

Frog and Toad Survey 2005

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Abstract

Survey sites with American toad, Blanchard's cricket frog, Cope's gray treefrog, eastern gray treefrog, bullfrog, mink, and wood frog were at or above their long-term averages. Of the 12 anuran species, 6 showed an increase in percent occurrence in 2005 from the 2004 levels. The number of frog survey routes run remained the same as in 2004, 87 were run. This number falls well short of our goal of 2 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 one species (Bullfrog) is 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 2 survey routes in each county of Wisconsin. Survey routes consist of 10 sites which are monitored 3 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 8 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 remained the same in 2005 as in 2004, 87 were run. Observers increased from 88 in 2004 to 95 in 2005 (Fig. 1). The number of routes run in each county is still well below our goal of 2 per county (Fig. 2).

Of the 12 anuran species, 6 showed an increase in percent occurrence in 2005 from 2004 levels. These were the American Toad, Cope's gray treefrog, bullfrog, leopard frog, mink frog, and wood frog (Fig. 3). The Blanchard's cricket frog, and eastern gray treefrog were above their long-term mean, but down from their 2004 occurrence level. The northern spring peeper, western chorus frog, green frog, and pickerel 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.

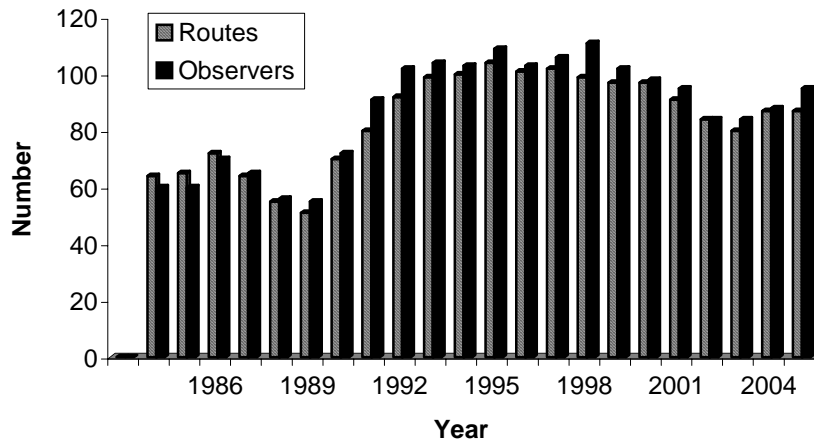


Figure 1. The numbers of observers and frog routes completed, 1984-2005.

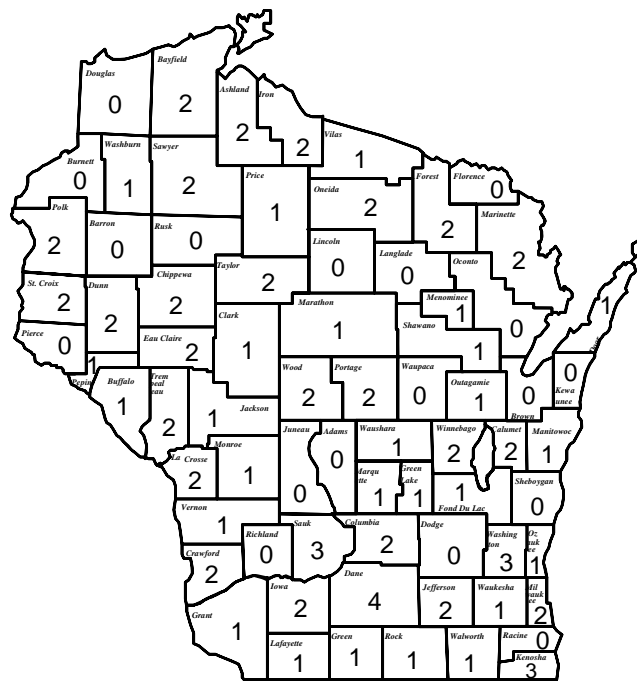
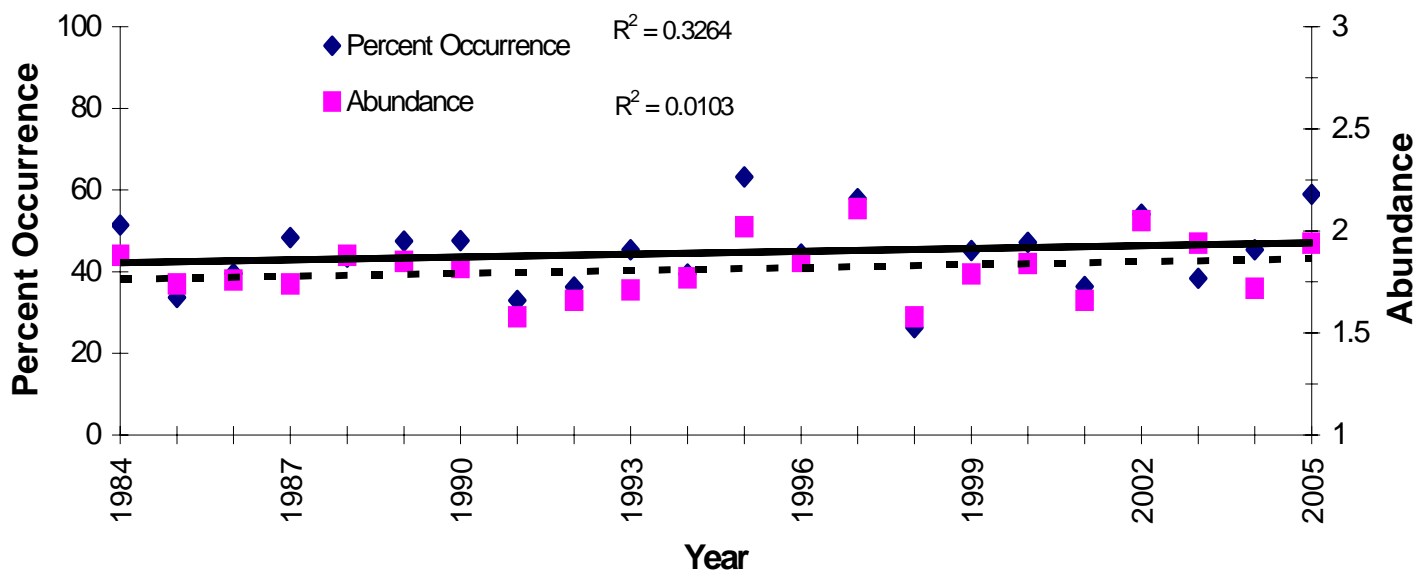


