

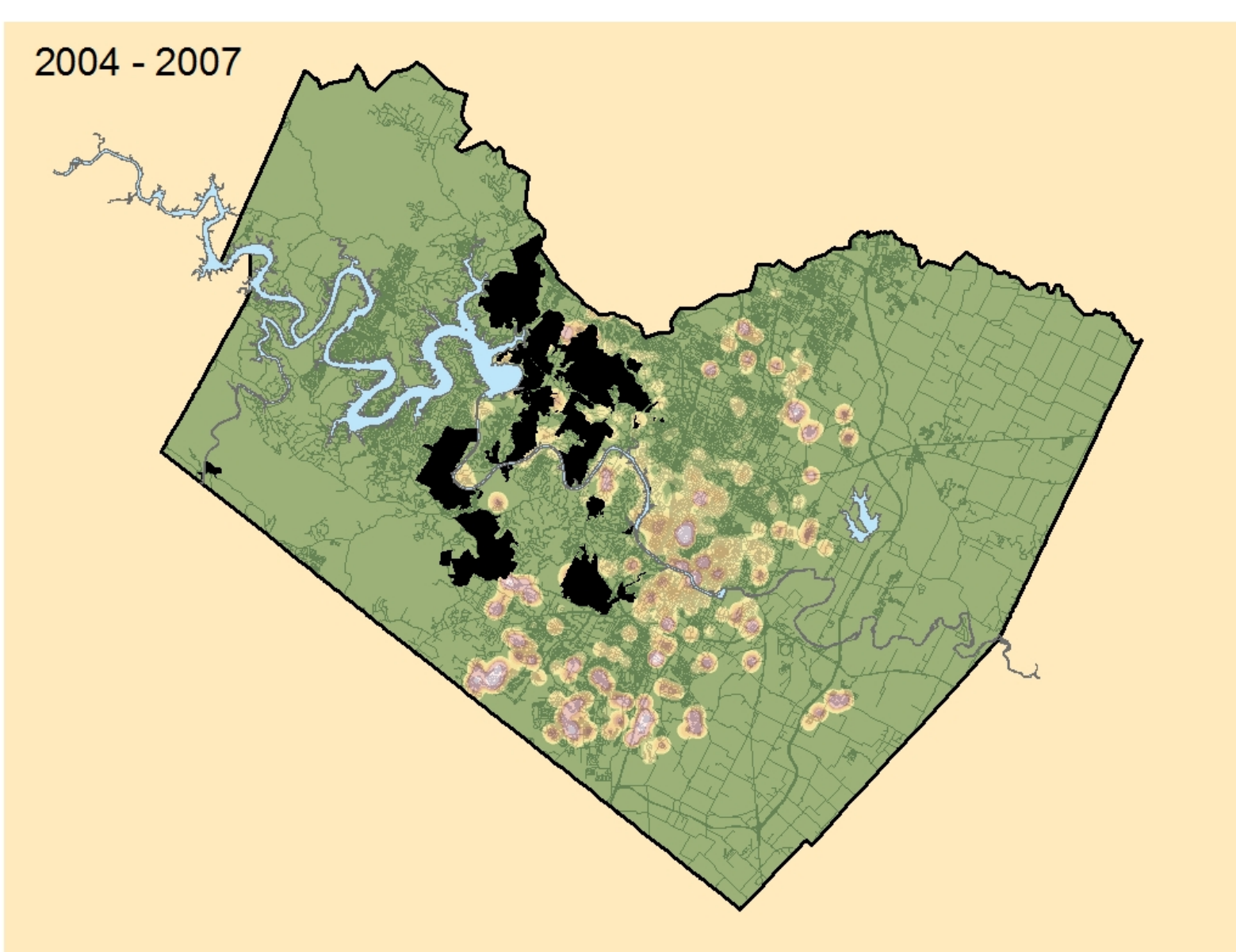
