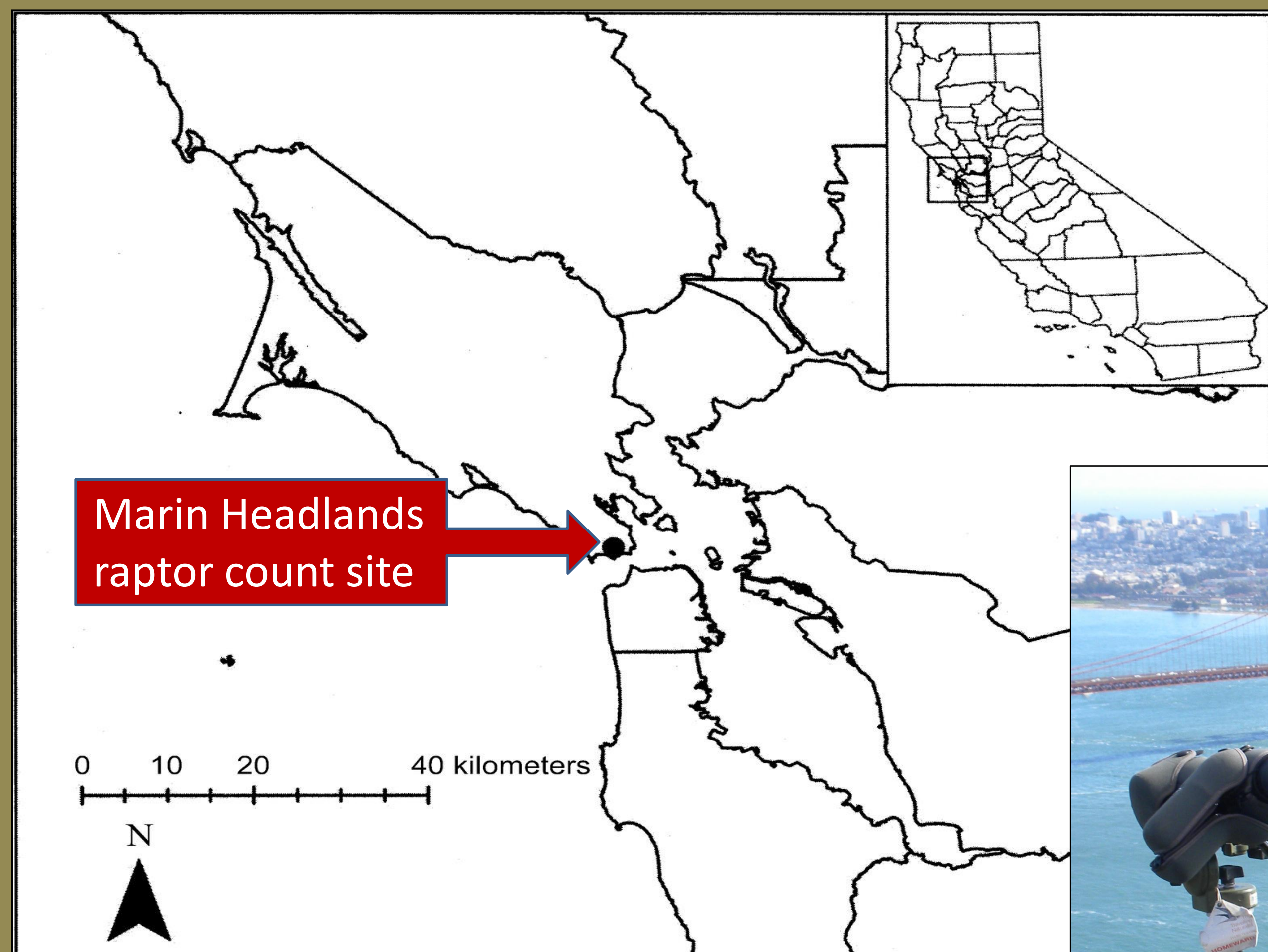


# A Quarter-Century of Golden Eagle Fall Migration Counts in the Marin Headlands, California

Allen M. Fish, Christopher W. Briggs, and Angus C. "Buzz" Hull  
Golden Gate Raptor Observatory, Sausalito, CA 94965



## Introduction

Recent, aggressive energy development has prompted a need for long-term sources of population data on Golden Eagles and other raptors. The Golden Gate Raptor Observatory (GGRO) has used a consistent methodology to collect annual data on autumn raptor activity in California's central coast since 1986.

