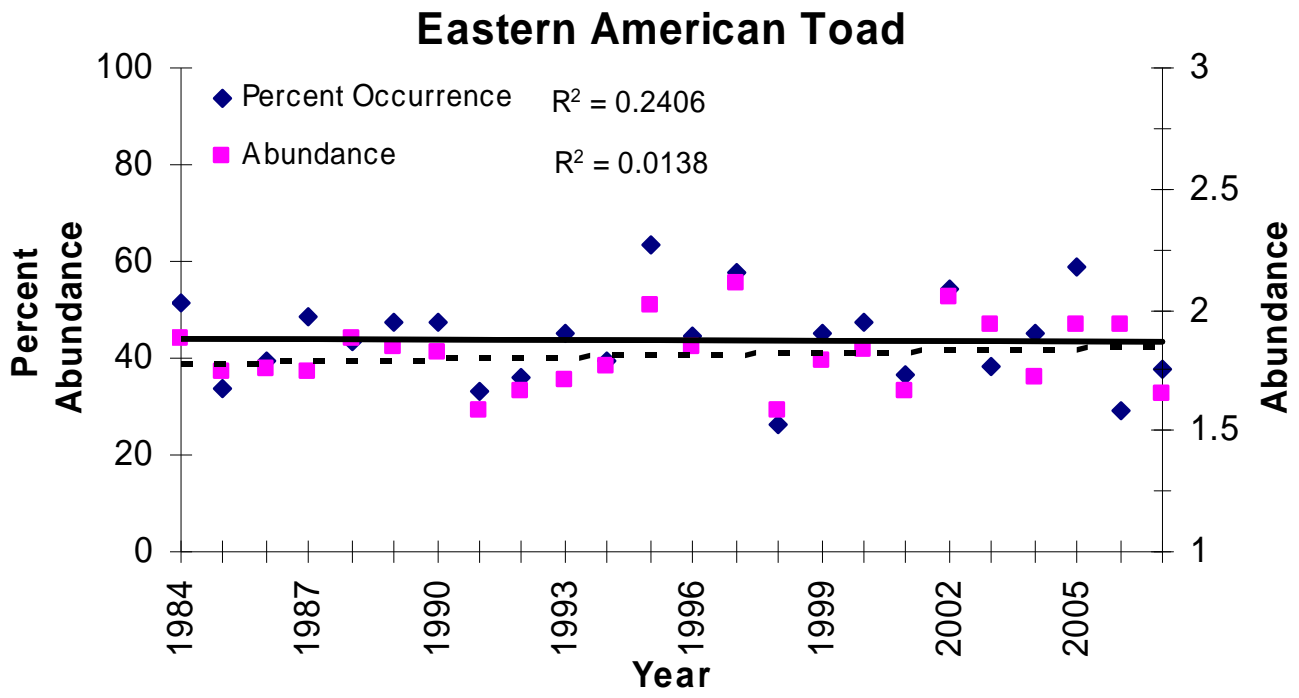


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