Figure 2. The number of frog survey routes run in each county in 2005.

American Toad



Blanchard's Cricket Frog

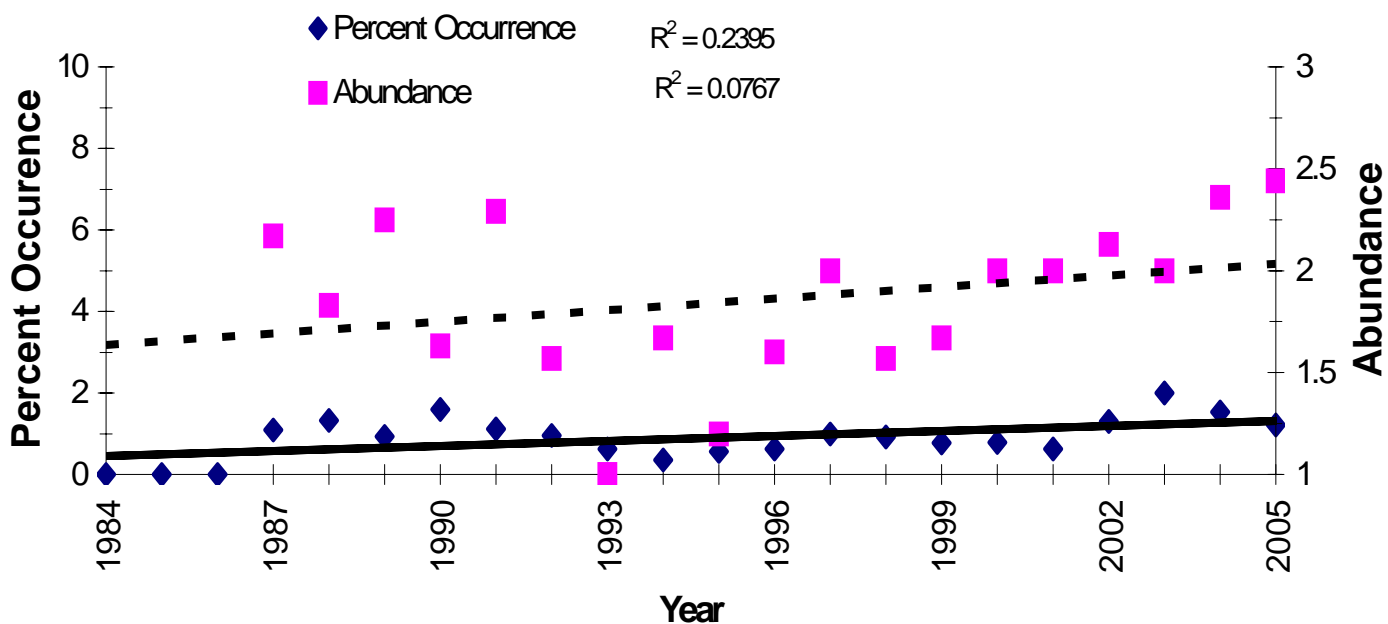
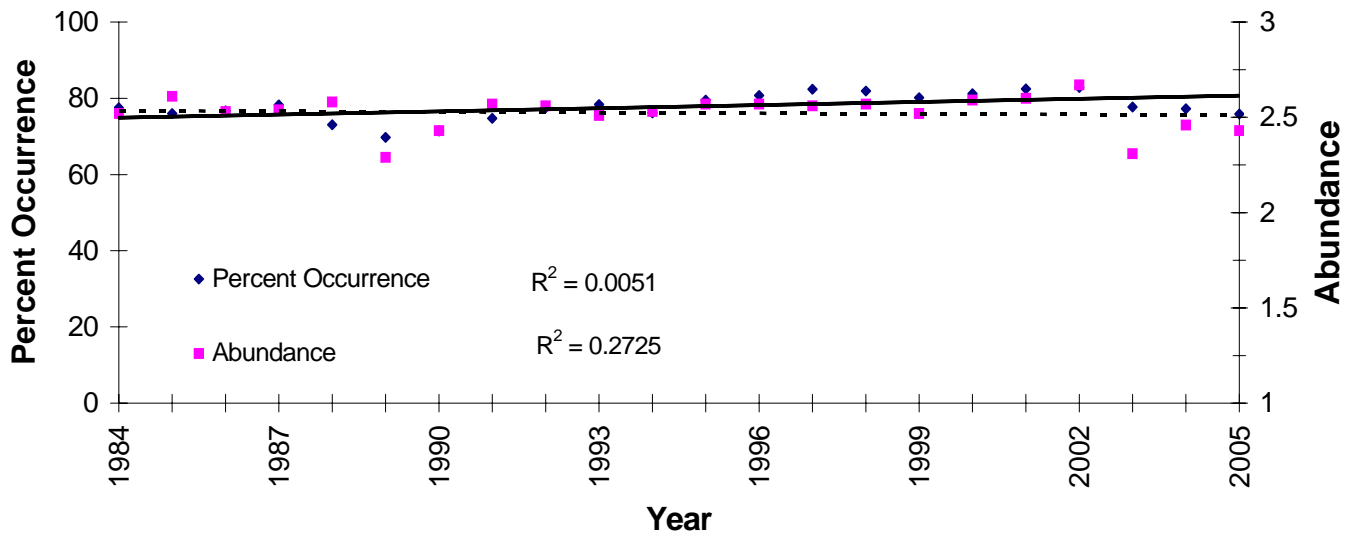


