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### Do Dabbling Ducks Forage More in the Morning or at Night?

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# The Effect of Time on the Foraging Behavior of Dabbling Ducks



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## Introduction

Dabbling ducks are some of the most common waterfowl. They include species like mallards (*Anas platyrhynchos*) and American wigeon (*Mareca americana*). Dabbling ducks spend most of their time feeding and time can influence their foraging behavior.

## Objectives

This study was conducted to determine if time of day influences the foraging behavior of dabbling ducks. I predicted active foraging would occur more in the morning.

## Study Site

- Arcata Marsh and Wildlife Sanctuary in Arcata, California
- West pond (Figure 1)

Mallard (*Anas platyrhynchos*)



American Wigeon (*Mareca americana*)



Gadwall (*Mareca strepera*)



Figure 1. Map of Arcata Marsh and Wildlife Sanctuary with West pond indicated by the blue arrow.

## Methods

- Went out 1 hour after sunrise and 1 hour before sunset
- Randomly selected each bird through a number generator
- Observed each bird for 2 minutes
- Every 30 seconds wrote down a 1 for eating and a 0 for not eating
- Add up all the ones at the end of observing
- Moved viewing sites every 10 birds

## Results

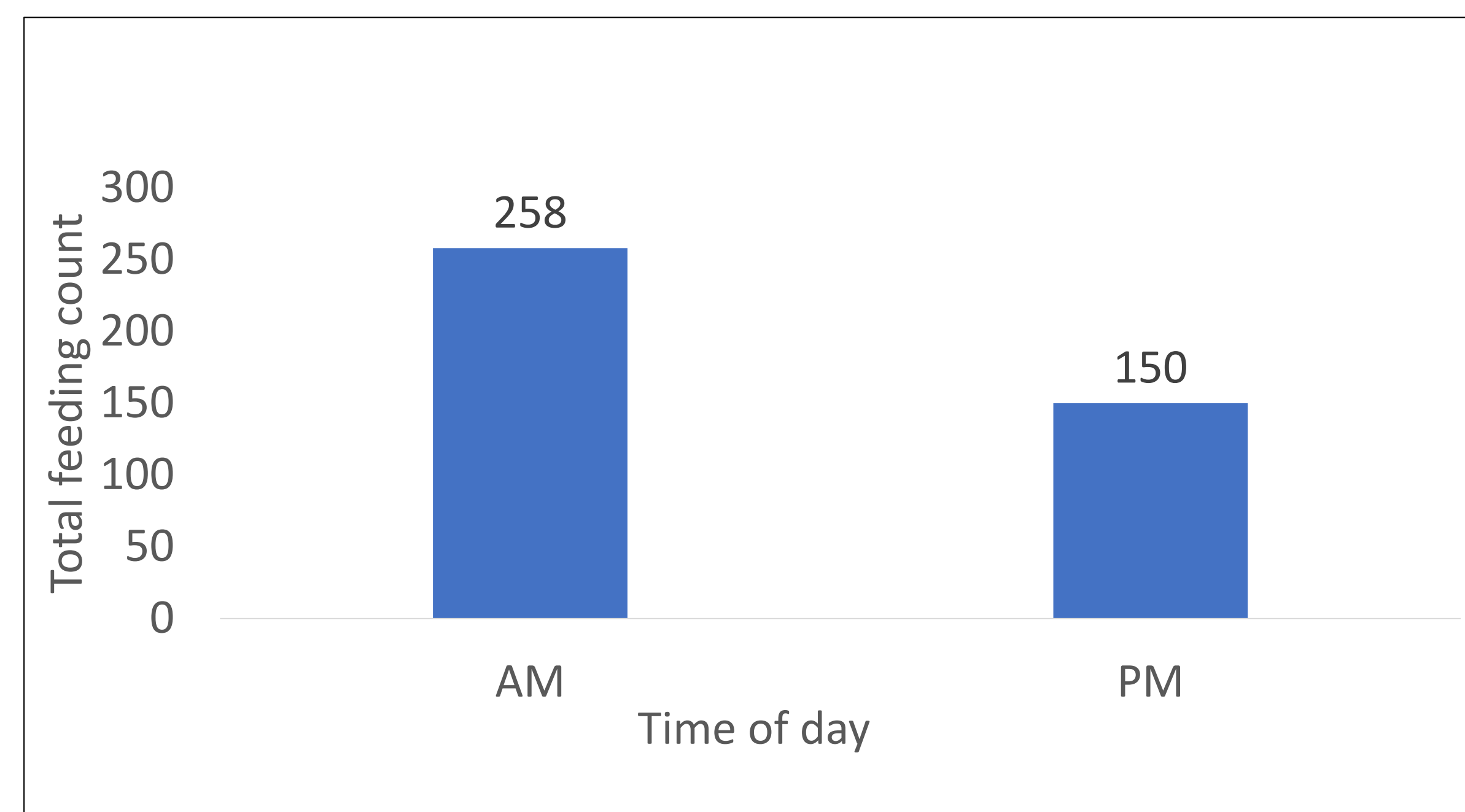


Figure 2. Total number of recorded feedings for both AM (n = 258) and PM (n = 150) at the Arcata Marsh in Arcata, California, February – April 2022