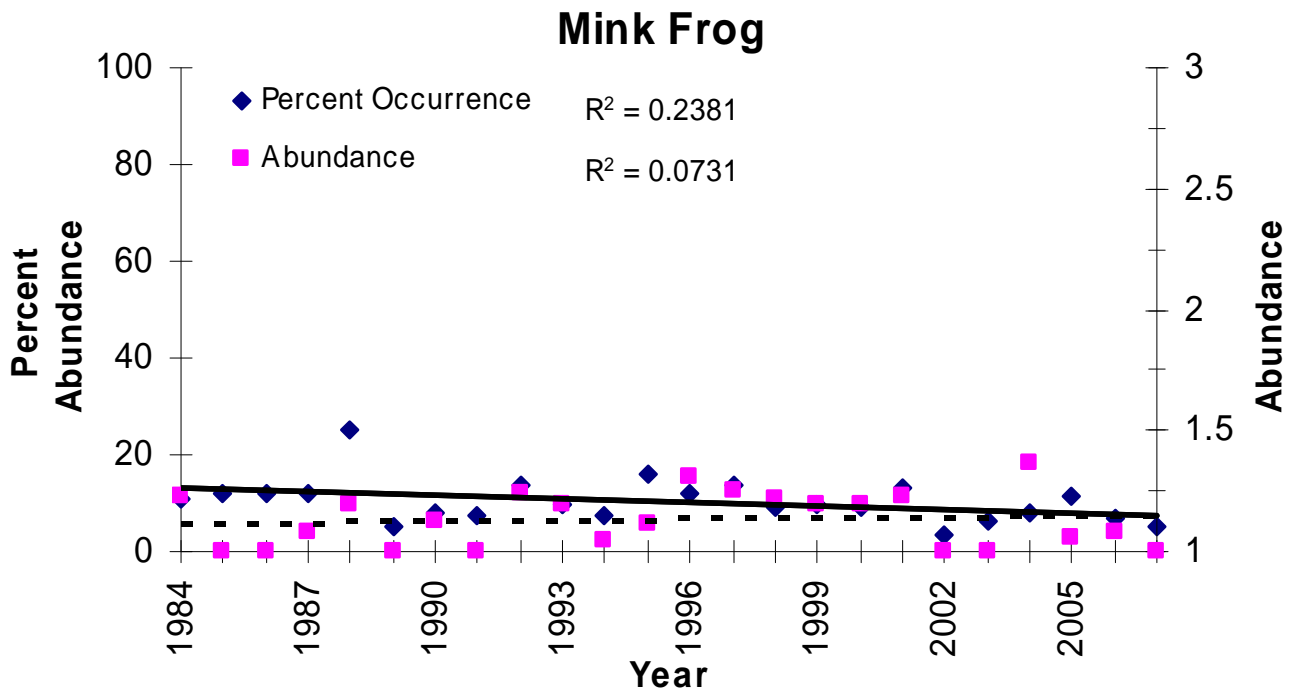
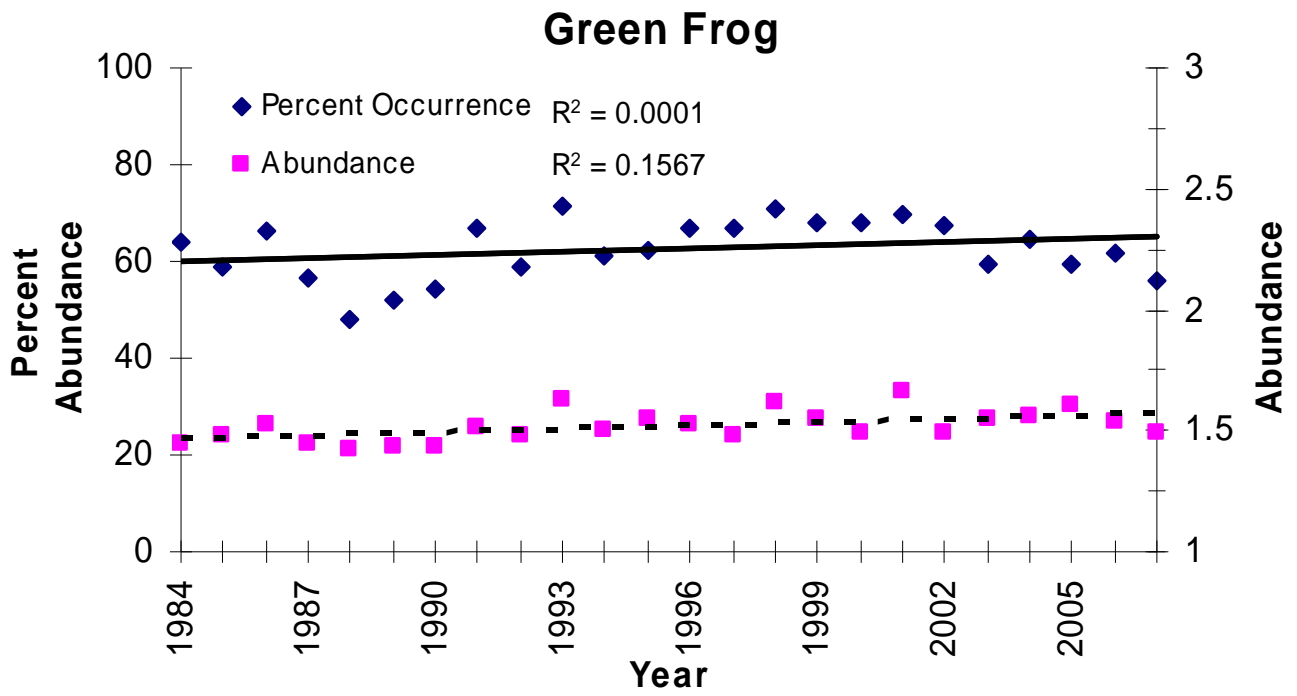