Figure 3. Percent occurrence and abundance of the 12 anuran species in Wisconsin, 1984-2005.

Northern Spring Peeper



Western Chorus Frog

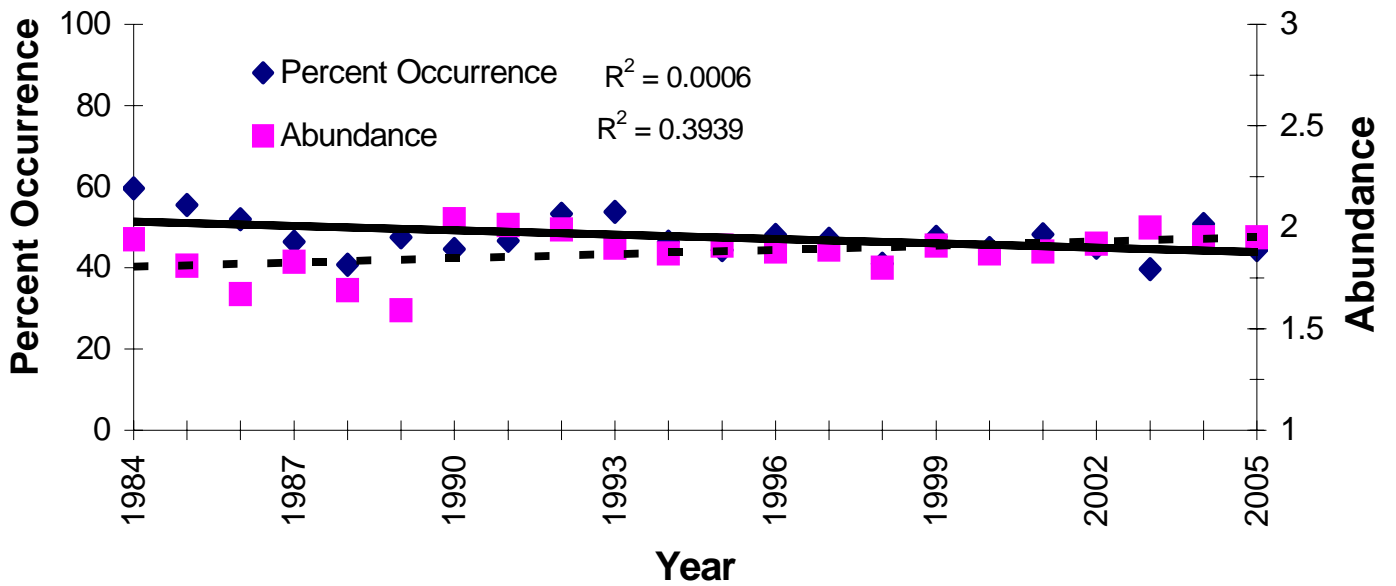
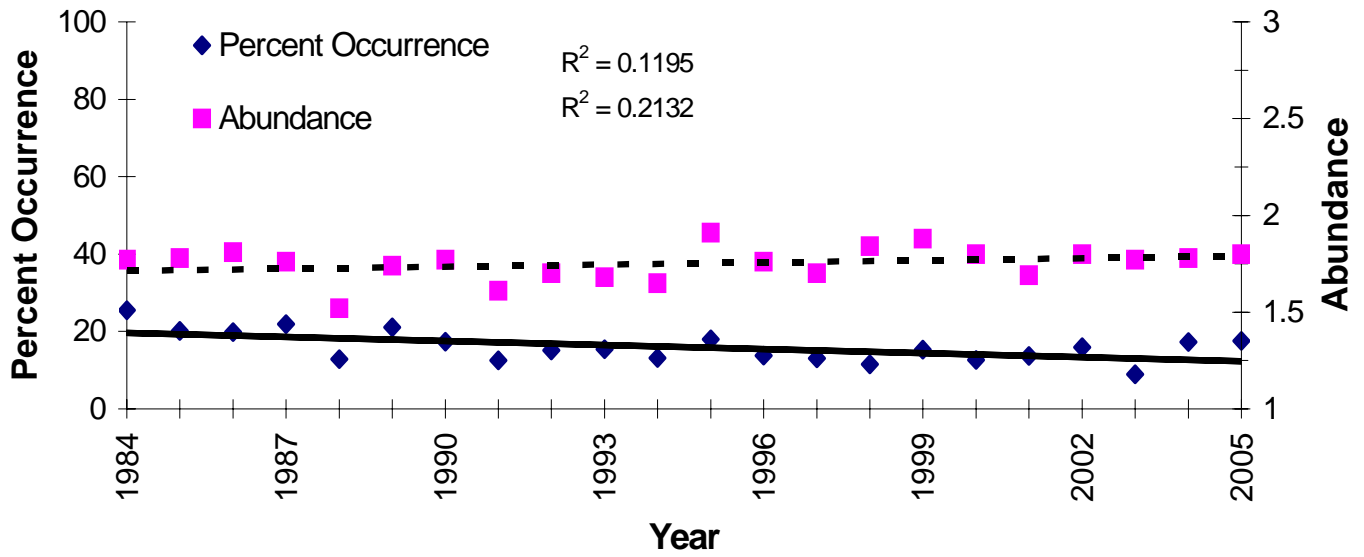


Figure 3. Continued.