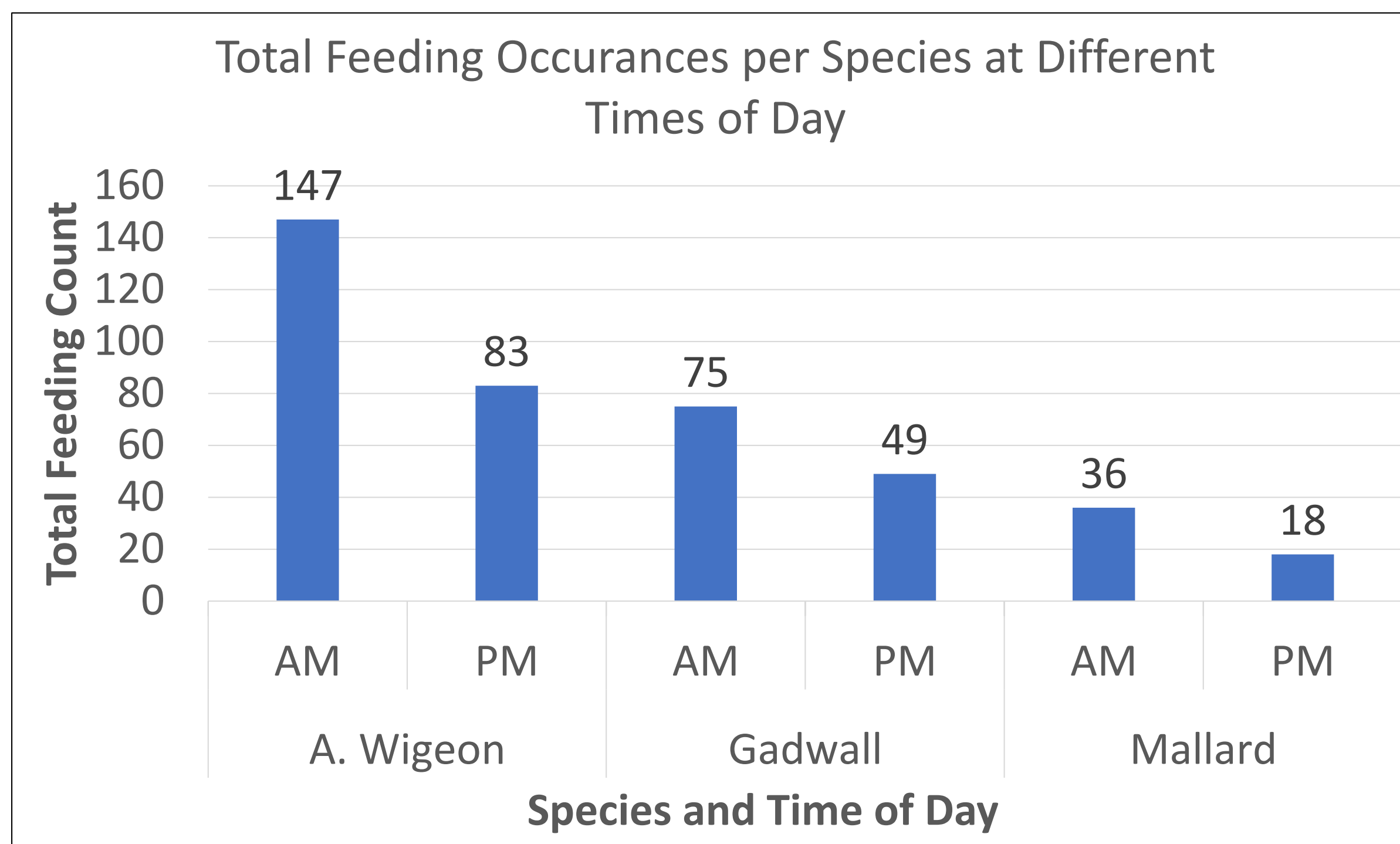


Figure 3. Total number of recorded feedings per individual bird species at both AM and PM at the Arcata Marsh in Arcata, California, February – April 2022.

## Results

- 201 recorded birds
- 408 feeding occurrences
- Significant difference in feeding from AM to PM hours

	Estimate	Std. Error	P Value
(Intercept)	0.87083	0.06226	< 2e-16 ***
AM.or.PM PM	-0.39279	0.10268	0.000131 ***

Table 1. Results of a poisson regression analysis looking at total times feeding and time of day in Arcata, California, February – April 2022.

## Discussion

- Results show a significant difference (P=0.0001)
- My predication was correct that feeding foraging during different times
- Weather could have also played a part in this, it was usually windier in the afternoon
- Wigeons appeared to be the most active bird during both time (figure 3)
- Once temperatures begin to rise, I believe more foraging will occur during both times

## Management Implications

- Can help with future studies such as, point counts and abundance studies
- Help us understand foraging behavior and the best time to record data
- Can even go bigger to time of year to see how dabbling ducks forage and if there is any differences

## Literature Cited

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