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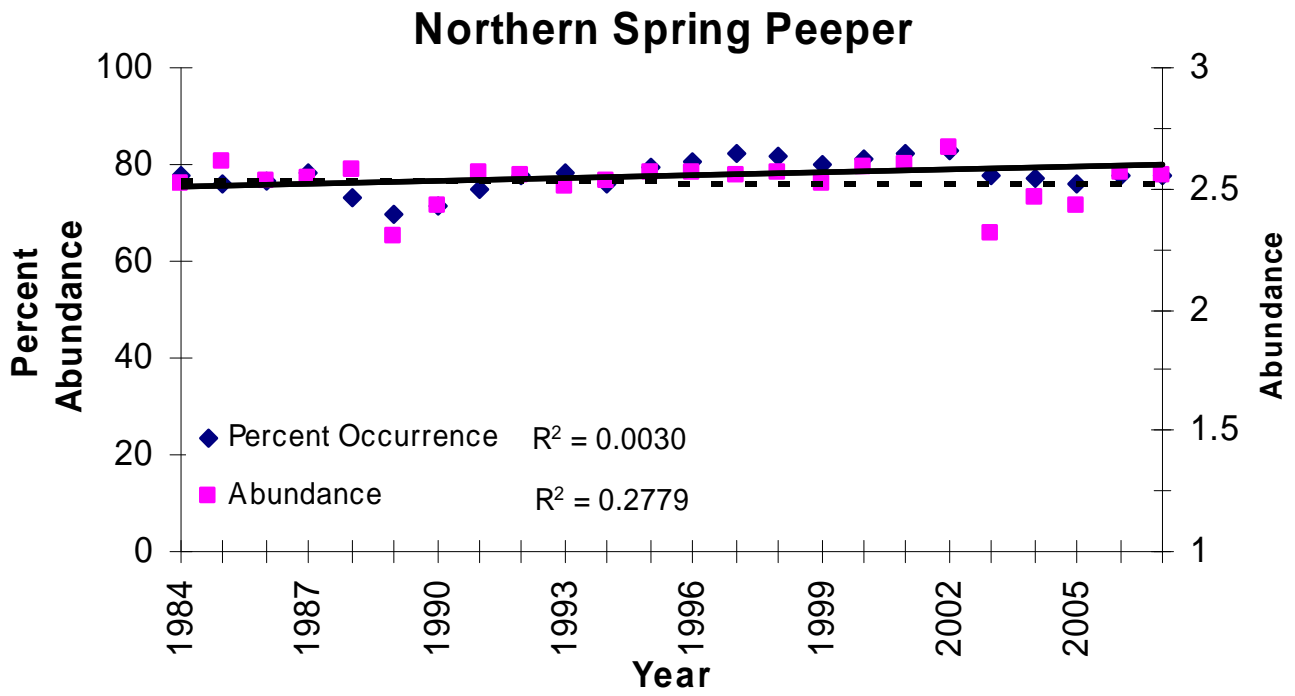
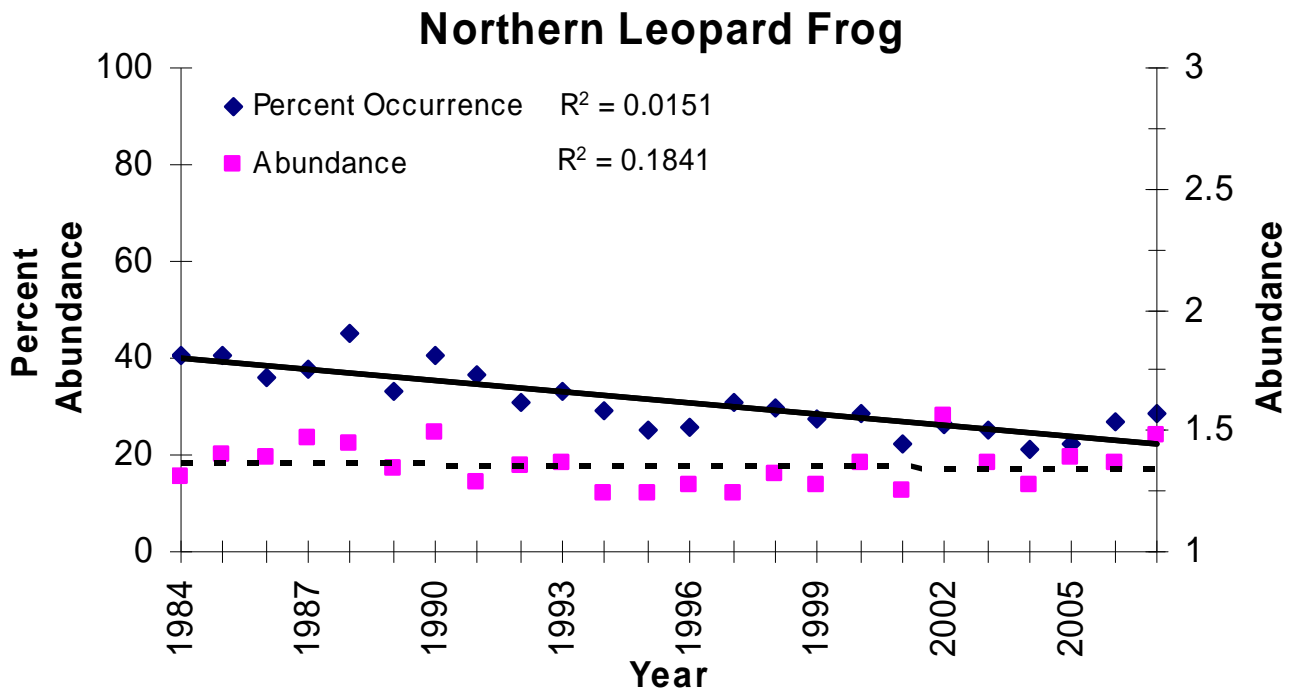