Cope's Gray Treefrog



Eastern Gray Treefrog

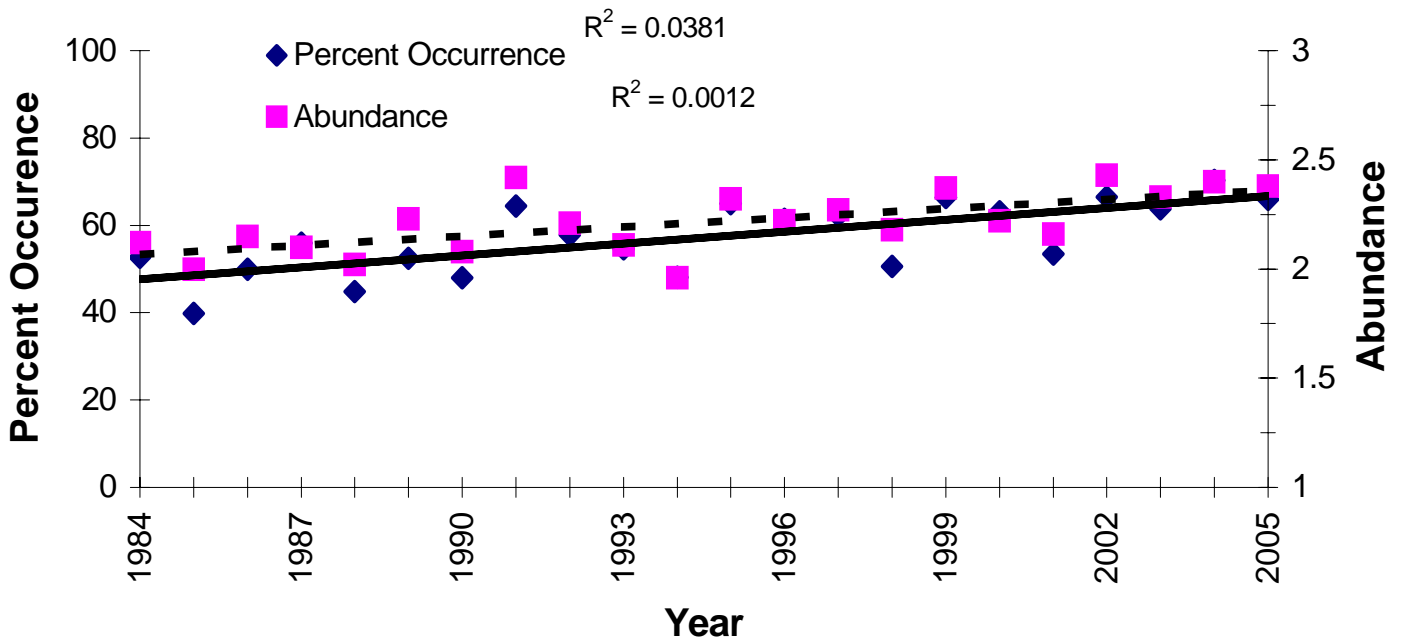
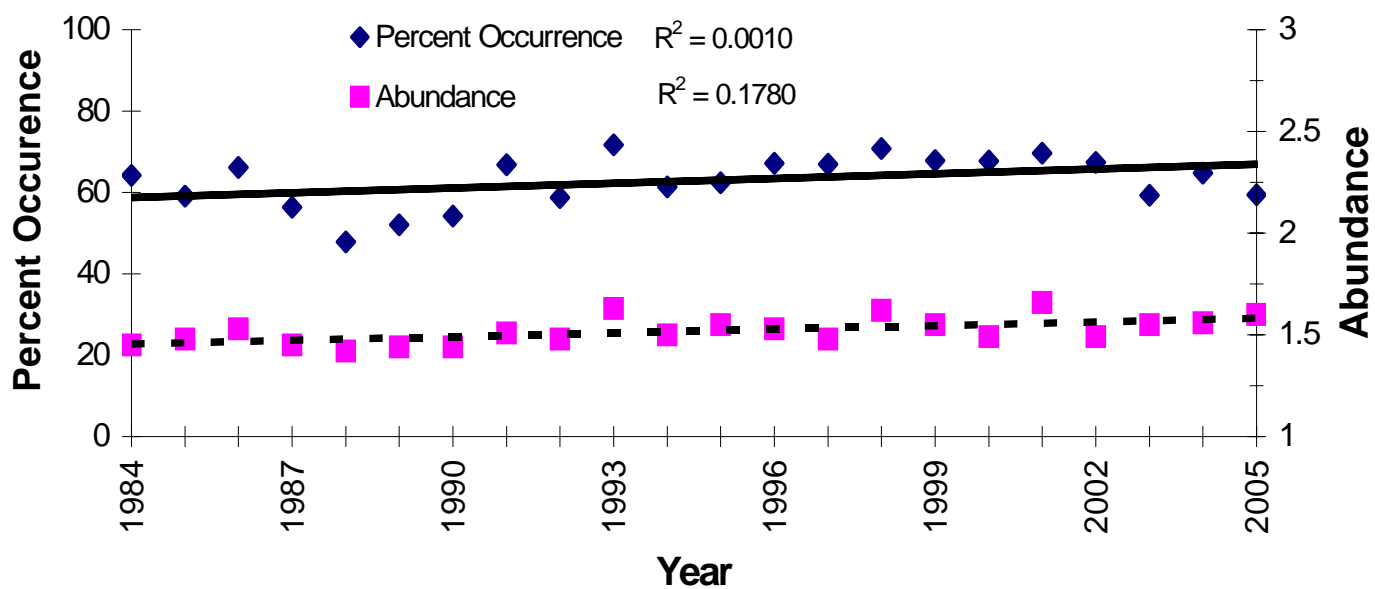


Figure 3. Continued.