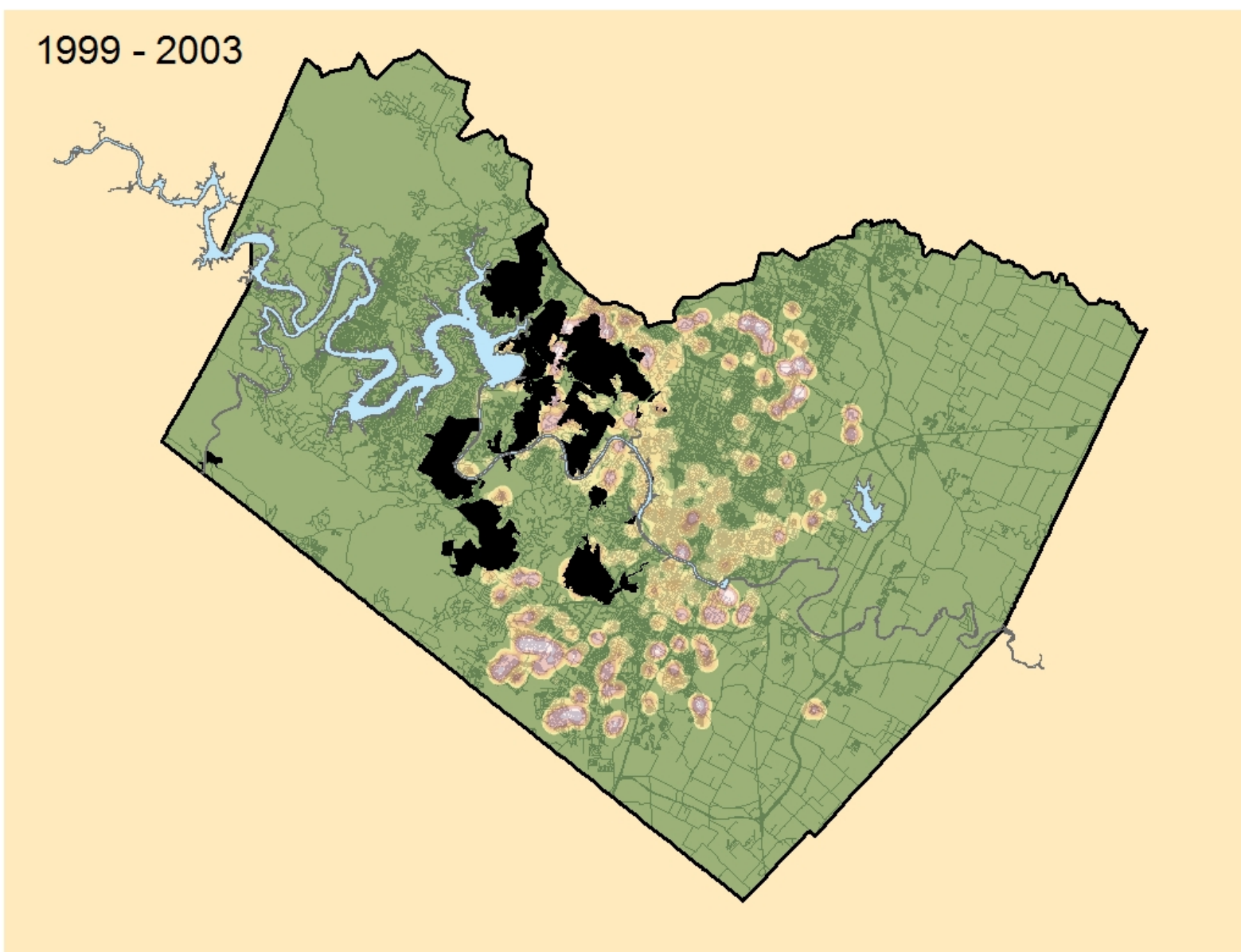
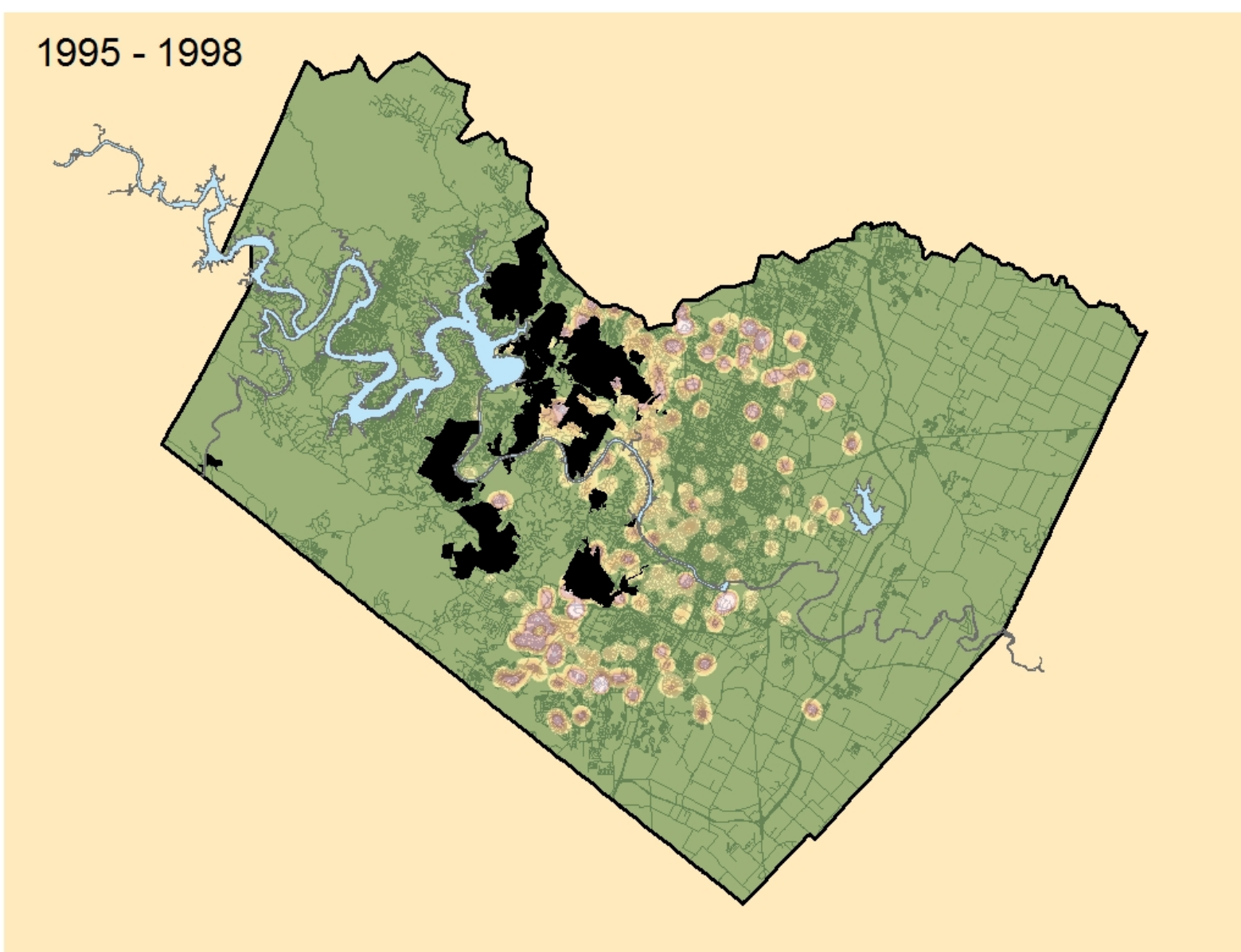