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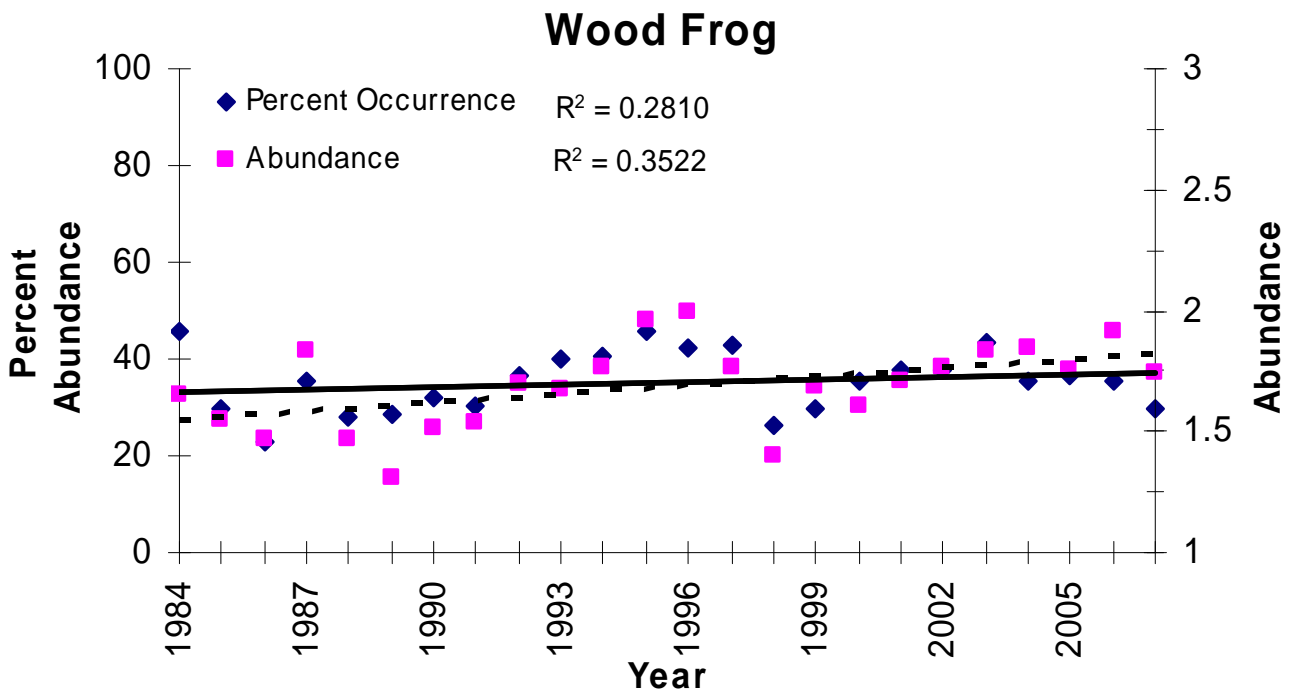