Green Frog



Bullfrog

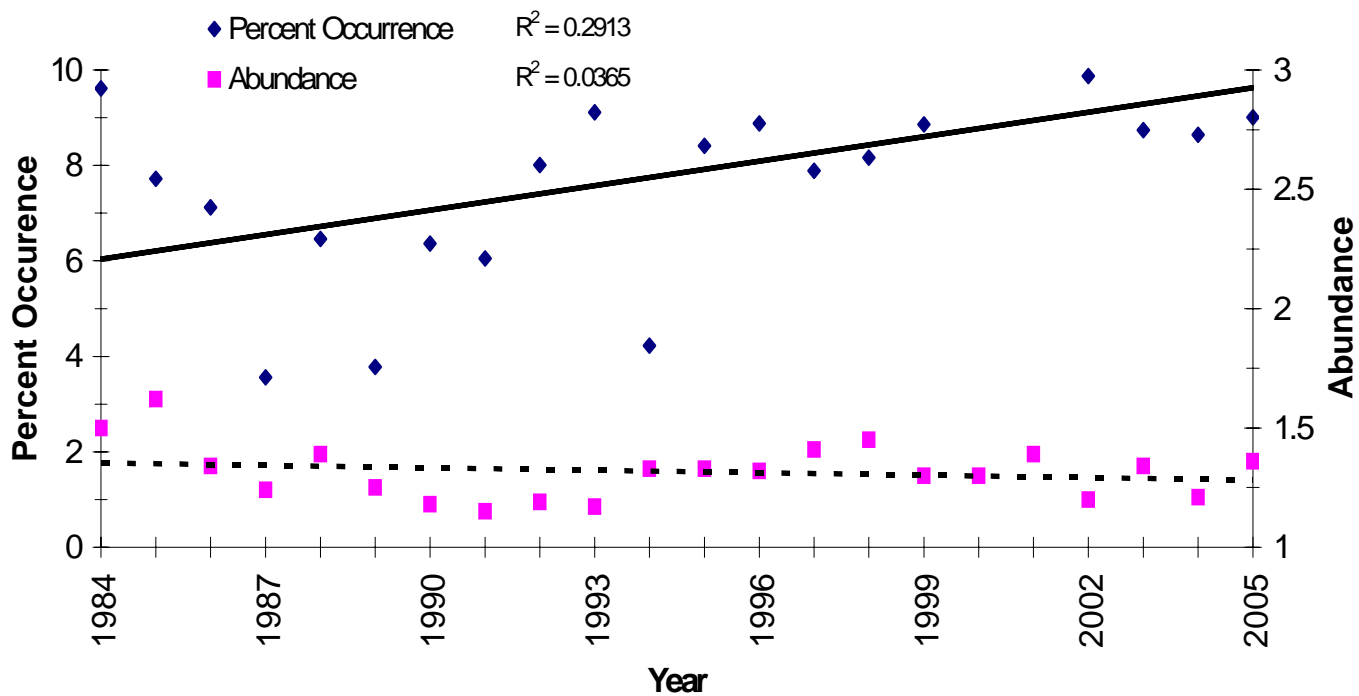
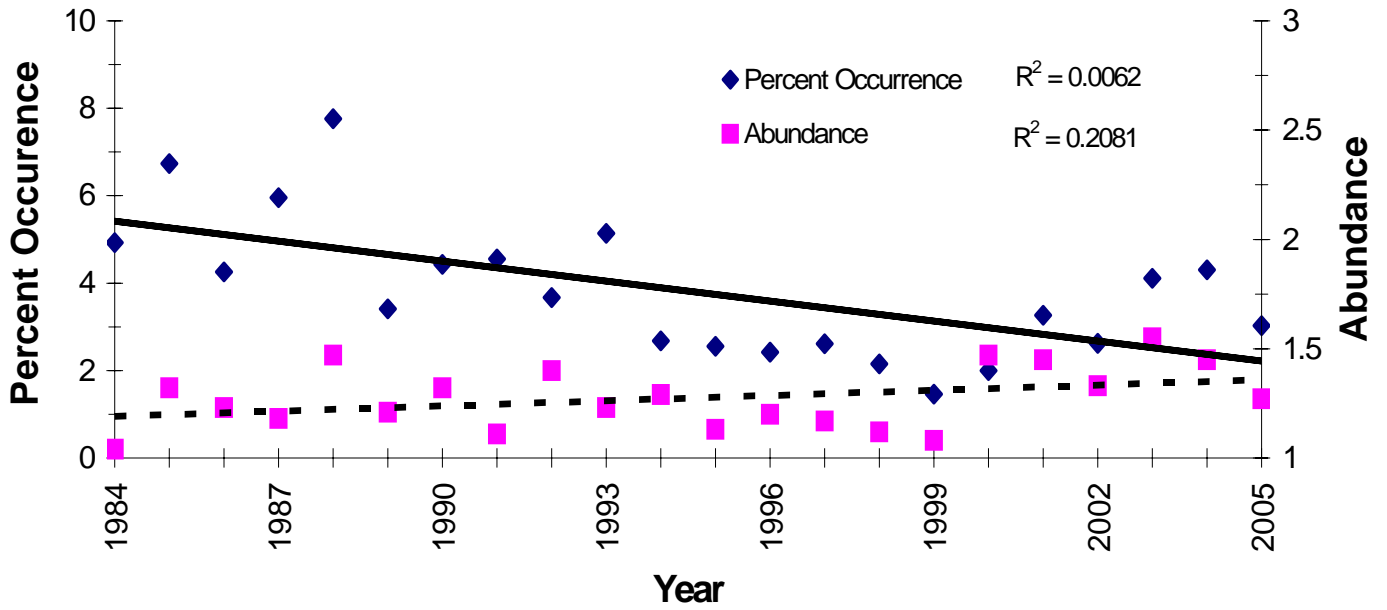


Figure 3. Continued.