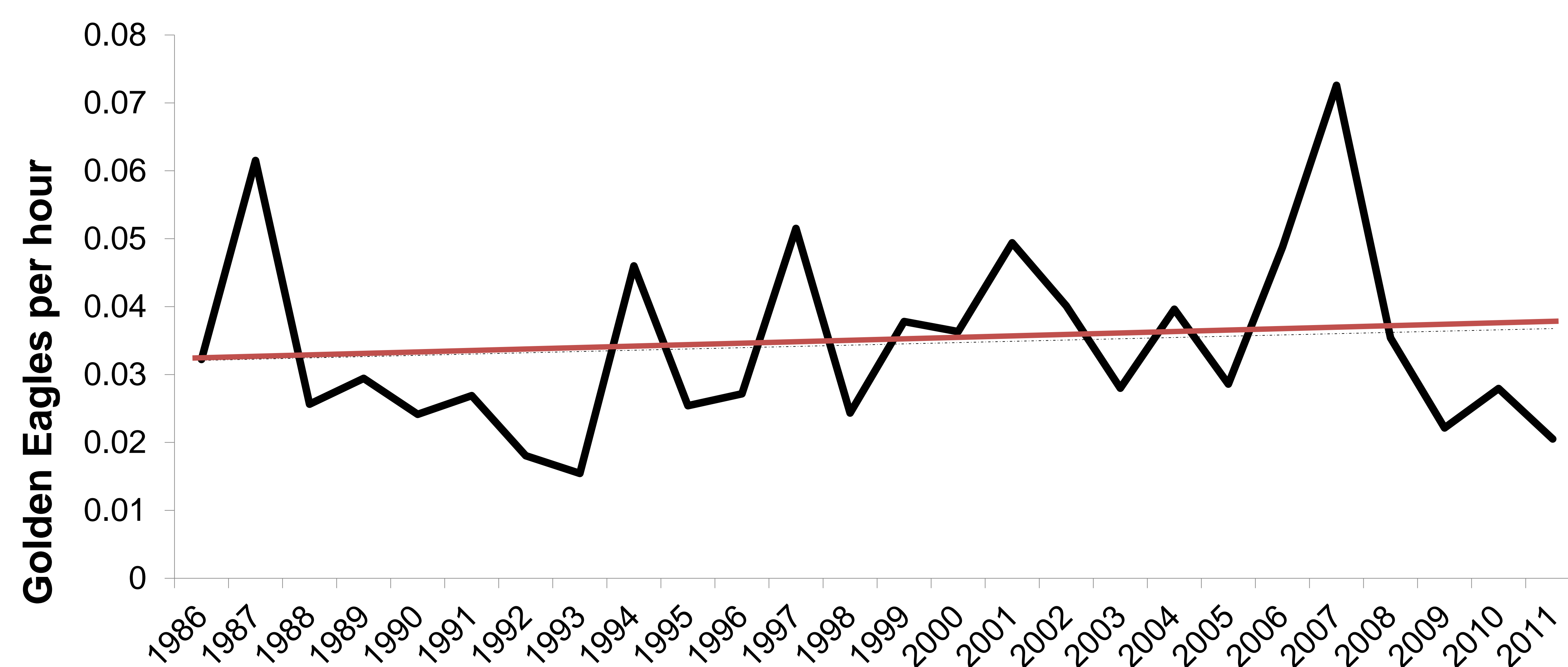
## Methods

Since 1986 the GGRO has measured fall migration activity for 19 species of diurnal raptors in the Marin Headlands, part of the Golden Gate National Recreation Area. Volunteer counters sample daily raptor activity using a repeatable count "Quadrant" system from mid-August through early December each year. Total count hours averaged 520 hours for 2001-2011.

