The Impact of Recreational Activity on Staging American Wigeon

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Fig 1. Male American wigeon in breeding plumage; National Audubon Society; Brian E Kushner.

Fig 2. Female American wigeon; Macaulay Library; Alix d'Entremont.

Introduction

American wigeon (*Mareca americana*) rely on staging habitat like the Arcata Marsh to bulk up for their spring migration.

Disruptions to this feeding could impede their departure and lower their chances of breeding.

Understanding how recreation at staging sites impacts wigeon feeding is crucial to the effective management of waterfowl habitat.

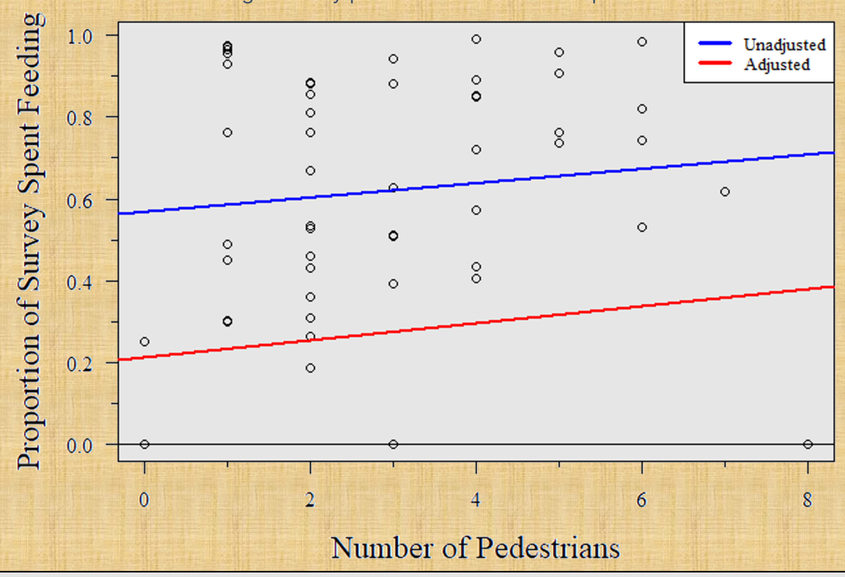
Objective

Determine how different human recreational disturbances affect the feeding behavior of staging American wigeon in Brackish Pond.

Methods

- Continuous focal sampling was conducted from a fixed point on the trail surrounding the site.
- Individuals randomly selected using a number generator.
- The subject's behavioral state and disturbances passing the observer were recorded for a 15-minute period.
- Disturbances included pedestrians, dogs, and runners.

Fig 3. An adjusted value of **P<0.01 represents a significantly positive correlation with pedestrians.



Disturbance	Coefficient	Std Error	t-Stat	P-Value
Pedestrians	0.020	0.006	3.154	0.002
Dogs	0.011	0.010	1.041	0.302
Runners	-0.004	0.012	-0.383	0.703

Table 1. Multiple linear regression of human disturbances on proportion time feeding; RSE=1.018, df=48, R^2=0.966.

Fig 4. Map of the Arcata Marsh and Wildlife Sanctuary; City of Arcata.

Fig 5. Aerial photograph of Brackish Pond and Gearheart Marsh; City of Arcata.

Results

- Pedestrian disturbance had a significantly positive correlation with wigeon feeding.
- Dog and runner disturbances had no significant correlation with feeding.

Conclusion

- Results indicate wigeon feed more with increased pedestrian activity but show no reaction to other disturbance types.
- Overall, wigeon demonstrate no negative response to human recreation.
- Subjects further from shore displayed less pronounced responses (see considerations).

Considerations

- Inability to account for the effect of subject distance from shore on disturbance responses means results are likely overly positive.
- Heavily manipulated analysis and observations made during the study suggest insignificant or slightly negative relationships are more likely.

Acknowledgements

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