Pickerel Frog



Northern Leopard Frog

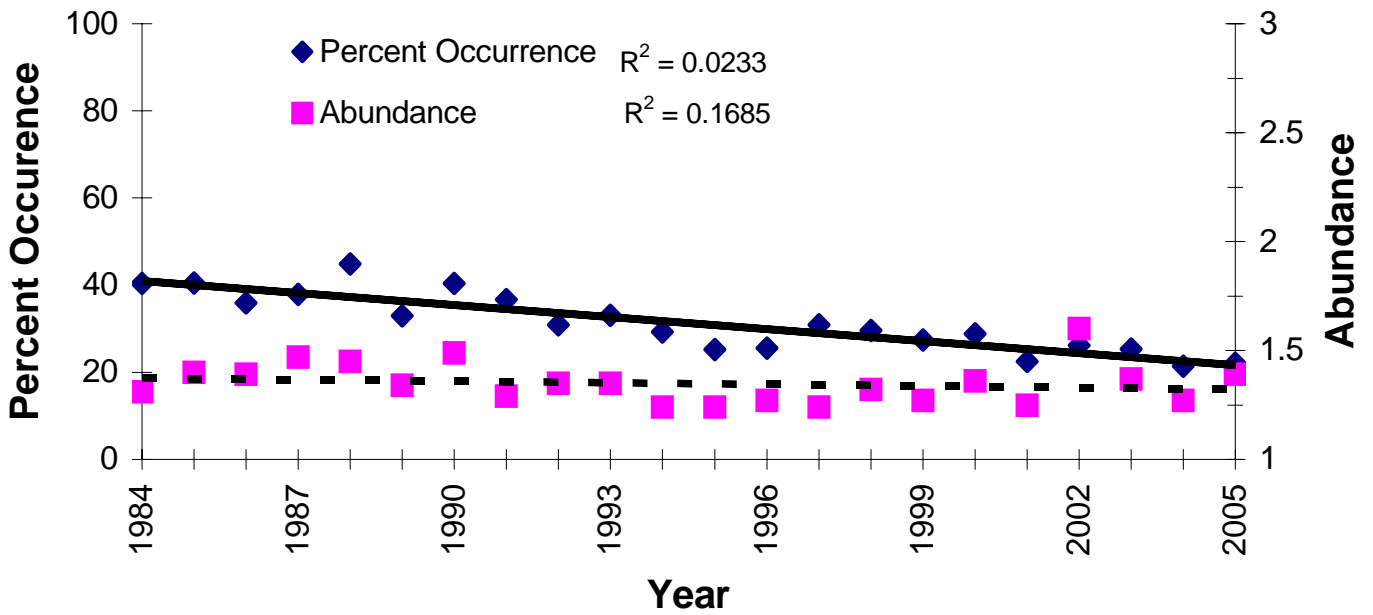
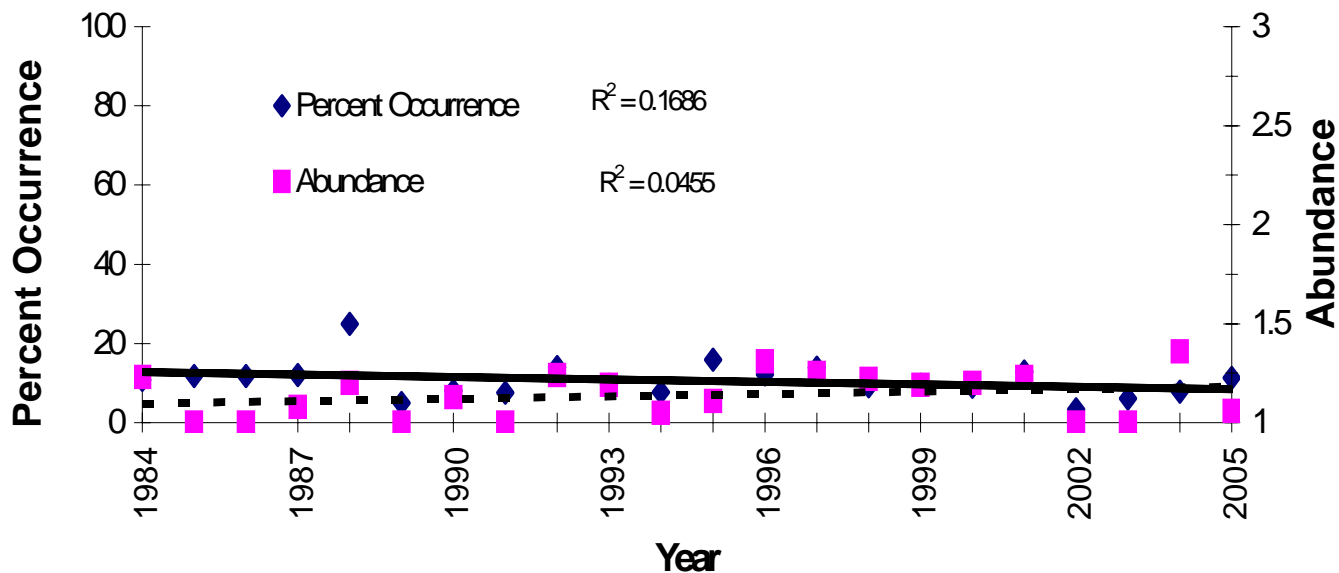