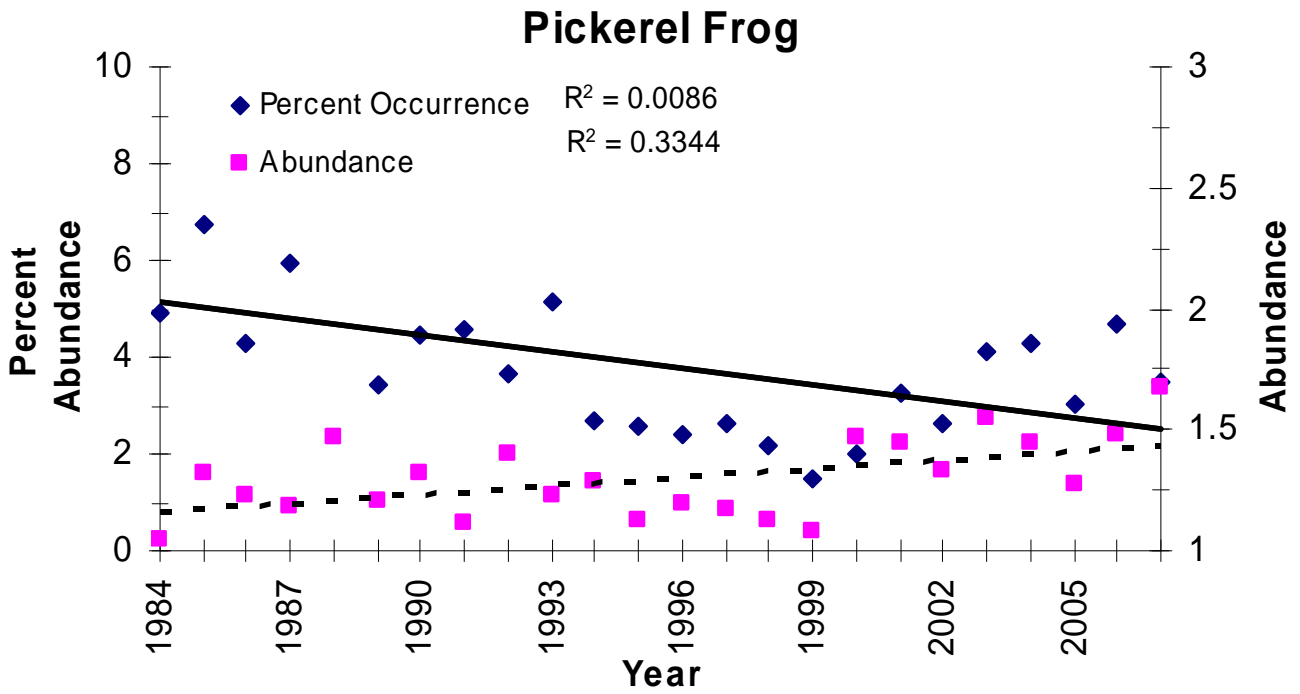


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