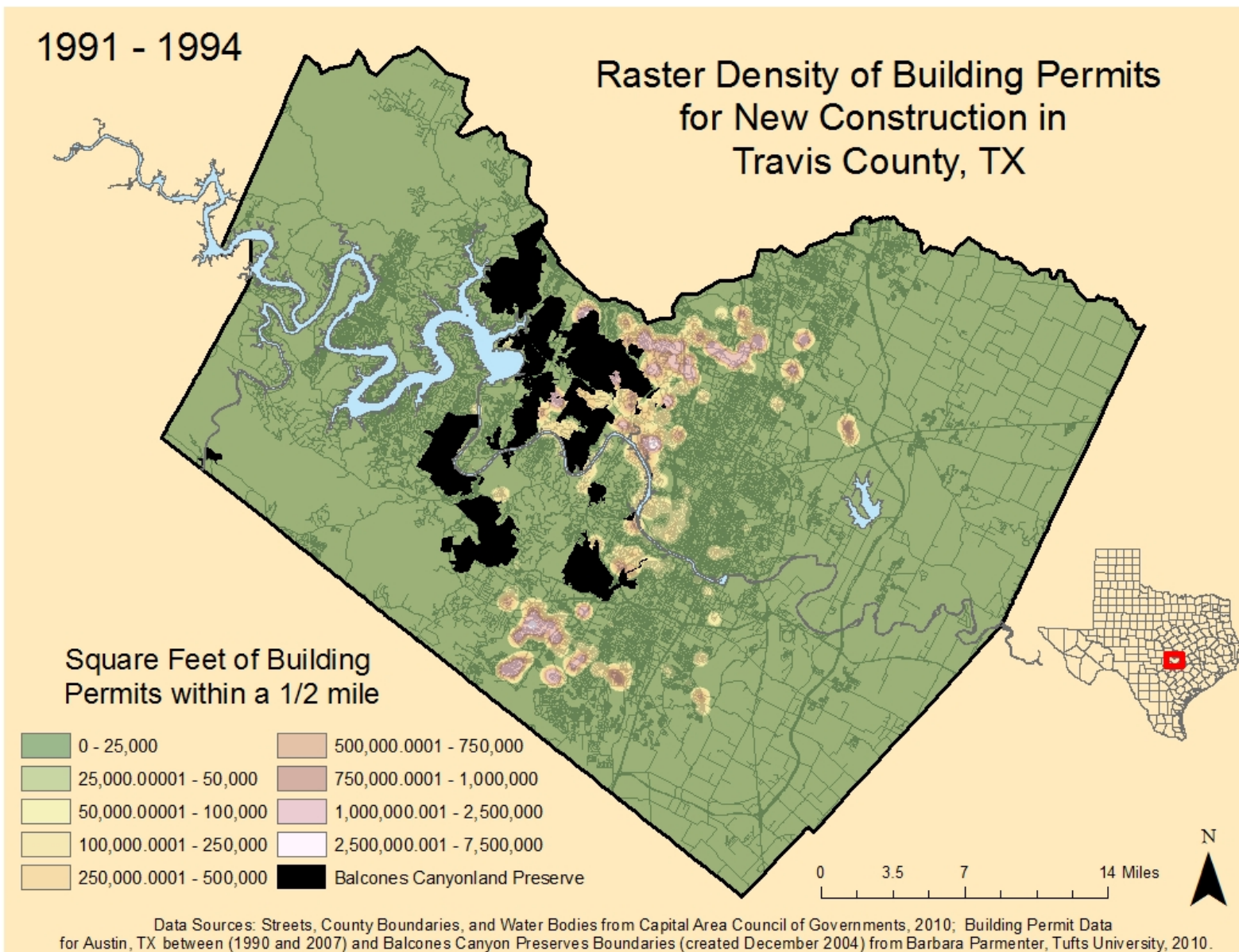
# Development and its Proximity to Open Space:

*An Analysis of Building Permits Surrounding the Balcones Canyonlands (BCP) Preserves in Austin, Texas*

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## Overview:

The purpose of this study is to analyze the impact of open space protection on development patterns surrounding the Balcones Canyonlands Preserve (BCP), which is a network of preserves in Austin, TX that were set aside specifically for endangered wildlife habitat protection starting in 1996.

## Key Questions:

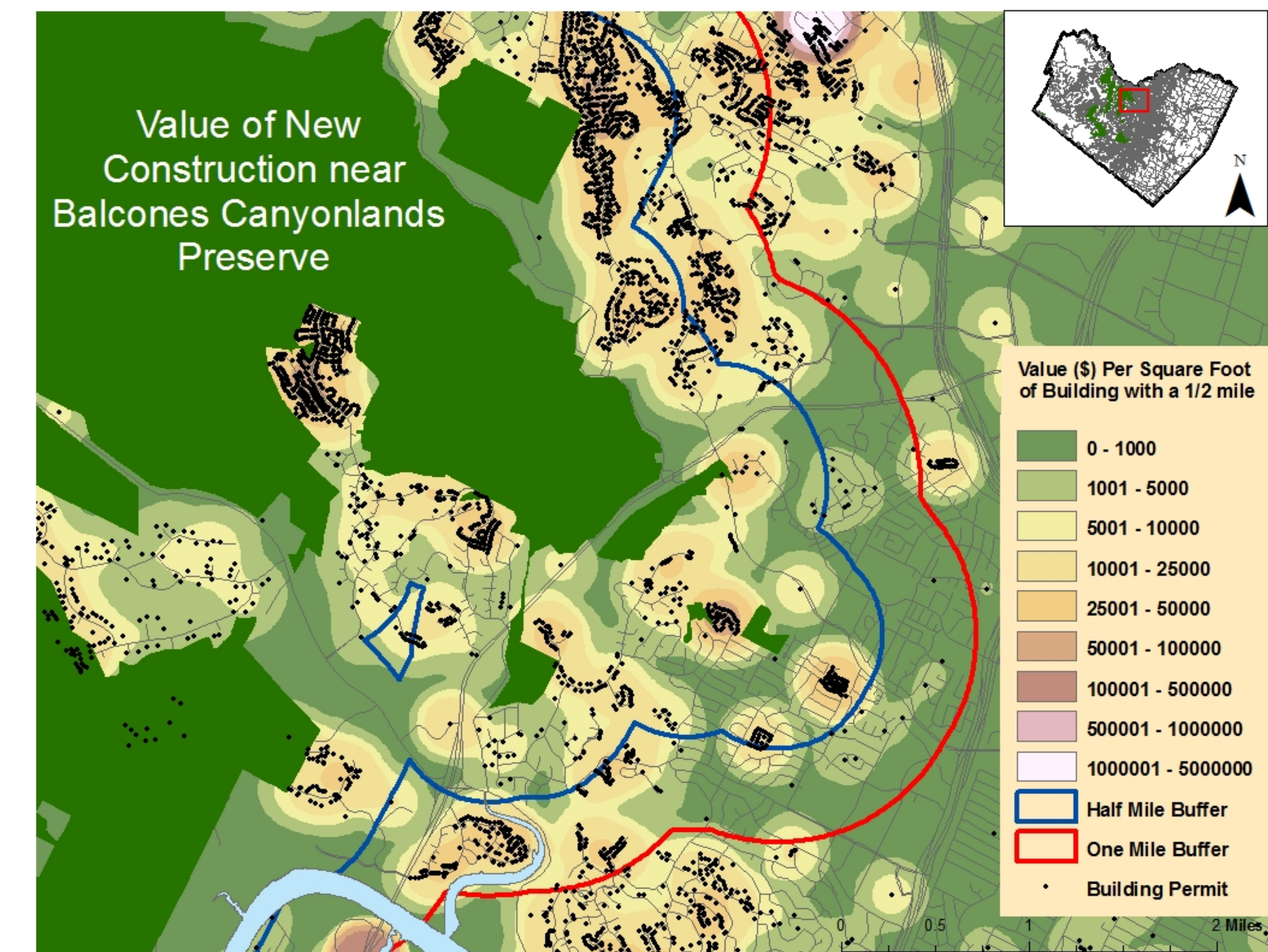
1. Are building permits for new construction more heavily focused in areas immediately surrounding the BCP than elsewhere in Austin, TX?
2. Have the “hotspots” for new construction in changed since land acquisition for the BCP began in 1996?
3. Does the value of new construction increase or decrease related to proximity to the BCP?

## Findings:

1. The raster density analysis (left) shows that areas surrounding the BCP are highly attractive for development. However, the maps also show that development occurred in other pockets throughout the city that are not in close proximity to the BCP.
2. Development pressure around the BCP was high during all four time periods analyzed. Even prior to the official formation of the first preserves, between 1991 and 1994, new construction was heavily concentrated in the west side of the Austin, near the BCP. The most intense period of development pressure around the BCP appears to have occurred between 1999 and 2003.
3. The one-mile buffer analysis (right) shows that building construction value per square foot was lower within the buffer closest to the BCP, even though more building permits were granted.

The raster density maps (left) show the hot spots for new development in the City of Austin and their proximity to the Balcones Canyonland Preserves (black area). The maps use information about the location and total square footage of all building permits for new construction to create a density layer. The layer calculates the total square footage of all building permits within 1/2 mile of every point as a way to represent the density of development throughout the city.

The goal of the maps was to determine if development increased in areas close to the BCP after 1996, the year that the first preserves were acquired. Maps were created for four equal time spans between 1991 and 2007.



The above map shows a close up view of new construction building permits between 1991 and 2007 immediately surrounding the east side of the BCP in Austin, TX. The black dots represent individual building permits and the underlying density map represents the value of permits (per square foot) within a 1/2 mile radius.

Using a spatial join feature in ArcMap, I was able to analyze information about the value of building permits within 1/2 mile of the BCP, and between 1/2 and 1 mile. The goal of this analysis was to determine if the value of new construction is related to proximity to open space. I limited my analysis to the area directly surrounding the BCP (within 1 mile).

The buffer closest to the BCP (1/2 mile) had a higher number of overall building permits, however, the outer buffer (between 1/2 and 3/4 mile) had a higher average permit value (per square foot).