Figure 3. Continued.

Mink Frog



Wood Frog

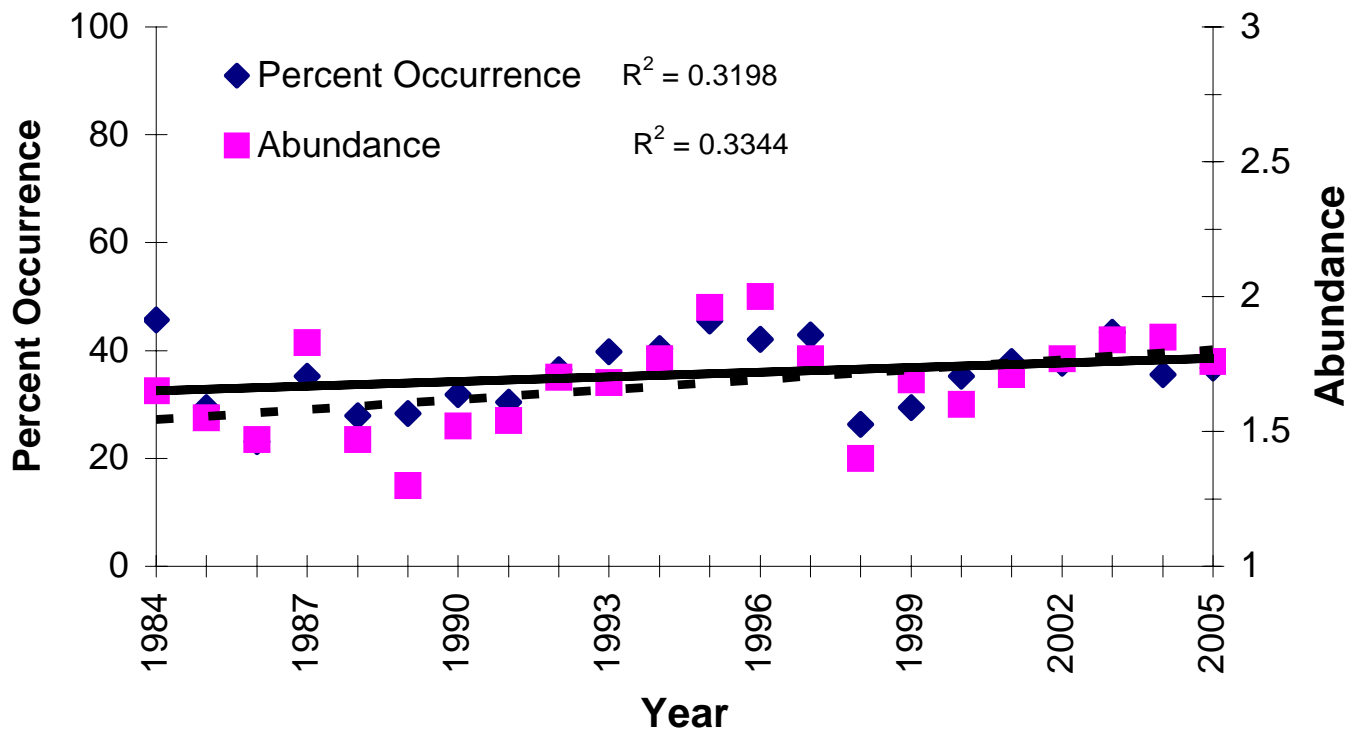


Figure 3. Continued.