## Results

- Annual sightings averaged 18.9 Golden Eagles per year (SD = 8.1; range = 8 – 39)
- There was no trend in Golden Eagle activity over the study period ( $P = 0.80$ )
- There was no evidence of regular cycling in Golden Eagle activity at the Marin Headlands ( $P > 0.05$ )
- There was no change in median migration date ( $P = 0.44$ )
- Mean peak activity occurred on 17 October (range = 5 Oct – 1 Nov)
- There was no correlation with other ground squirrel-eating raptors
- There was no change in age ratios (immature/adult) ( $P = 0.36$ )

## Eagle Rates, 1986-2011

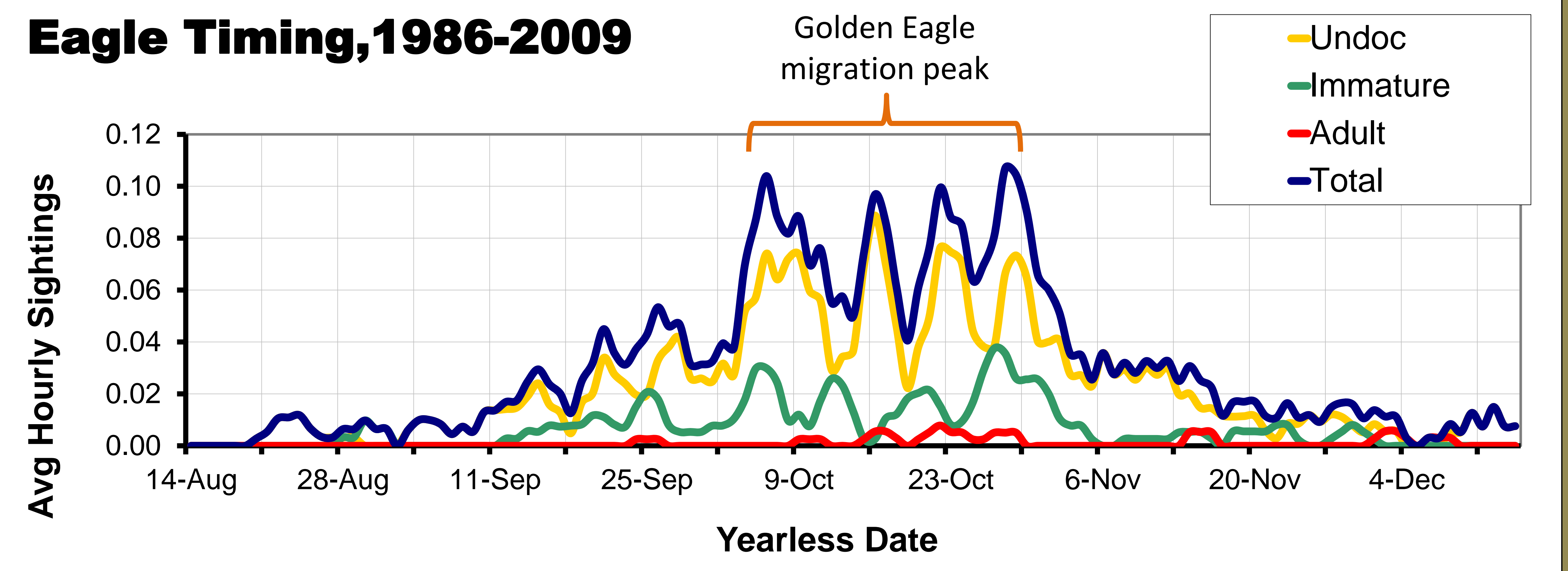


## Discussion

Despite relatively low Golden Eagle activity in the Marin Headlands, we provide one of the few long-term snapshots of eagle seasonal movements in the western US. We found no trends in Golden Eagle numbers over the course of our monitoring period.



## Eagle Timing, 1986-2009



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